

Lyons Canyon Ranch

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5.6 BIOLOGICAL RESOURCES

This section describes the biological character of the project site and area in terms of vegetation, wildlife, and wildlife habitats, and analyzes the biological significance of the project site in consideration of Federal, State, and local laws and policies.

The purpose of this section is to identify existing biological resources that would be affected by the proposed project. The analyses include:

- Identifying biological resources present onsite and in the vicinity of the project site;
- Analyzing potential project-related impacts to these resources (including special-status biological resources); and
- Recommending measures to mitigate significant impacts to biological resources, including avoiding or minimizing the significance of impacts to the maximum extent possible and/or compensating for the impact(s).

Information in this section is summarized from David Magney Environmental Consulting's (DMEC's) biota report (DMEC 2006), which is attached as Appendix G to this EIR, Biota of Lyons Canyon Ranch. This section, as well as DMEC's biota report, is based on the biological resources investigations of Lyons Canyon Ranch conducted during several site visits by DMEC in 2003, 2004, and 2005; and BonTerra Consulting (including subcontractors Bowland & Associates, Inc., White & Leatherman Consulting, and Mike Couffer) during their site visits in 2003 and 2004. This section is also based on data collected onsite during the wetland delineation of the project site, provided as Appendix O to this EIR, Delineation of Jurisdictional Waters and Riparian Habitats for Lyons Canyon Ranch (DMEC 2004a), and the oak tree assessment, provided as Appendix H to this EIR, Oak Tree Assessment for Lyons Canyon Ranch (DMEC 2004b).

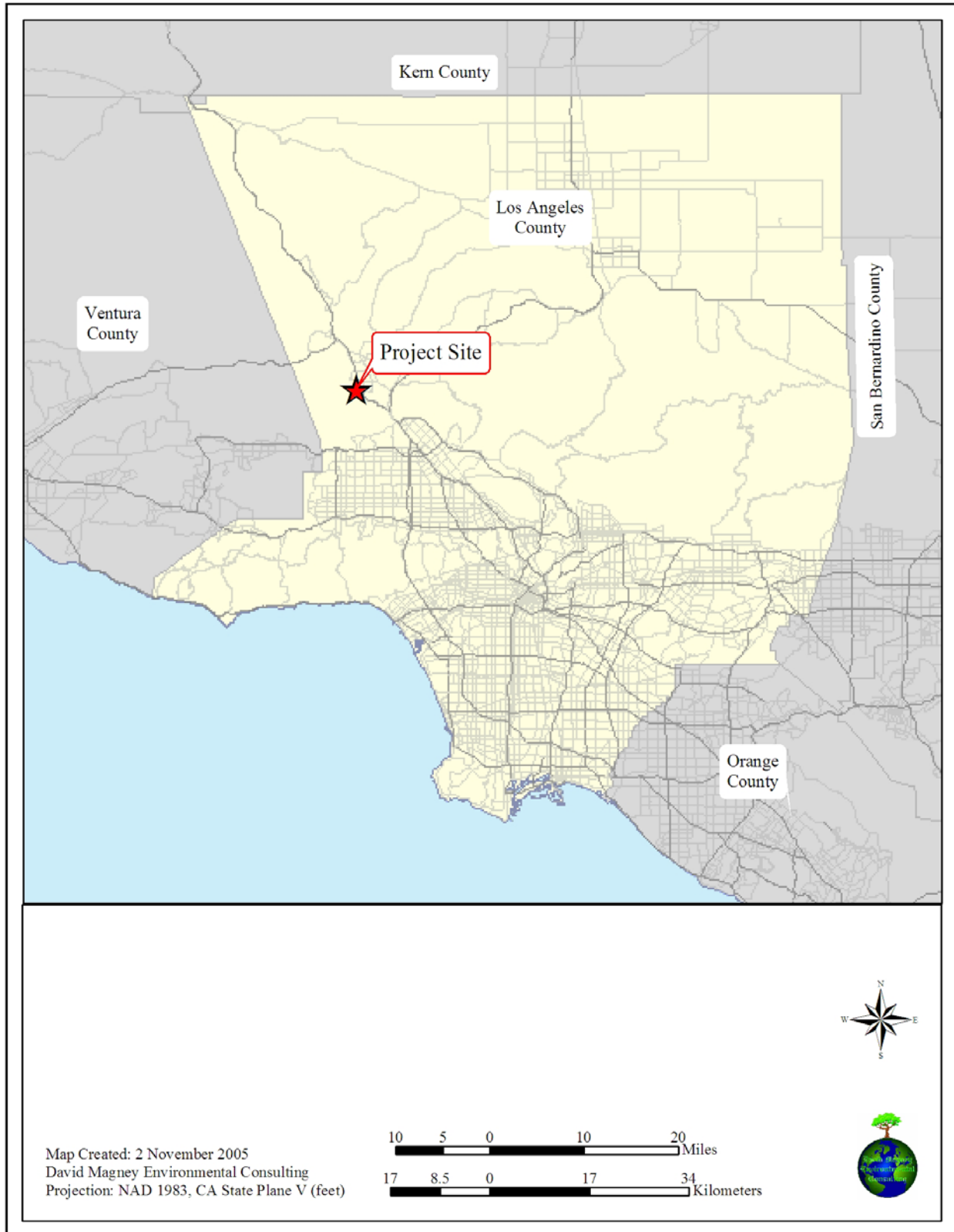
5.6.1 ENVIRONMENTAL SETTING

Lyons Canyon Ranch is an undeveloped, approximately 235-acre¹ property located just west of the Golden State Freeway (I-5) and The Old Road, which serves as a frontage road paralleling the freeway north of Calgrove Boulevard. The Golden State Freeway provides regional access from the site via on- and off-ramps at Calgrove Boulevard. The project site is located in Los Angeles County, within Lyon Canyon, along Lyon Avenue, and adjacent to the current limits of incorporation of the City of Santa Clarita (in the general area of the Pico Canyon/Newhall community). Lyons Canyon Ranch is within the Oat Mountain, California USGS Quadrangle. The Stevenson Ranch development in unincorporated Los Angeles County is to the north while Towsley Canyon is immediately to the south. Exhibit 5.6-1, General Location Map of the Lyons Canyon Ranch Project Site, and Exhibit 5.6-2, Lyons Canyon Ranch Project Site on Aerial Photograph Base, show the general location of the project within Los Angeles County and a general aerial view (date of aerial is 23 March 2003) of the project site boundaries, respectively.

¹ The total property acres surveyed within the boundaries of Lyons Canyon Ranch is 234.8 as per the Tentative Tract Map #53653. All DMEC acreage calculations are made using ArcGIS software. DMEC's total (235.5 acres) may differ slightly from acreage calculations reached using other methods, such as AutoCAD or surveying. Please disregard any such differences, as they are not statistically significant (less than ½ of a percent difference).

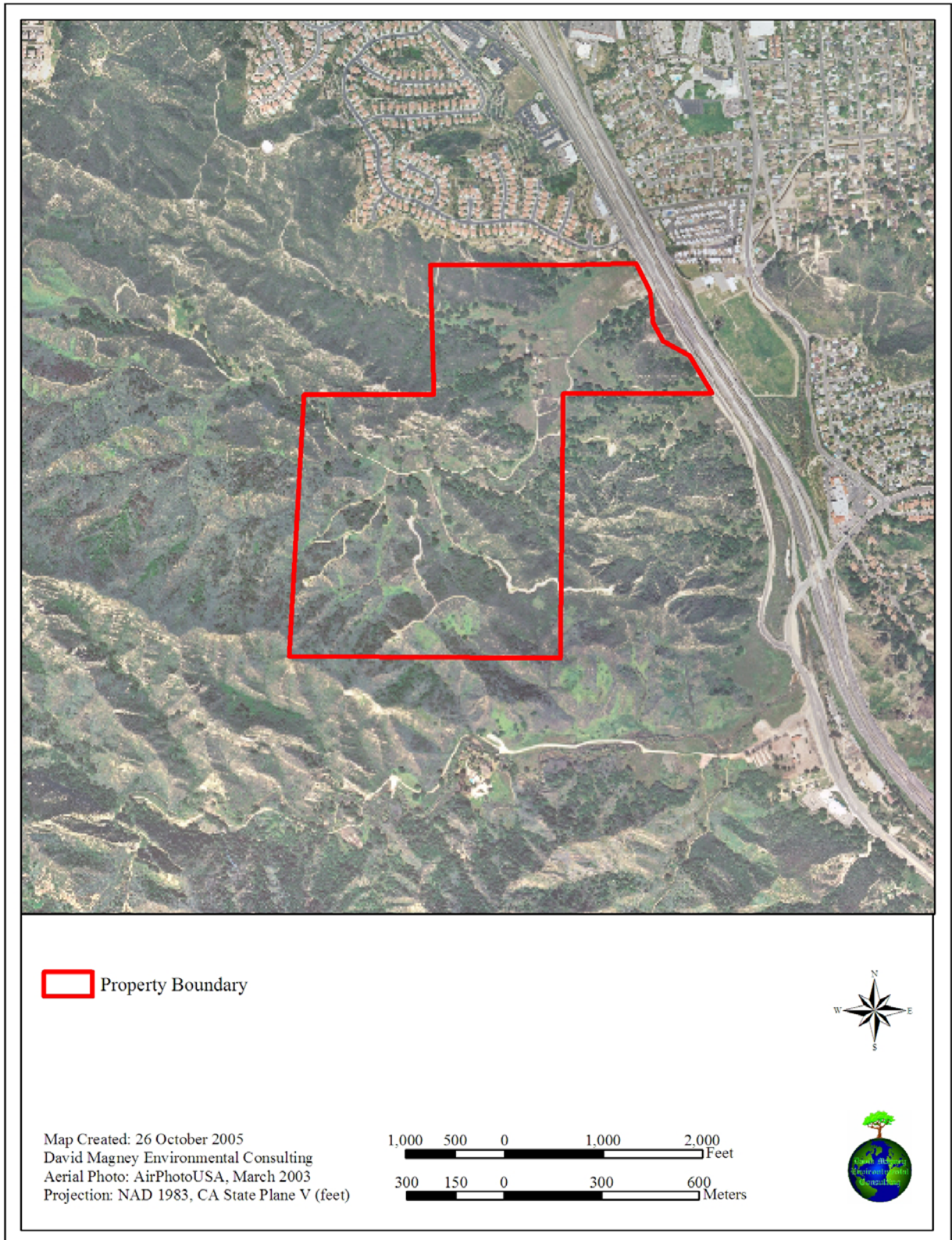
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Exhibit 5.6-1. General Location Map of the Lyons Canyon Ranch Project Site



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Exhibit 5.6-2. Lyons Canyon Ranch Project Site on Aerial Photograph Base



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Portions of the Lyons Canyon Ranch property are located within two Los Angeles County Significant Environmental Areas (SEAs), Santa Susana Mountains and Lyon Canyon (SEA Nos. 20 and 63, respectively), which have been established to protect biological resources within the County. Development within or adjacent to an SEA requires specific procedures and reporting before considering any development. The Los Angeles County Significant Ecological Areas Technical Advisory Committee (SEATAC), established by the Board of Supervisors, reviews all projects within or adjacent to SEAs for consistency with County resource protection policies.

The topography of the project site is variable consisting of gradual to very steep slopes; however, the majority of the site contains steep, rugged hills trending east-west and are part of the Santa Susana Mountains, draining eastward. A relatively flat area exists on the northeast portion of the project site. Other areas of the project site are hilly and many slopes rise steeply to cliff faces. Elevations of the project site range from approximately 1,330 feet to approximately 1,810 feet.

Most of the project site is dominated by natural vegetation, primarily oak woodland, coastal scrub, and chaparral, with riparian woodland and related wetland habitats in lower Lyon Canyon. Much of the lowland areas of the project site have been disturbed, primarily due to filming activities, which have also disturbed wetland habitats in selected locations. The primary drainage on the project site is Lyon Creek.

5.6.1.1 Significant Ecological Areas (SEAs)

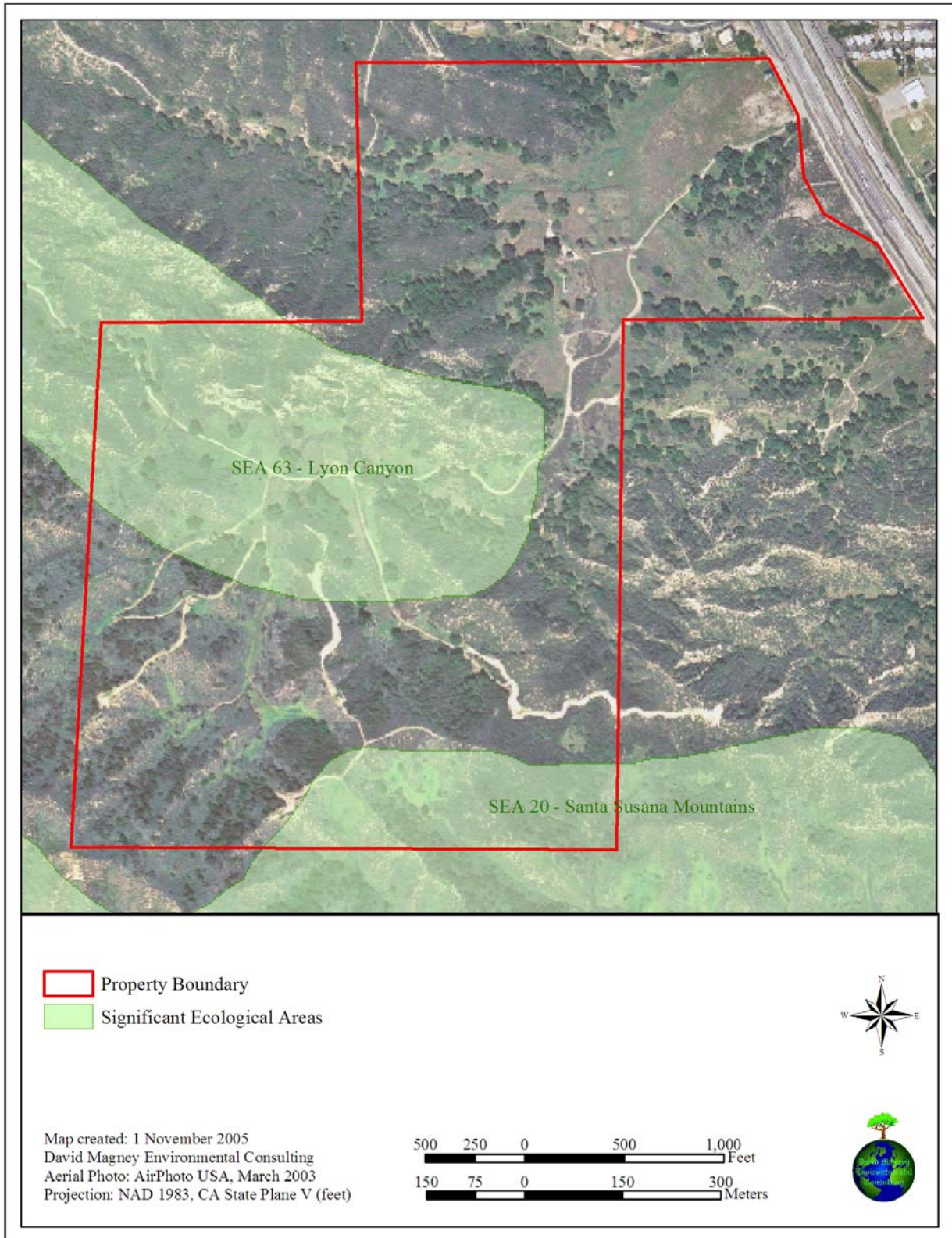
The Lyons Canyon Ranch property contains portions of two Los Angeles County designated SEAs: 20 (Santa Susana Mountains) and 63 (Lyon Canyon), as illustrated on Exhibit 5.6-3, SEAs in the Vicinity of Lyons Canyon Ranch.

Santa Susana Mountains SEA 20 is approximately 18,410.5 acres total. Approximately 17.54 acres of SEA 20 exist onsite in the southernmost portion of the Lyons Canyon Ranch property.

Lyon Canyon SEA 63 is approximately 174.45 acres total. Approximately 58.48 acres of SEA 63 exist onsite. SEA 63 includes the middle portion of the creek with the eastern end of the SEA in the center of the Lyons Canyon Ranch property, extending westward beyond the project site boundary. This SEA was designated for its Chamise Chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek.

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Exhibit 5.6-3. SEAs in the Vicinity of Lyons Canyon Ranch



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5.6.1.2 Watershed Description

Lyon Canyon Creek, a seasonal watercourse located in the center of the project site, is the primary drainage and watershed within the project site, draining eastward. An unnamed seasonal drainage that drains into Towsley Canyon along the south side of the project site drains a small portion of the site. Upon exiting the site, watercourses become channelized as they flow northeast underneath I-5. Both streams are tributaries of the South Fork Santa Clara River. The project site is part of the Santa Clara River watershed. Exhibit 5.6-4, Watersheds in the Vicinity of Lyons Canyon Ranch, illustrates the boundaries of each major subwatershed within the vicinity of Lyons Canyon Ranch project site.

Most of the drainages within the Lyon Canyon watershed are ephemeral in nature. The primary drainage on the project site is the Lyon Canyon Creek watershed. This watershed drains 911 acres, of which 203 acres are located on the project site. The project site also has small portions of two adjacent watersheds: 23 acres of Towsley Canyon watershed to the south, and 8 acres of Gavin Canyon watershed to the east.

5.6.1.3 Geology

Bedrock exposed within the southern portion of the the project consists of steep, north dipping beds of interbedded, marine claystone, siltstone, and sandstone assigned to the Miocene age Pico Formation. Bedrock in the northern two-thirds of the project site consists of upper Pliocene-lower Pleistocene age, nonmarine mudstone, conglomerate, and sandstone of the Saugus Formation (Sunshine Ranch member). Exhibit 5.6-5, Lyons Canyon Ranch Geology, shows the general geology of the project site, and Exhibit 5.6-6, Significant Ridgelines in the Vicinity of Lyons Canyon Ranch illustrates the important ridgelines in the project area.

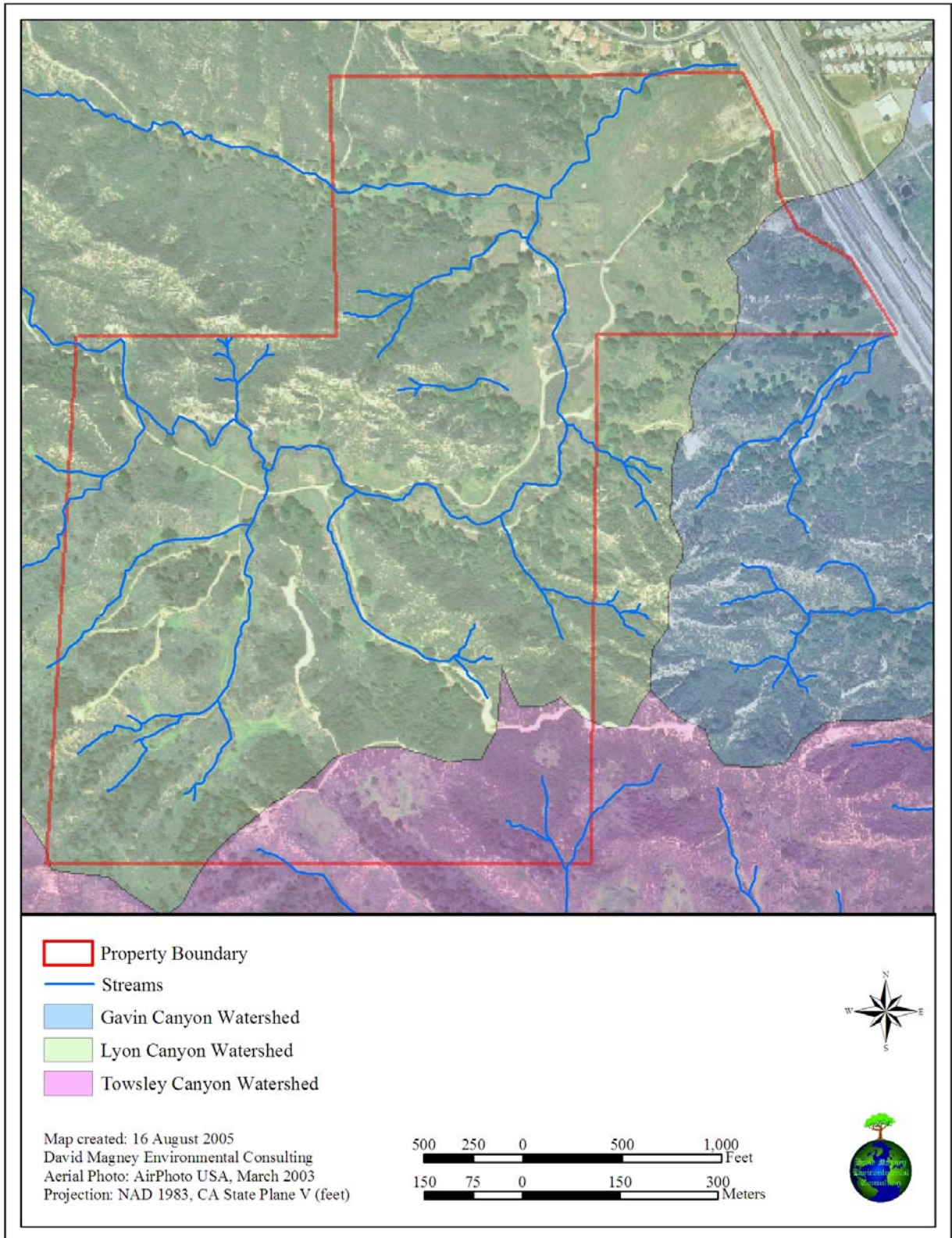
Surficial soils within the property are represented by artificial (man-made) fill, colluvium, rock fall debris, and alluvium. The project site is located on the Saugus Formation, which is exposed along The Old Road. At the intersection of the I-5 with the Antelope Valley Freeway (State Route [SR] 14), the area contains surficial deposits of Quaternary Alluvium, deposits of the terrestrial Plio-Pleistocene Saugus Formation, and rocks of the marine Late Miocene Towsley Formation (San Fernando and Oat Mountain quadrangles).

The east side of I-5 south of the intersection with SR 14 produced specimens of fossil baleen whale, *Mysticeti*. The Towsley Formation also yielded fossils of extinct large terrestrial mammals. On SR 14 north from the intersection with the I-5, exposures of the marine Pliocene Pico Formation and a small exposure of the marine Late Miocene Towsley Formation exist, but deposits in this area mostly consist of the terrestrial Plio-Pleistocene Saugus Formation. In addition, there is typical surficial Quaternary Alluvium in the valleys and canyons, especially in the Newhall Creek area. (San Bernardino County Museum 2004.)

North of the I-5 split with SR 14, there are exposures of the marine Pliocene Towsley Formation, the marine Pliocene Pico Formation, and the marine and terrestrial Pliocene and Pleistocene Saugus Formation. In the valleys and canyons, especially in Gavin Canyon, there are typical surficial deposits of Quaternary Alluvium. The closest localities in the Saugus Formation are on the west side of I-5 just north of the mouth of Towsley Canyon. A suite of marine fossils of sharks and fishes, including eagle ray (*Myliobatis*), guitar fish (*Rhinobatos*), bull shark (*Carcharhinus*), basking shark (*Cetorhinus*), and sheepshead (*Semicossyphus*), were recovered from this area. These fossil beds extend into Lyons Canyon Ranch project site to the west. (San Bernardino County Museum 2004.)

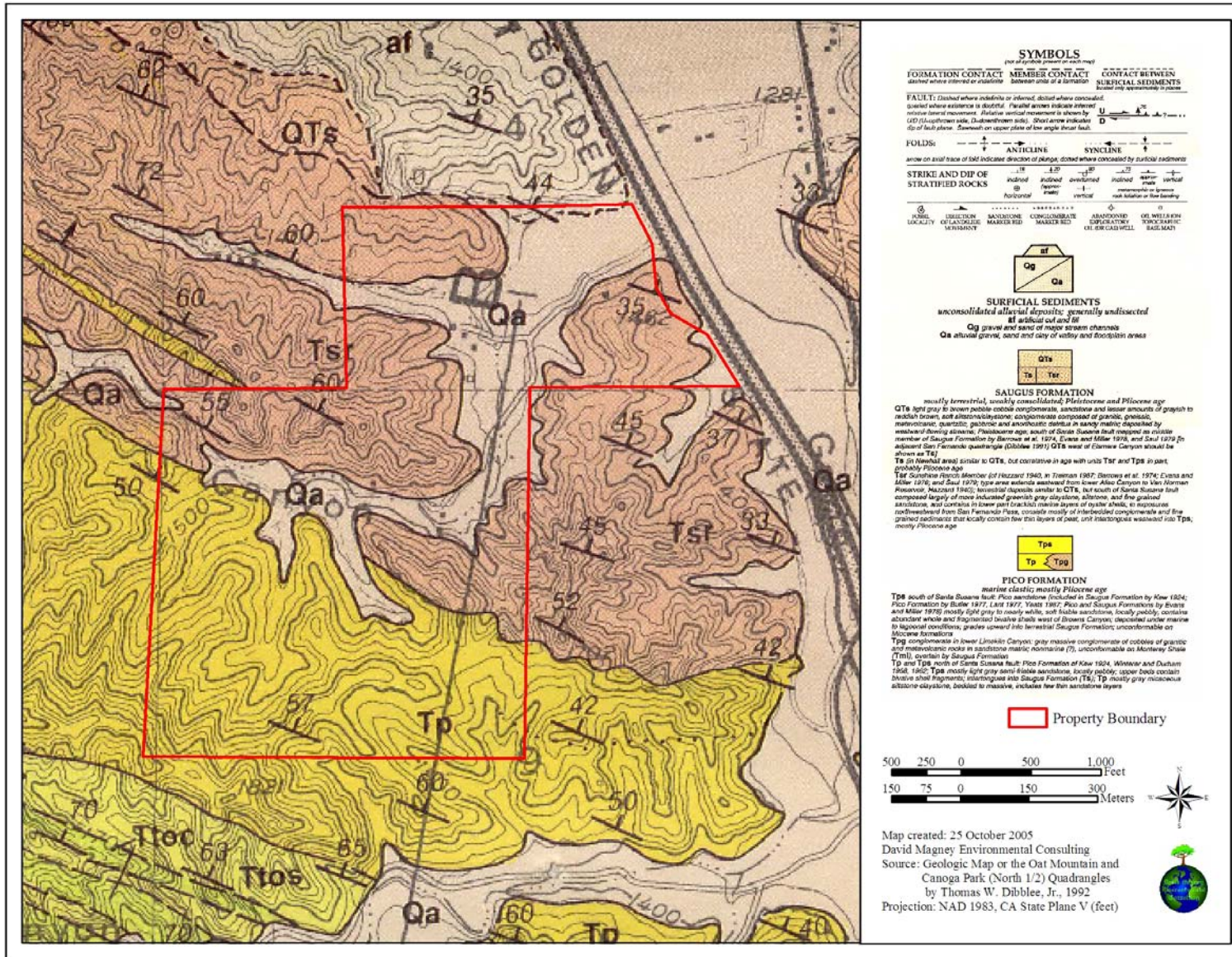
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Exhibit 5.6-4. Watersheds in the Vicinity of Lyons Canyon Ranch



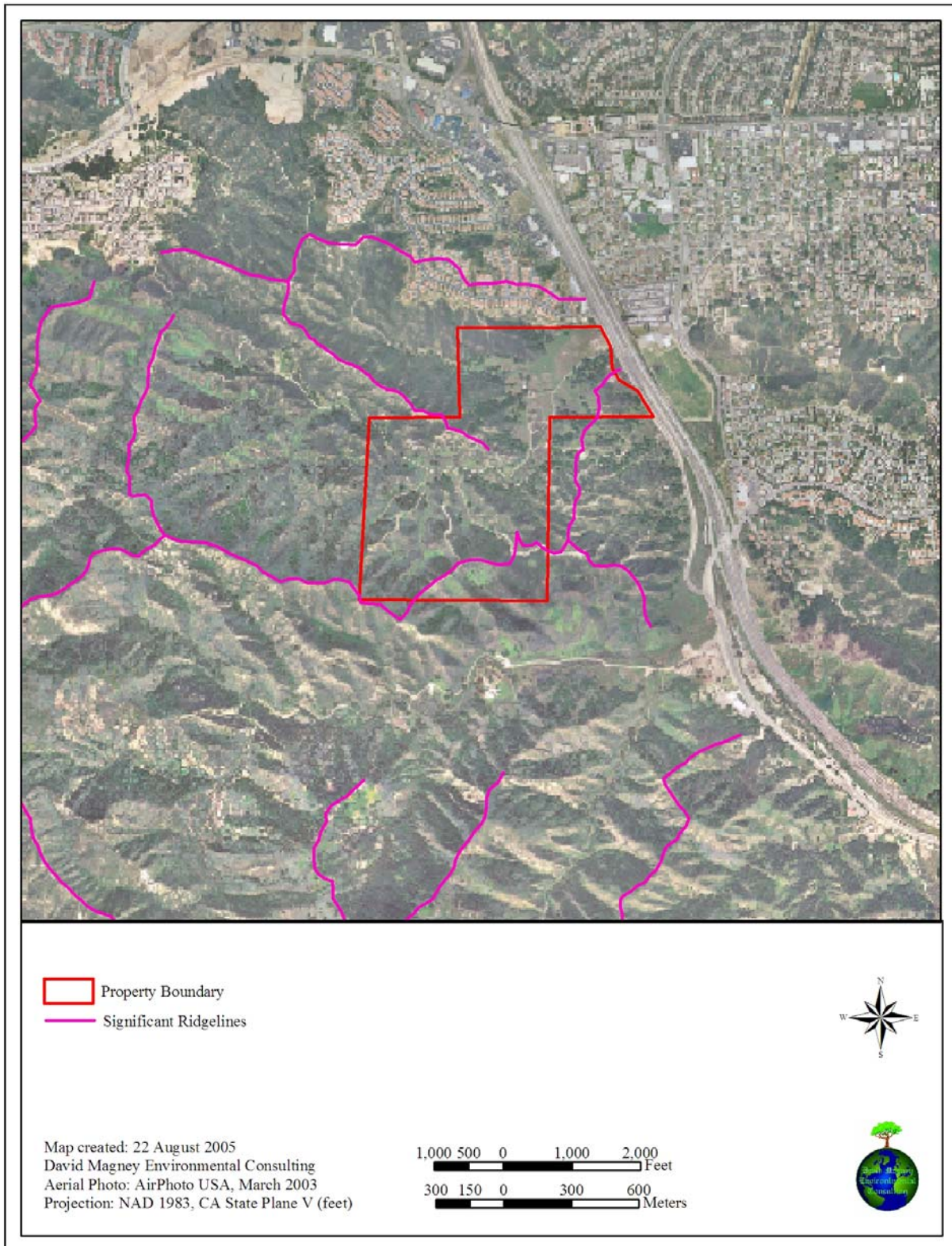
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Exhibit 5.6-5. Lyons Canyon Ranch Geology



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Exhibit 5.6-6. Significant Ridgelines in the Vicinity of Lyons Canyon Ranch



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5.6.1.4 Mapped Soil Units

The Soil Conservation Service (SCS) *Soil Survey for the Antelope Valley Area, California* (Woodruff et al. 1970) indicates that the mapped soil units at the Lyons Canyon Ranch project site, include Castaic Series, Hanford Series, and Yolo Series. These soil types are confirmed mapped soil units for several plots of the wetland delineation survey area, and are described according to Woodruff et al. (1970) in the following subsections. (The wetland delineation is provided as Appendix O to this EIR, Delineation of Jurisdictional Waters and Riparian Habitats for Lyons Canyon Ranch [DMEC 2004a]). The primary mapped soils of these series that occur onsite include Castaic-Balcom Silty Clay Loams, Castaic and Saugus Soils, Hanford Sandy Loam, Saugus Loam, and Yolo Loams. These soils are mapped in Exhibit 5.6-7, Mapped Soil Units of Lyons Canyon Ranch. Riverwash is a nonsoil that was also observed/found at several wetland delineation data points onsite, and is described below as well.

5.6.2 CHARACTERISTICS OF THE SURROUNDING AREA

This section discusses the existing land uses, open space reserves, and biological resources surrounding the Lyons Canyon Ranch project site. The biological resources surrounding the project site are discussed in terms of Lyons Canyon Ranch in relation to the general surrounding vegetation types, biotic mosaic, estimated species population sizes in the range, and the overall biological value of the area. Understanding the relationships between the project site and the surrounding environment is significant in understanding connectivity and fragmentation of habitats and wildlife resources, migration corridors, and gene pools. The Photograph Key Map of Lyons Canyon Ranch and Surrounding Area with Photographs, provided as Appendix B of DMEC's biota report (DMEC 2006) (Appendix G to this EIR), provides representative photographs and their location to illustrate the general characteristics of the surrounding area.

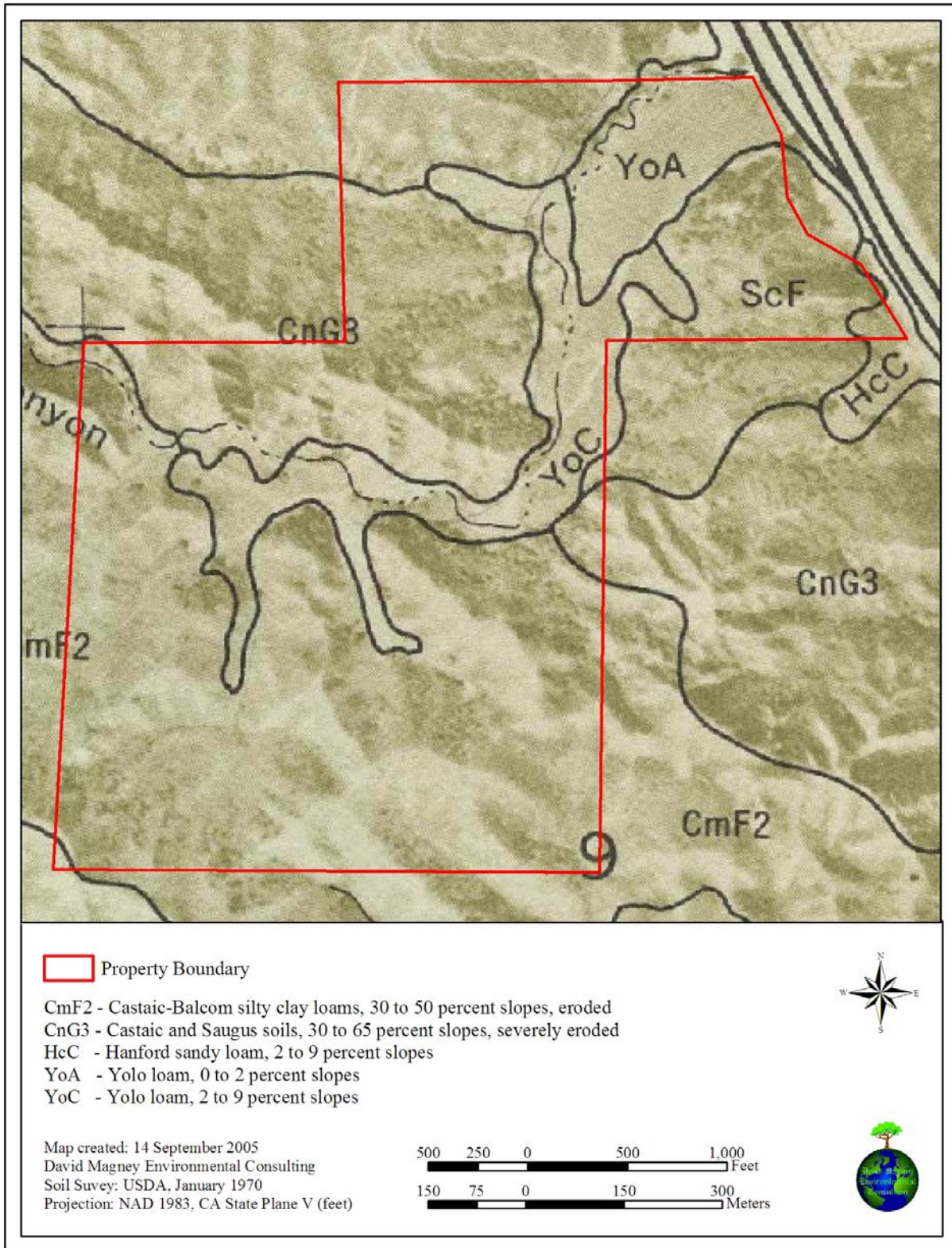
5.6.2.1 Existing Land Uses

The general condition of the Lyons Canyon Ranch project site is influenced by several factors. Although the approximate 235-acre project site is predominantly undeveloped open space, with no currently active land uses, the project site has been influenced greatly by humans for many years. Historically, the property was used as an outdoor set for filmmaking, and site is transected by numerous dirt roads, which were created for the various film productions. The project site is scattered with film props and portions of the property (lower elevations) have been graded for filming purposes as well. Additionally, the project site includes fencing and an abandoned water tank, water wells, and irrigation lines. Other utility structures, such as Southern California Edison electrical distribution lines, are adjacent to or traverse portions of the site.

Additional commercial uses in adjacent areas, such as restaurants, gas stations, grocery stores, and local shops, are located nearby, approximately a half-mile north of the site near the Lyon Avenue/I-5 interchange.

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Exhibit 5.6-7. Mapped Soil Units of Lyons Canyon Ranch



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5.6.2.2 Open Space Reserves

Ed Davis Park in Towsley Canyon (otherwise known as Towsley Canyon Park) is a subset of the Santa Clarita Woodlands Park, and is an open space reserve located immediately to the south of Lyons Canyon Ranch. Other than Ed Davis Park, Lyon Canyon contains the majority of the open space in the vicinity, including SEAs, as illustrated on Exhibit 5.6-8, Existing Land Uses, Including Open Space Reserves, in Areas Surrounding Lyons Canyon Ranch.

The County of Los Angeles designates two SEAs in the area: Lyon Canyon SEA (SEA No. 63), and Santa Susana Mountains SEA (SEA No. 20), portions of each are located within the project boundaries. These SEAs are areas that the County of Los Angeles has designated as ecologically fragile or important land, and water areas that are valuable as plant or animal communities. The oak woodland, found in the southern portion of the Lyon Canyon SEA, contains both *Quercus agrifolia* and *Quercus lobata* (Valley Oak) trees. The northern portion of the SEA contains the Chamise Chaparral community consisting of *Rhus ovata* (Sugarbush), *Ceanothus crassifolius* (Snowball Ceanothus), *Salvia mellifera*, *Baccharis salicifolia*, and *Adenostoma fasciculatum*, which is the dominant shrub.

5.6.2.3 Surrounding Vegetation

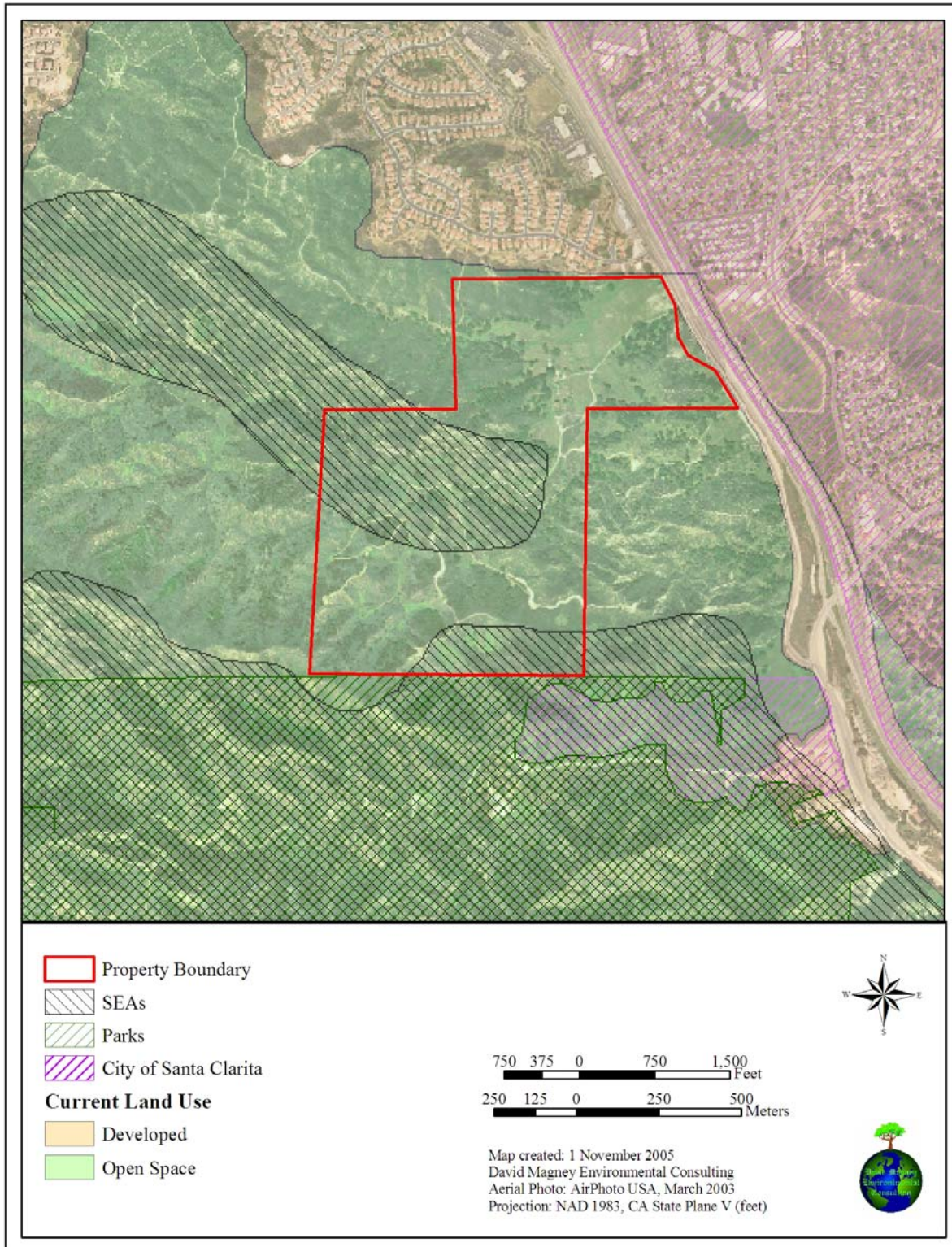
The uses surrounding the project site are I-5 on the east, Ed Davis Park in Towsley Canyon to the south, vacant land to the west, residential uses on Sagecrest Circle and the Stevenson Ranch development, opposite of Sagecrest Circle, to the north. Due to the I-5 and the Stevenson Ranch development there is no vegetation bordering the project site to the east or to the north, respectively. South of the project site lies Ed Davis Park in Towsley Canyon, containing habitat similar to that found onsite, including the following: Riparian Scrub/Woodland, California Annual Grassland, Coastal Sage Scrub, Chaparral, and Coast Live Oak Woodland. The undeveloped land to the west of the project site contains similar general vegetation types, with fewer oaks than encountered on the project site, and less riparian habitat, concentrated in narrow corridors.

These general vegetation types are mapped below in Exhibit 5.6-9, Vegetation in Areas Surrounding Lyons Canyon Ranch. Exhibit 5.6-9 shows vegetation at least 0.5-mile area surrounding the project site boundary (illustrating the vegetation occurring beyond as well), which equals approximately 1,421 acres of vegetation (only within the 0.5-mile area). Table 5.6-1, Lyons Canyon Ranch Surrounding Vegetation Alliance Acreage Totals, provides acreage totals for the vegetation alliances in the area within a 0.5-mile radius surrounding the project site. These habitats were delineated using aerial photography interpretation.

Note: The mapping depicted in Exhibit 5.6-9 was not performed at the same level of detail as vegetation mapping performed for the project site.

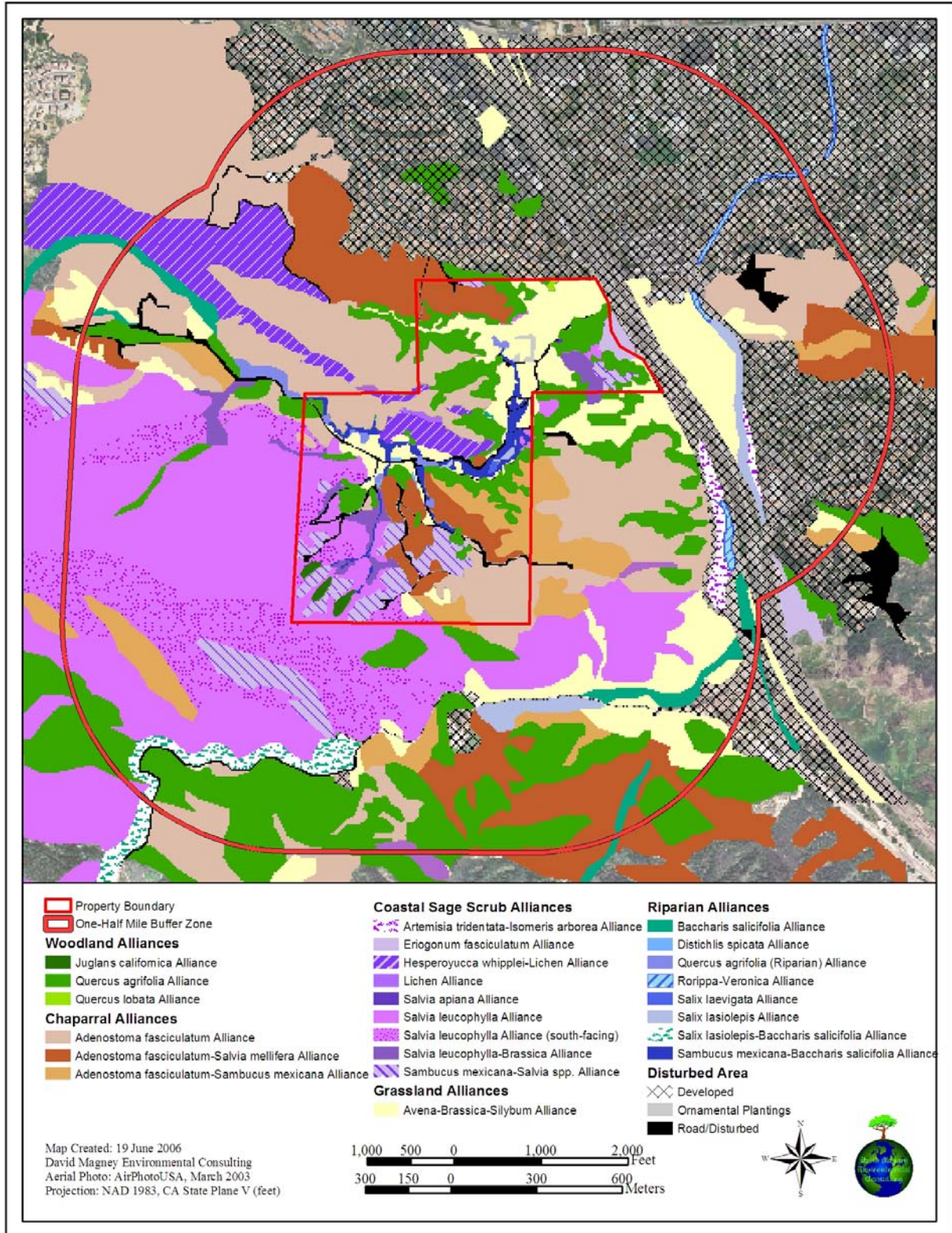
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**Exhibit 5.6-8. Existing Land Uses, Including Open Space Reserves,
in Areas Surrounding Lyons Canyon Ranch**



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Exhibit 5.6-9. Vegetation in Areas Surrounding Lyons Canyon Ranch



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Table 5.6-1. Lyons Canyon Ranch Surrounding Vegetation Alliance Acreage Totals

Alliance	Acres
<i>Wetland</i>	
<i>Quercus agrifolia</i> (Riparian) Alliance	2.43
<i>Salix lasiolepis</i> - <i>Baccharis salicifolia</i> Alliance	12.88
<i>Salix lasiolepis</i> Alliance	11.21
<i>Baccharis salicifolia</i> Alliance	14.68
<i>Rorippa-Veronica</i> Alliance	3.33
<i>Woodland</i>	
<i>Quercus agrifolia</i> Alliance	157.64
<i>Chaparral</i>	
<i>Adenostoma fasciculatum</i> Alliance	171.5
<i>Adenostoma fasciculatum</i> - <i>Salvia mellifera</i> Alliance	89.84
<i>Adenostoma fasciculatum</i> - <i>Sambucus mexicana</i> Alliance	52.32
<i>Coastal Sage Scrub</i>	
<i>Eriogonum fasciculatum</i> Alliance	2.6
<i>Sambucus mexicana</i> - <i>Salvia</i> spp. Alliance	12.22
<i>Artemisia tridentata</i> - <i>Isomeris arborea</i> Alliance	7.31
<i>Hesperoyucca whipplei</i> -Lichen Alliance	35.77
<i>Salvia leucophylla</i> Alliance	204.59
<i>Salvia leucophylla</i> Alliance (south-facing)	91.69
<i>Salvia leucophylla</i> - <i>Brassica</i> Alliance	4.53
Lichen Alliance	2.98
<i>Grassland</i>	
<i>Avena</i> - <i>Brassica</i> - <i>Silybum</i> Alliance	87.59
<i>Human-Influenced</i>	
Developed	444.31
Dirt Road/Disturbed	11.84
Total Acreage²:	1,421.21

² Total acreage of habitats surrounding the project site includes only the area within 0.5 mile of the property.

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5.6.2.4 Flora and Fauna Population Estimates in the Range

Wildlife within the Santa Clarita Valley-Santa Susana Mountains is extremely diverse with a special abundance in undeveloped high quality habitats. The river channels and open upland areas are ideal habitat for movement and foraging by wildlife species. The nearby Angeles National Forest also offers habitat and movement corridors for larger species. Native mammal diversity is extensive and abundant. Among others, bats, rodents, rabbits, weasels, American Badger, skunks, Raccoon, fox, Bobcat, Black Bear, and Coyote are known to primarily inhabit canyon areas scattered throughout the region.

Bird diversity within the region is related to habitat opportunities for resident, migrant, and seasonal species that occupy the area. Numerous raptors, sparrows, quail, hummingbirds, swallow, larks, and owls, along with Federal and State special-status species such as Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and Least Bell's Vireo (*Vireo bellii pusillus*) occupy habitat within the region, primarily along the Santa Clara River. Amphibians and reptiles are abundant and relatively diverse within certain segments of the region. Snakes, toads, frogs, lizards, and salamanders, although habitat specific, are primarily found along the Santa Clara River as well as other creek areas. The Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*) is an important member of the aquatic community. The California Red-legged Frog (*Rana aurora draytonii*) has also been identified in San Francisquito Canyon several miles north of the Lyons Canyon Ranch project site. (City of Santa Clarita and County of Los Angeles 2001.)

5.6.2.5 Project Site Relationship with Surrounding Biotic Mosaic

The project site provides habitat similar to that in the undeveloped land to the west and south (Towsley Canyon), including riparian scrub/woodland, California Annual Grassland, Coastal Sage Scrub, chaparral, and Coast Live Oak Woodland. The steep slopes and ridges combined with the canyon lowlands provide a diversity of habitats locally.

The project site contains more oaks and more riparian habitat than the natural areas surrounding it. However, the surrounding area has some communities with little to no representation at the project site, including: *Pseudotsuga macrocarpa-Quercus chrysolepis* Alliance (Bigcone Spruce-Canyon Oak Forest), *Juniperus californica* Alliance (California Juniper Woodland), *Pinus monophylla* Alliance (Pinyon-Juniper Woodland), *Platanus racemosa-Alnus rhombifolia* Alliance (Southern Sycamore-Alder Woodland), *Salix lasiolepis* Alliance (Southern Willow Scrub), vernal pools, and *Lepidospartum squamatum-California Sagebrush* Alliance (Riversidian Alluvial Fan Sage Scrub). Most of these other habitats are more than a half-mile from the project site (Exhibit 5.6-9). This increase in habitat diversity probably reflects an increase in elevation as well as an increase in community diversity of the surrounding area, versus the project area. The land to the north and east of the project site is developed and provides little to no habitat.

The surrounding area provides relatively significant suitable connective habitats for species with large home ranges, such as Mountain Lion and Black Bear. California Red-legged Frog is known to occur in San Francisquito Creek, and the Unarmored Threespine Stickleback and

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Southern Steelhead are present in the Santa Clara River, none of which has been observed at the project site because suitable habitat is not present. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and Least Bell's Vireo (*Vireo bellii pusillus*) occupy habitat within the surrounding area. Southwestern Willow Flycatcher typically occupy habitat near Castaic Creek just west of Interstate-5 (a few miles north of the project site), while the Least Bell's Vireo is found in local riparian habitats. (City of Santa Clarita and County of Los Angeles 2001.) Neither of these special status birds has been observed at the project site and suitable habitat is not present onsite.

5.6.2.6 Overall Biological Value of the Santa Clarita Area

The Santa Clarita Valley area is 377,637 acres, of which 50% is open space (191,823 acres). Approximately 36% of the total acreage is vacant land, which is not committed for permanent open space. Developed land composes about 12% of the total acreage, and 58% of this 12% is residential. (City of Santa Clarita and County of Los Angeles 2001.)

Predominant vegetation types where these communities are found include coastal and transitional scrub, and chaparral. Other vegetation types in the region include Bigcone Spruce-Canyon Live Oak Forest, Coast Live Oak Riparian Woodland, Juniper Woodland, Pinyon-Juniper Woodland, Southern Sycamore Alder Woodland, Southern Willow Scrub, freshwater marsh, vernal pools, Coastal Sage Scrub, Chaparral, Alluvial Fan Sage Scrub, and native and nonnative grassland.

Although a substantial portion of the area along the Santa Clara River and I-5 has been developed, portions of the region are vacant or open space, and still support native plant and animal habitats and communities. These communities are adapted to the Mediterranean-type climate of the area, in that they thrive in the cool, wet winters and dry hot summers typical of the area. Predominant vegetation types where these communities are found are coastal and desert scrub, and chaparral. Other vegetation types in the region include Bigcone Spruce-Canyon Live Oak Forest, Coast Live Oak Riparian Woodland, Juniper Woodland, Pinyon-Juniper Woodland, Southern Sycamore Alder Woodland, Southern Willow Scrub, freshwater marsh, vernal pools, Coastal Sage Scrub, Chaparral, Alluvial Fan Sage Scrub, and native and nonnative grassland.

Sensitive terrestrial communities in the Valley include Southern Coast Live Oak Woodland; Valley Oak Woodland; Southern Mixed Riparian; Southern Riparian Scrub; Riversidian Sage Scrub; Mainland Cherry Desert; Walnut Woodland; Sycamore Alder Riparian Woodland; Southern Cottonwood-Willow Riparian Forests; And Southern Willow Scrub. Vernal pools have been identified on Cruzan Mesa, Plum Canyon, and Fair Oaks Ranch. These are significant sensitive resources within the Valley. (City of Santa Clarita and County of Los Angeles 2001.)

A number of sensitive bird species, including the federally endangered Least Bell's Vireo and Southwestern Willow Flycatcher, depends on nesting and foraging habitat provided by vegetation communities found within the region. Other sensitive species within the region potentially include at least eighteen plants, two fish, an amphibian, seven reptiles, twenty-five birds, seven mammals, and an invertebrate species. CDFG identifies all listed sensitive species and their habitats on its website (CDFG 2005).

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Important habitats and biological resource areas within the region include the following:

- Land within the Angeles and Los Padres National Forests, including wildlife corridors between the Santa Susana Mountains and the San Gabriel Mountains;
- Canyon areas, including Whitney, Elsmere, Wiley, East, Towsley, Rice, San Francisquito, Agua Dulce, and Soledad, which provide important habitats (water, food, shelter, and movement corridors);
- Land between SR-14 and Sand Canyon Road provides critical habitat for the Arroyo Toad;
- State-listed endangered and threatened plant and wildlife species associated with riparian woodlands in the Santa Clara River, which supports riparian woodland providing habitat for state and federally listed species;
- Open water habitats provided by Castaic Lake, Castaic Lagoon, and isolated locations along the Santa Clara River;
- Habitat for federally listed endangered, threatened, or rare plant and animal species associated with the riparian woodlands in the Santa Clara River; and
- Oak, sycamore, cottonwood, and willow trees located within the City of Santa Clarita and along the Santa Clara River. (City of Santa Clarita and County of Los Angeles 2001.)

Although the overall biological value of the area is high, a number of factors have contributed to the reduction in species diversity within the region. Those contributing factors include:

- Nighttime lighting on wildlife associated with increased development;
- Development encroaching upon wildlife corridors and SEA areas;
- Impacts on wildlife movement and reproductive capabilities;
- Lack of current mitigation banks within the region leading to a net loss of habitat within the region;
- Lack of a local land swap program precluding the conservation of large areas of open space in return for tax credits; and
- Habitat fragmentation reduces species diversity, corridors, and larger animal migration. (City of Santa Clarita and County of Los Angeles 2001.)

The Santa Clara River Enhancement and Management Plan Study (SCREMP) identified several key wildlife movement corridors within the Santa Clarita Valley. These corridors are generally located in undisturbed canyon and Riverine stream habitat areas. The preservation of these areas is essential for maintaining the wildlife diversity within the Planning Area. The Santa Monica Mountains Conservancy (SMMC) and the Mountain Recreation and Conservation Authority have also identified wildlife corridors in the region. These corridors include Elsmere Canyon, Towsley Canyon, Weldon/Bee Canyon and crossings along SR14 near Whitney Canyon and crossings between Canyon Country and Sulphur Springs. Elsmere Canyon is an integral part of the Rim of the Valley Trail Corridor and Wildlife Corridor, linking the Santa Clarita Woodlands, Whitney, and Placerita Canyons. The Rim of the Valley Trail Corridor traverses the Santa Monica, Santa Susana, and San Gabriel Mountains. As mitigation to a major transportation project, the San Gabriel/Santa Susana Wildlife Corridor and Open Space Acquisition Project identified key wildlife linkage corridors within the mountainous areas that lay along the high occupancy vehicle lanes proposed along SR14 between San Fernando Road and Sand Canyon Road. The corridors include the Whitney Canyon Movement Route and the highway underpass known as the Los Pinetos undercrossing. These corridors link significant Coastal Sage Scrub, oak woodland, and riparian woodland/scrub habitats. (City of Santa Clarita and County of Los Angeles 2001.)

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5.6.3 SURVEY METHODOLOGY

The purpose of this section is to define the methods used to survey the Lyons Canyon Ranch project site, and to identify the resulting existing biological resources onsite, within the SEAs, and in the immediate vicinity. This section describes the biological character of the project area in terms of the project site flora, wildlife, and wildlife habitats.

5.6.3.1 Biologists and Survey Dates

The data provided in this section were taken from general and focused surveys of the project site conducted by DMEC in Winter 2003/2004, Spring 2004, and Summer 2005, as well as BonTerra in the spring of 2003 and 2004. Separately, BonTerra Consulting and Bowland & Associates conducted plant surveys, wildlife surveys, and vegetation classification and mapping. BonTerra prepared their *Lyons Canyon Ranch Biological Technical Report* (BonTerra Consulting 2004) and Bowland and Associates prepared a bio-letter dated 19 February 2003 to report their findings. Data from these reports were analyzed and compiled in conjunction with DMEC's findings in order for DMEC to prepare a biological constraints analysis and biota report for Los Angeles County Significant Ecological Areas Technical Advisory Committee (SEATAC) review. In addition, other pertinent information was obtained from studies and other documentation prepared by biologists who have previously conducted studies on the project site and in the region.

A delineation of jurisdictional waters and riparian habitats was performed by DMEC. (The wetland delineation is provided as Appendix O to this EIR, *Delineation of Jurisdictional Waters and Riparian Habitats for Lyons Canyon Ranch* [DMEC 2004a]). DMEC biologists David Magney, Cher Batchelor, and Kenneth Niessen, with assistance from Daniel Brenner, performed a delineation of jurisdictional waters and wetlands on:

Wetland Delineation Transects	Survey Date
A through E	10 December 2003
F through H	17 December 2003
I through P	19 December 2003
Q through U	21 January 2004
V through BG	23 January 2004
BH through BS	30 January 2004
BS through CD	23 February 2004
Wetland Delineation Verification	20 May 2004

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Oak tree surveys were performed by three separate arborists (Trees, Etc., L. Newman Design Group, and Land Design Consultants), and the resulting data from those surveys were compiled and analyzed by DMEC. During the wetland delineation and oak tree assessment field surveys, DMEC biologists collected floristic, habitat, and wildlife resource data within the boundaries of the project site. All plants and wildlife species observed were recorded, as well as any special-status species that may have been observed or detected onsite. DMEC conducted a supplemental project site survey on 26 July 2005, during which biological resources data were collected also.

General surveys for fish, amphibians, reptiles, birds, and mammals were conducted by DMEC during the wetland delineation and oak tree assessment dates listed above, and by BonTerra Consulting on 28 and 29 May 2003, and 30 March 2004. During the surveys, the project site was evaluated for its potential to support those special-status wildlife species that are known or are expected to occur in the region. All wildlife observed or detected onsite were documented.

No focused surveys for wildlife were performed by BonTerra Consulting in the Spring of 2004 due to the Simi Fire. BonTerra Consulting Senior Scientist Mike Robson visited the project site on 30 March 2004 to verify wildlife habitat conditions following the Simi Fire. Little to no habitat for special-status wildlife species remained on the project site during the Spring of 2004 (BonTerra Consulting 2004). DMEC conducted small mammal trapping onsite in late-September through early October 2005. The methods and results of the trapping efforts are discussed in the following subsections.

During the wetland delineation and oak tree assessment field surveys, DMEC biologists collected floristic, habitat, and wildlife resource data within the boundaries of the project site. All plant and wildlife species observed were recorded, as well as any special-status species that may have been observed or detected onsite.

Personnel Involved

DMEC biologists performed a delineation of jurisdictional waters and wetlands onsite, recorded biological resources data onsite, and compiled general oak tree population data on the above listed dates, as well as on 20 January 2004. DMEC also conducted a separate biological survey on 26 July 2005.

General plant surveys were also conducted by BonTerra Consulting Ecologist Weena Sangkatavat and Consulting Biologist Mike Couffer on 13, 28, and 29 May 2003. Initial focused plant surveys were conducted by Jacqueline Bowland Worden and Trisha Munro of Bowland & Associates on 3, 4, 5 June and 30 July 2003. Since the Simi Fire burned the entire project site in October 2003, Pam DeVries of BonTerra Consulting and Scott White of White & Leatherman Consulting repeated focused plant surveys on 18 May and 14 June 2004.

General surveys for fish, amphibians, reptiles, birds, and mammals were conducted by DMEC during the wetland delineation and oak tree assessment dates listed above, and by BonTerra Consulting on 28 and 29 May 2003, and 30 March 2004. BonTerra Consulting Senior Scientist Mike Robson visited the project site on 30 March 2004 to verify wildlife habitat conditions following the fire. DMEC biologists David Magney, Wendy Cole, and Carly Gocal were assisted by Annelie Jeffre and Nancy Breslin, and subconsultant Vince Semonsen for the small mammal trapping between 30 September and 2 October 2005.

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5.6.3.2 Plant and Wildlife Surveys

Separately, BonTerra Consulting and Bowland & Associates conducted plant surveys, wildlife surveys, and vegetation classification and mapping. BonTerra Consulting prepared their *Lyons Canyon Ranch Biological Technical Report* (BonTerra Consulting 2004) (*BonTerra Consulting - Lyons Canyon Ranch Biological Technical Report*), and Bowland & Associates prepared a letter report dated 19 February 2003 (*Results of Focused Plant Surveys of Lyons Canyon by Bowland & Associates*), to report their findings. Data from these reports were analyzed in conjunction with DMEC's field surveys and findings to prepare the bioconstraints report.

During the wetland delineation and oak tree assessment field surveys, DMEC biologists collected floristic, habitat, and wildlife resource data within the boundaries of the project site. All plants and wildlife species observed were recorded, as well as any special-status species that may have been observed or detected onsite. DMEC conducted a supplemental project site survey on 26 July 2005, during which biological resources data were collected as well. DMEC also conducted three consecutive nights of small mammal trapping between 30 September and 2 October 2005.

Exhibit 5.6-10, Survey Paths and Data Collection Waypoints within Lyons Canyon Ranch, illustrates the areas walked and surveyed by DMEC during the oak tree assessments (Appendix H [DMEC 2004b]), wetland delineation (Appendix O [DMEC 2004a]), and general site biological surveys, and includes areas surveyed by BonTerra Consulting biologists. The areas surveyed were used to compile floristic and faunal lists and to classify, describe, and map the project site vegetation (ground-truthing). The general methods used for conducting the wetland delineation and oak tree assessment, as well as the vegetation mapping methods, is discussed in the following subsections.

Floristic Surveys

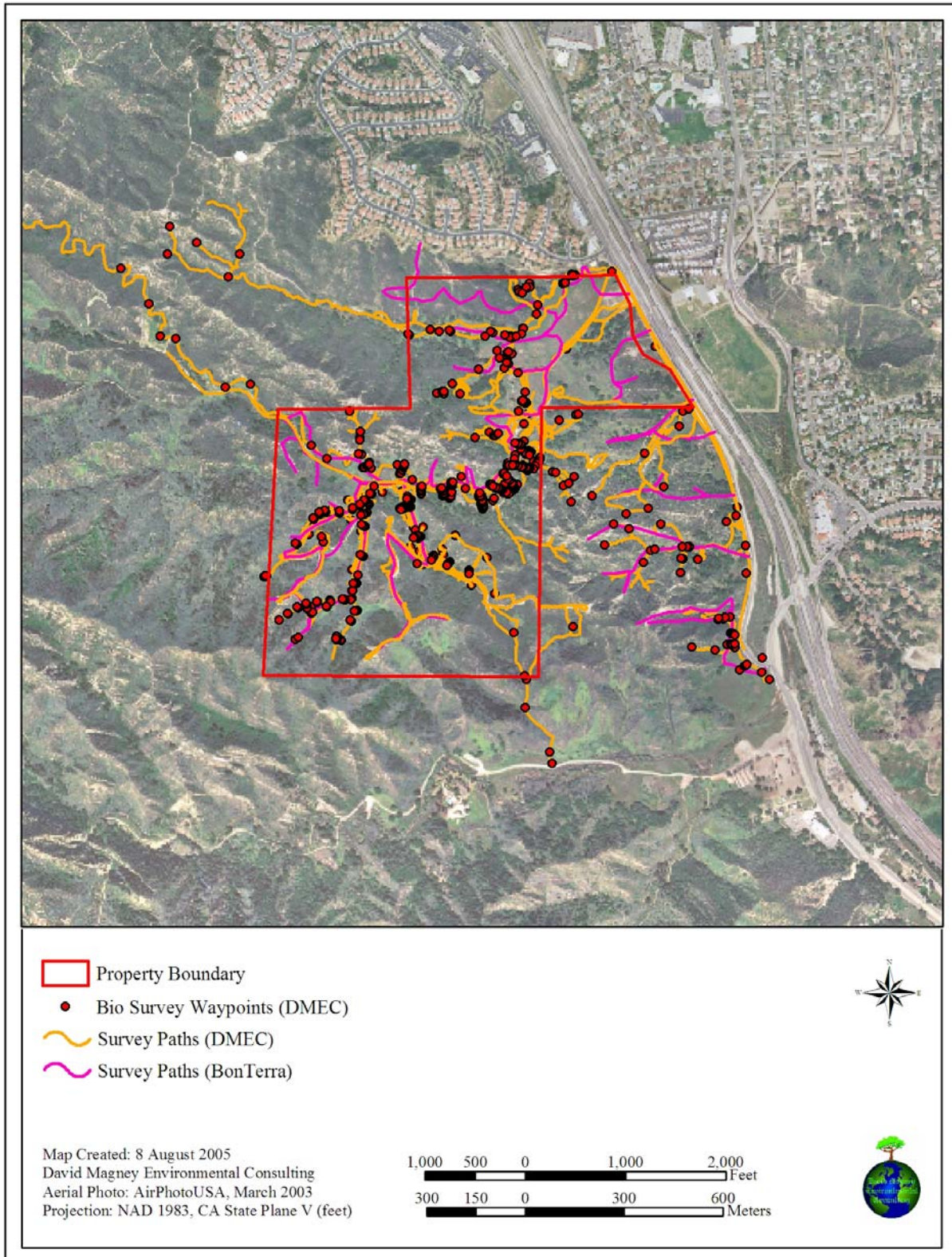
BonTerra's plant surveys were conducted by using meandering transects to cover areas of suitable habitat on the project site. Locations of any special-status species found were recorded in field notes and on a topographic map. Voucher specimens were collected for special-status plant species and deposited at RSA to ensure accuracy in identification. All plant species observed were identified in the field or collected for identification. (BonTerra Consulting 2004.)

In general conformance with California Department of Fish and Game (CDFG) guidelines, botanical surveys conducted were, (1) conducted during flowering seasons for the special-status plants known from the area; (2) floristic in nature; (3) consistent with conservation ethics; (4) designed to systematically cover all habitat types on the site; and (5) documented by voucher specimens. BonTerra's surveys were intended to be floristic and follow CDFG guidelines.

DMEC's botanical surveys were supplemental in that they were not expressly conducted to document botanical resources present onsite. All plants observed during the surveys were recorded, and voucher specimens were collected for selected taxa. DMEC deposited voucher specimens at the University of California at Santa Barbara Herbarium (UCSB). BonTerra subconsultants deposited voucher specimens at the Rancho Santa Ana Botanic Garden Herbarium (RSA).

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Exhibit 5.6-10. Survey Paths and Data Collection Waypoints within Lyons Canyon Ranch



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Wildlife Surveys

General surveys for fish, amphibians, reptiles, birds, and mammals were conducted by DMEC during the wetland delineation and oak tree assessment dates listed above, and by BonTerra Consulting on 28 and 29 May 2003, and 30 March 2004. During the surveys, the project site was evaluated for its potential to support special-status wildlife species that are known or are expected to occur in the region. In addition, all wildlife species observed or detected onsite were documented.

BonTerra's plant surveys were conducted by using meandering transects to cover areas of suitable habitat on the project site. Locations of any special-status species found were recorded in field notes and on a topographic map. Voucher specimens were collected for special-status plant species and deposited at RSA to ensure accuracy in identification. All plant species observed were identified in the field or collected for identification. (BonTerra Consulting 2004.)

During BonTerra's wildlife surveys, the project site was evaluated for its potential to support special-status wildlife species that are known or are expected to occur in the region. All wildlife species detected during the course of the surveys were documented in field notes. Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and debris. Birds were identified by visual and auditory recognition. Surveys for mammals were conducted during the day and included searching for and identifying diagnostic sign, including scat, footprints, dust bowls, burrows, bones (DMEC), and trails. (BonTerra Consulting 2004.)

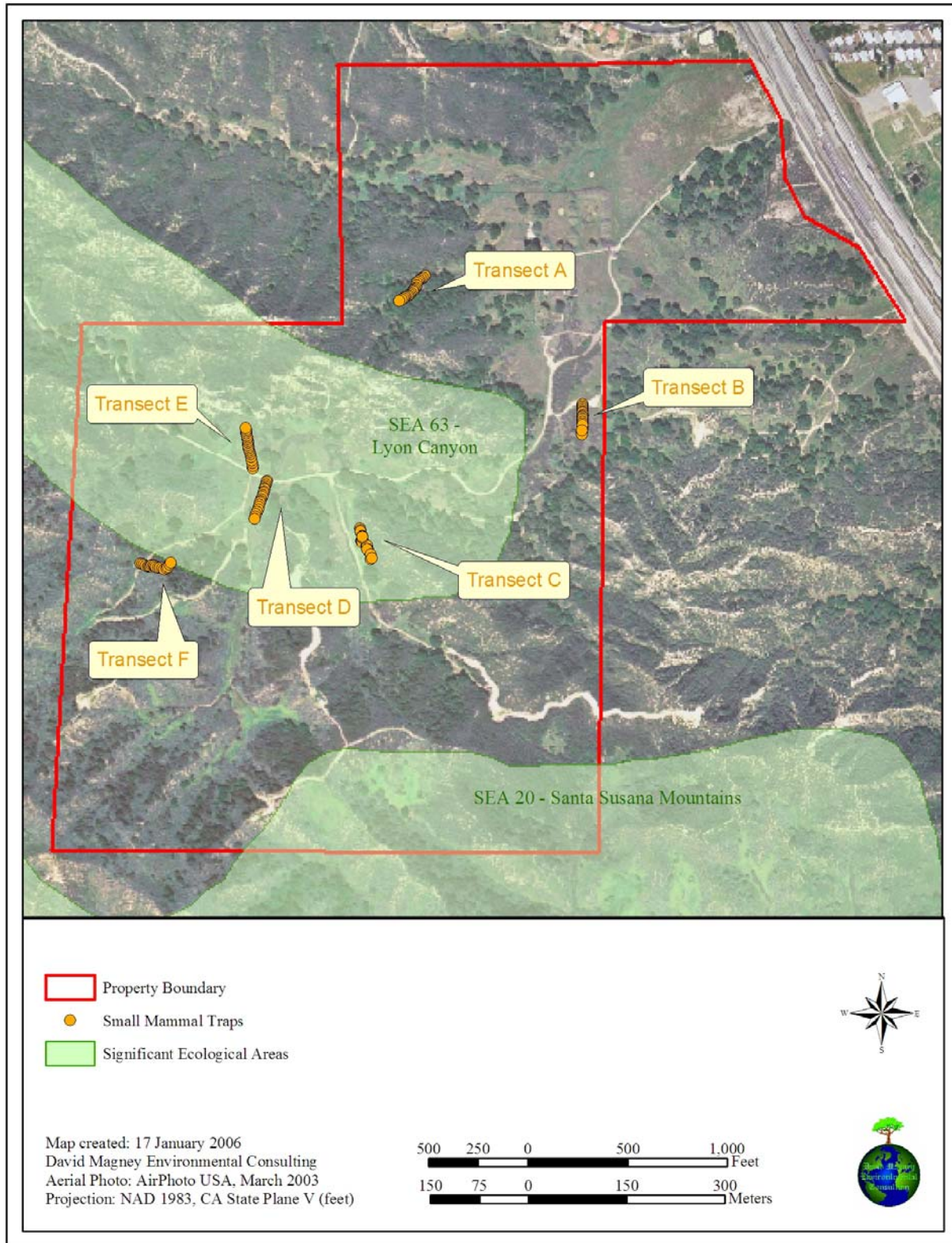
No focused surveys for wildlife were performed in the spring of 2004 due to the Simi Fire. BonTerra Consulting Senior Scientist Mike Robson visited the project site on 30 March 2004 to verify wildlife habitat conditions following the Simi Fire. Little to no habitat for special-status wildlife species remained on the project site during the spring of 2004; therefore, no focused wildlife surveys were performed. (BonTerra Consulting 2004.)

SMALL MAMMAL TRAPPING

DMEC conducted small mammal trapping (catch-and-release) in September and October of 2005 for general species detection (identification) and population size purposes. Small mammals were trapped over the course of three consecutive nights, using Sherman live traps to help account for any herbivorous small mammal species (special-status or otherwise) that inhabit the project site and to aid in the population estimations for the project site fauna. Six 200-foot long transects of up to 20 traps each (spaced approximately every 10 feet) were set and baited for three consecutive nights (30 September through 2 October 2005) for a total of 349 trap nights. The traps were baited with a mixture of rolled oats and creamy peanut butter. Habitats where trapping was conducted included: Chamise Chaparral, Coastal Sage Scrub, Coast Live Oak Woodland, Grassland, and Riparian Scrub. Three trap lines (Transects C, D, and E) were located entirely within SEA 63, and Transect F ended at the edge of SEA 63. Exhibit 5.6-11, Small Mammal Trapping Transects, illustrates the location and number of the trapping transects. Animals caught were marked (numbered consecutively), and recaptured animals were not recounted in the total number of animals captured. The traps were set in the evenings, and checked for results the following morning early enough not to cause harm to the animals from over exposure to heat.

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Exhibit 5.6-11. Small Mammal Trapping Transects



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5.6.3.3 Wetland Delineation Methods

During the wetland delineation, DMEC biologists gathered data from 234 established sample plots, according to the U.S. Army Corps of Engineer's (Corps') 1987 *Manual for Delineating Jurisdictional Wetlands* (Environmental Laboratory 1987) (Exhibit 5.6-12, Wetland Delineation Plots Surveyed for the Lyons Canyon Ranch Project Site) from the project site and portions of adjacent lands. (The wetland delineation is provided as Appendix O to this EIR, Delineation of Jurisdictional Waters and Riparian Habitats for Lyons Canyon Ranch [DMEC 2004a]). The 234 sample plots were established along 45 transects across the width of several portions of Lyon Canyon Creek and several of its tributaries onsite, as well as other onsite and adjacent unnamed tributaries of other streams. These transects and data points were surveyed to gather wetland data on soils, hydrology, and vegetation for determining the extent of Corps jurisdiction pursuant to the Clean Water Act and riparian wetland habitat under the jurisdiction of the California Department of Fish and Game (CDFG) pursuant to Section 1600 et seq. of the Fish and Game Code. Total areas of wetland habitats were calculated using delineated lines, points, and polygons using ArcView 3.3 GIS software and onsite measurements. Delineation data points and stream thalwegs were delineated using hand-held Garmin eTrex GPS units. The wetland delineation was formally verified by the Corps in July 2005.

5.6.3.4 Oak Tree Assessment Methods

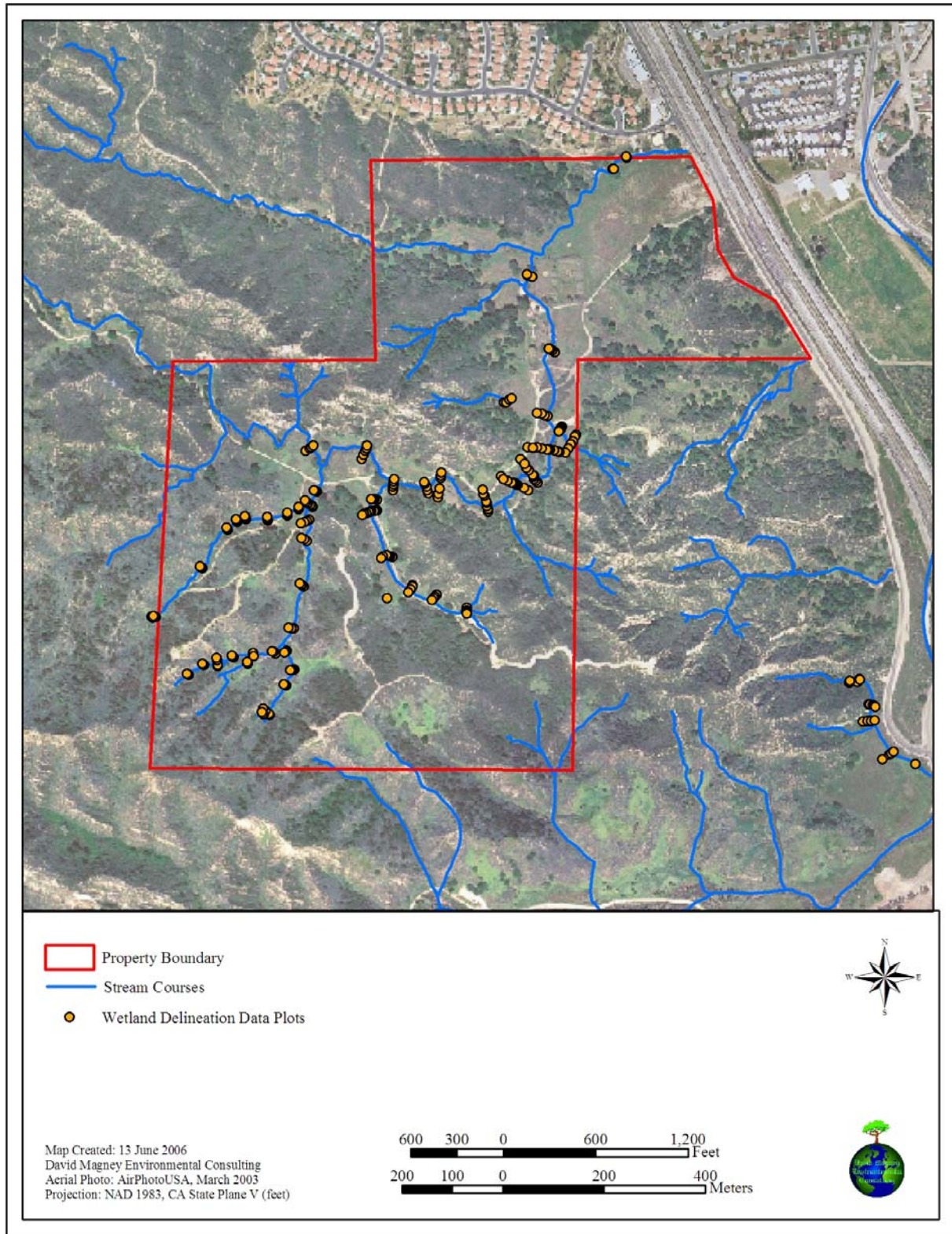
DMEC gathered existing data on the oak trees present within the Lyons Canyon Ranch development site, based on assessments prepared by Richard Iberra (arborist with Trees, Etc.), L. Newman Design Group and Land Design Consultants (DMEC 2004b). The DMEC oak tree assessment is provided as Appendix H of this EIR. DMEC developed a GIS database focusing on onsite oak tree resources, including size, species, coordinates, condition, value, heritage or non-heritage, oak tree number (designated by the arborists), and other recorded data. Database queries were then conducted to create specific ArcView shapefiles to illustrate the results, which provided a means to create thematic maps. Additional datalayers were added as needed to provide reference and serve as a background, including a recent color aerial photograph (aerial survey flown on 26 March 2003), roads, city limits, project site and boundary, topography, and development planning areas.

5.6.3.5 Vegetation Mapping Methods

BonTerra's vegetation mapping was performed by Ms. Sangkatavat and Mr. Couffer, and was plotted on an aerial photograph with a topographic overlay. BonTerra's mapping was performed prior to the Simi Fire in October 2003. Wetlands and waters were mapped by DMEC during the wetland delineation. DMEC mapped and classified all vegetation at the project site based on BonTerra's map, the wetland delineation data, and DMEC botanist observations and aerial photo interpretation. DMEC used ground-truthing data points, aerial photo interpretation, and BonTerra's vegetation map to develop a detailed map of the natural vegetation of the project site. Data received from BonTerra Consulting and Bowland & Associates were analyzed and utilized in conjunction with DMEC's findings to prepare this report of the biological resources of Lyons Canyon Ranch, including special-status species and sensitive habitats, and to map the vegetation and plant communities onsite. DMEC mapped the natural vegetation at the alliance level according to CNPS-CDFG mapping protocols described in CNPS's *Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995).

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Exhibit 5.6-12. Wetland Delineation Plots Surveyed for Lyons Canyon Ranch Project Site



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Mapping Upland Habitats

Mapping of upland vegetation alliances was performed with the aid of ArcGIS programs (ArcView 3.3, ArcView 8.2, and related programs). A preliminary vegetation map was drawn onscreen at a scale of 1:2,000 to 1:5,000 using color aerial photographs (AirPhotoUSA) taken 26 March 2003, and used as a base layer. The polygons of this preliminary map differentiate the distinct land cover signatures related to patterns observed on the aerial photograph. These polygons were attributed with different vegetation alliances (classified) after checking all available vegetation data gathered onsite by DMEC over the last two years. Field data (from DMEC) and the vegetation community map created by BonTerra Consulting (2004) were also consulted in order to discern the boundaries of vegetation alliances that were not easily detected with the color aerial photo. This preliminary vegetation map was then checked onsite for accuracy, and subsequently modified into the final vegetation alliance map.

Mapping Wetland Habitats

Mapping of wetland vegetation alliances was performed much in the same manner as the upland communities; however, wetland data were specifically mapped in detail according to the wetland delineation conducted by DMEC (Appendix O to this EIR [DMEC 2004a]). Many data points (254) were collected onsite by DMEC during wetland survey transects, enabling the polygons of vegetation alliances to be readily cross-referenced (ground-truthed) for accuracy. A point shapefile was created that described the vegetation associated with individual wetland delineation plots. After all points were attributed with the appropriate vegetation alliance classification, polygons describing the alliances were drawn with reference to the underlying point data. Any vegetation alliances that were greater than one-tenth of an acre in size were mapped as polygons.

5.6.3.6 Literature Search

A literature review was conducted prior to the initiation of the general plant and vegetation mapping surveys in order to determine the special-status plant species known to occur in the project region that may occur on the project site. CNPS's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001, 2005) and CDFG's California Natural Diversity Database (CNDDDB) RareFind3 (CDFG 2005) were reviewed. Nine (9) California Quadrangles (USGS 7.5-minute Series Topographic Map) were queried for the CNDDDB RareFind3 records search. Oat Mountain Quadrangle, in which the project site occurs, was searched, as well as all surrounding quadrangles, including Val Verde, Newhall, Mint Canyon, San Fernando, Van Nuys, Canoga Park, Calabasas, and Santa Susana. (Refer to the Oversized Maps at the end of this report for the Color USGS Oat Mountain Quad Sheet.)

The compendia of special-status species published by the United States Fish and Wildlife Service (USFWS) and CDFG were reviewed. RSA and the Jepson Herbarium (UC/JEPS) online collections were searched as well. Extensive world wide web searches for biological resource data for onsite and surrounding areas were conducted, with such keywords as: Lyon Canyon, Lyons Canyon, Towsley Canyon, Newhall, flora, fauna, birds, reptiles, amphibians, butterflies, invertebrates, geology, climate, weather, plants, mammals, small mammals, population density

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(for numerous species expected or known to occur onsite), and other similar keywords and combinations of keywords.

Vegetation at the project site was delineated, classified, and described into vegetation types and plant communities based on the CNPS' *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995). The *List of California Terrestrial Natural Communities Recognized by the Natural Diversity Database* (CDFG 2003) and *Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) were referenced as well to aid in the classification and descriptions of the plant communities observed. The wildlife habitats were classified and mapped according to the California Wildlife Habitat Relationships System (Mayer and Laudenslayer 1988).

5.6.4 EXISTING BIOLOGICAL RESOURCES

The purpose of this section is to: (1) identify existing biological resources onsite, within the SEAs, and in the immediate vicinity; (2) analyze potential project-related impacts to these resources (including sensitive species); and (3) recommend mitigation measures to avoid or substantially lessen the significance of impacts that are identified. This section describes the biological character of the project area in terms of vegetation, wildlife, and wildlife habitats and analyzes the biological significance of the project area in consideration of Federal, State, and local laws and policies.

Biological Resources include the project site flora, plant communities, fauna, wildlife populations, wildlife habitats, wildlife movement patterns, and special-status species and habitats either known or observed on the project site are discussed below.

5.6.4.1 Habitat Descriptions

Three general vegetation types currently exist in the immediate vicinity of the Lyons Canyon Ranch project site, including riparian, upland, and barren/disturbed. These vegetation types include several habitats and plant communities (or alliances) that make up the landscape of Lyons Canyon Ranch. Table 5.6-2, Classification and Area of Lyons Canyon Ranch Vegetation Alliances, lists the alliances (or plant communities based on Sawyer and Keeler-Wolf 1995) observed onsite and provides the acreages for each. In addition to Sawyer and Keeler-Wolf, the wetland habitat classifications are also cross-referenced with the USFWS (Cowardin et al. 1979) classification system.

The riparian habitats include the plant communities associated with jurisdictional waters of the U.S. These habitat types were determined within the project site based on field surveys and observations, the wetland delineation results, and aerial photographs.

Descriptions of each habitat and alliance are provided in the following subsections (common names of associate species are provided for the first mention of each species only). Exhibit 5.6-13, Vegetation Observed and Classified at Lyons Canyon Ranch, shows general habitats and their respective plant communities mapped onsite.

The project site is approximately 235 acres. Of that, approximately 226.79 acres is occupied by natural vegetation, and approximately 8.71 acres is disturbed.

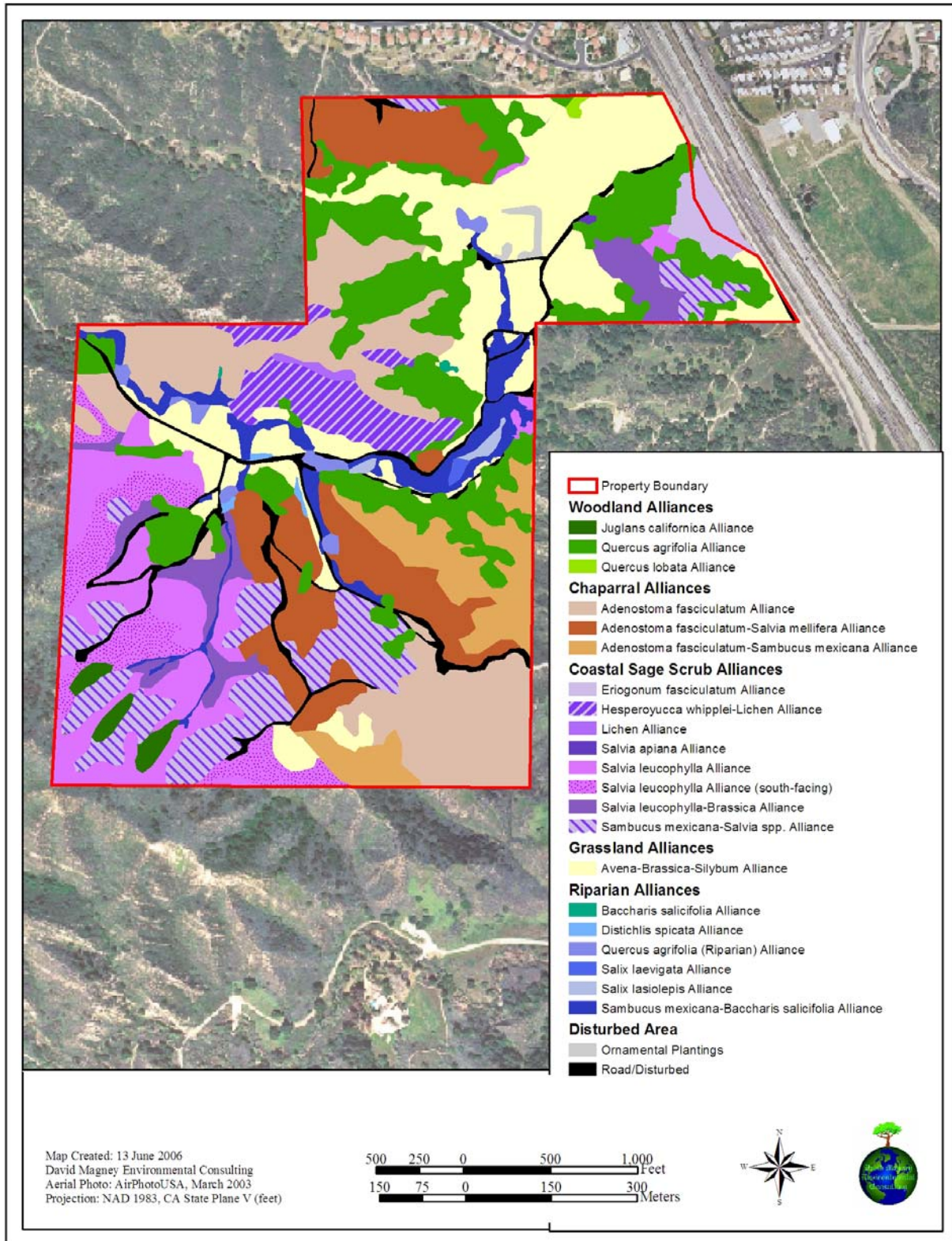
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Table 5.6-2. Classification and Area of Lyons Canyon Ranch Vegetation Alliances

Alliance	Acres
Riparian Habitat (11.95 acres)	
<i>Woodland</i> (2.46 acres)	
<i>Salix laevigata</i> Alliance	0.24
<i>Salix lasiolepis</i> Alliance	0.57
<i>Quercus agrifolia</i> [Riparian] Alliance	1.65
<i>Scrub</i> (9.15 acres)	
<i>Baccharis salicifolia</i> Alliance	0.14
<i>Sambucus mexicana</i> - <i>Baccharis salicifolia</i> Alliance	9.01
<i>Herbaceous</i> (0.34 acre)	
<i>Distichlis spicata</i> Alliance	0.34
Upland Habitat (214.84 acres)	
<i>Woodland</i> (40.54 acres)	
<i>Juglans californica</i> Alliance	1.89
<i>Quercus agrifolia</i> Alliance	38.42
<i>Quercus lobata</i> Alliance	0.23
<i>Chaparral</i> (69.41 acres)	
<i>Adenostoma fasciculatum</i> Alliance	31.78
<i>Adenostoma fasciculatum</i> - <i>Salvia mellifera</i> Alliance	24.98
<i>Adenostoma fasciculatum</i> - <i>Sambucus mexicana</i> Alliance	12.65
<i>Coastal Sage Scrub</i> (57.43 acres)	
<i>Eriogonum fasciculatum</i> Alliance	3.20
<i>Salvia apiana</i> Alliance	0.08
<i>Salvia leucophylla</i> Alliance	18.36
<i>Salvia leucophylla</i> Alliance (south-facing)	10.22
<i>Salvia leucophylla</i> - <i>Brassica</i> Alliance	7.61
<i>Sambucus mexicana</i> - <i>Salvia leucophylla</i> Alliance	17.96
<i>Lichen Rock Outcrop</i> (9.50 acres)	
Lichen Alliance	0.57
<i>Hesperoyucca whipplei</i> -Lichen Alliance	8.93
<i>Grassland</i> (37.96 acres)	
<i>Avena</i> - <i>Brassica</i> - <i>Silybum</i> Alliance (Ruderal)	37.96
TOTAL NATURAL VEGETATION EXISTING ONSITE:	226.79
Disturbed Area (8.71 acres)	
Ornamental Plantings	0.70
Road/Disturbed	8.01
TOTAL ACREAGE:	235.50

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Exhibit 5.6-13. Vegetation Observed and Classified at Lyons Canyon Ranch



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Riparian Habitat

Riparian habitats in Lyon Canyon Creek can be characterized as performing various hydrologic, geomorphologic, biogeochemical, and plant and wildlife habitat functions. The performance of these functions is largely dependent upon the maintenance of natural channel morphology and native plant communities. The riparian scrub and woodland habitats onsite are used as nesting and foraging habitat for several species of birds, and as cover and foraging habitat for small and large mammals, some of which may use the site as a movement corridor. Habitat function is increased by the presence of adjacent natural upland habitats, which together create high species richness and structural diversity onsite. The riparian habitat onsite includes *Salix lasiolepis* Alliance, *Salix laevigata* Alliance, *Quercus agrifolia* Riparian Alliance, *Baccharis salicifolia* Alliance, *Baccharis salicifolia-Sambucus mexicana* Alliance, and *Distichlis spicata* Alliance. Riparian habitats occupy approximately 11.95 acres of the project site.

RIPARIAN WOODLAND

Riparian Woodland habitat is characterized by woody vegetation that is six meters (19 feet) tall or taller. The dominant trees are generally winter-deciduous (as for the willow woodlands), but may also be evergreen trees (as with Coast Live Oak). This habitat possesses an overstory of trees, an understory of young trees and shrubs, and an herbaceous layer. (Cowardin et al. 1979.)

Riparian Woodland occupies approximately 2.46 acres of the project site.

***Salix lasiolepis* Alliance (Arroyo Willow Woodland)**

Salix lasiolepis Alliance (Arroyo Willow Woodland) is dominated by *Salix lasiolepis* (Arroyo Willow), with *Baccharis salicifolia* as an important contributor. *Salix lasiolepis* is a winter-deciduous shrub or small tree with shiny dark green (upper surface) and grayish (lower surface) oblanceolate leaves. *Salix lasiolepis* is listed with a wetland indicator status of FACW (a Facultative Wetland species that almost always occurs in wetlands [Reed 1988]). *Salix lasiolepis* Alliance occurs in seasonally flooded or saturated freshwater wetland habitats, such as floodplains and low-gradient depositions along rivers and streams, and is abundant in marshes, meadows, and springs, at elevations below 1,800 meters. This woodland community forms an intermittent to open canopy less than 10 meters tall, growing over a patchy shrub layer of predominantly *Baccharis salicifolia* and variable ground layer. (Sawyer and Keeler-Wolf 1995.)

Salix lasiolepis Alliance occurs centrally, along Lyons Ranch Road and along Lyon Canyon Creek, which bisect the project site. Associate species of *Salix lasiolepis* Alliance onsite include *Artemisia douglasiana* (Mugwort), emergent *Quercus agrifolia* (Coast Live Oak), *Salix laevigata* (Red Willow), and *Sambucus mexicana*. *Salix lasiolepis* Alliance occupies approximately 0.57 acre of the project site.

***Salix laevigata* Alliance (Red Willow Woodland)**

Salix laevigata Alliance (Red Willow Woodland) is dominated by *Salix laevigata*. *Salix laevigata* is a winter-deciduous shrub or small tree with bright green (upper surface) lanceolate leaves. *Salix laevigata* is listed with a wetland indicator status of FACW (Reed 1988). *Salix laevigata* Alliance occurs in seasonally flooded or saturated freshwater wetland habitats, such as

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ditches, floodplains, lake edges, and low-gradient depositions along rivers and streams, at elevations below 1,700 meters. (Sawyer and Keeler-Wolf 1995.)

A small dense *Salix laevigata* stand was observed onsite within the lower reach of Lyon Canyon Creek. Scattered trees of *Salix laevigata* were observed about the project site, especially as an associate to *Salix lasiolepis* Alliance. The associate species observed contributing to *Salix laevigata* Alliance onsite include *Baccharis salicifolia* (Mulefat), *Distichlis spicata* (Saltgrass), *Hirschfeldia incana* (Summer Mustard), *Sambucus mexicana*, and *Populus fremontii* ssp. *fremontii* (Fremont Cottonwood). *Salix laevigata* Alliance occupies approximately 0.24 acre of the project site.

***Quercus agrifolia* (Riparian) Alliance (Coast Live Oak Riparian Woodland)**

Quercus agrifolia (Riparian) Alliance (Coast Live Oak Riparian Woodland) is dominated by *Quercus agrifolia* var. *agrifolia* (Coast Live Oak), which is a broad-leaved, evergreen, wide-topped tree with furrowed, dark gray bark and spine-toothed, convex, dark green leaves. *Q. agrifolia* is the most widely distributed species of the evergreen oaks, and it is capable of achieving large size and old age (Zedler et al. 1997). *Quercus agrifolia* (Riparian) Alliance occurs predominantly on steep slopes and on raised stream banks and terraces at elevations below 1,200 meters. It forms a continuous to open 30-meter-tall canopy, growing over an understory of occasional shrubs and an herbaceous ground layer. *Quercus agrifolia* (Riparian) Alliance requires sandstone or shale-derived soils. (Sawyer & Keeler-Wolf 1995.)

Quercus agrifolia (Riparian) Alliance occurs in the valleys between the steep hills on the project site. *Quercus agrifolia* Alliance was observed and classified as two different plant communities at the Lyons Canyon Ranch project site:

- (1) *Quercus agrifolia* (Riparian) Alliance in which *Q. agrifolia* is growing along and contributing to the riparian corridor as an intermittent canopy with a sparse ecotonal understory of riparian and Coastal Sage Scrub plant species (an example of Coast Live Oak Riparian Woodland is located in the vicinity of oak tree tag number 1627).
- (2) *Quercus agrifolia* (Upland) Alliance (the most common oak woodland) in which *Q. agrifolia* forms a closed to intermittent canopy with a sparse to intermittent understory of Coastal Sage Scrub species. The canopy cover varies in density from dense (closed) to widely spaced to the point that it could be considered savannah (a few trees per acre). (This plant community is discussed below in the Upland Habitat Subsection.)

Associate canopy contributors include *Juglans californica* var. *californica* (Southern California Black Walnut) and *Sambucus mexicana*. *Quercus lobata* (Valley Oak) was also observed onsite as a scattered associate species to the *Quercus agrifolia* (Riparian) Alliance plant communities, especially in the lower elevational areas of the project site. The understory is variable, including many of those associate shrub species listed above under Coastal Sage Scrub. *Quercus agrifolia* (Riparian) Alliance occupies approximately 1.65 acres of the project site.

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RIPARIAN SCRUB

Riparian Scrub habitat is dominated by woody plants less than six meters (19 feet) tall. Contributing plants include true shrubs that are typically small or stunted due to environmental conditions. Riparian Scrub habitats may represent a successional stage leading to riparian woodland habitats, or may be relatively stable communities. (Cowardin et al. 1979.) The two Riparian Scrub habitats observed onsite are described below as *Baccharis salicifolia* Alliance (Mulefat Scrub) and *Sambucus mexicana-Baccharis salicifolia* Alliance (Mexican Elderberry-Mulefat Scrub). Riparian Scrub occupies approximately 9.15 acres of the project site.

***Baccharis salicifolia* Alliance (Mulefat Scrub)**

Baccharis salicifolia Alliance (Mulefat Scrub) is dominated by *Baccharis salicifolia* (Mulefat), a native shrub or small tree that is found at elevations below 1,250 meters (Hickman 1993). The National Inventory of Wetland Plants (Reed 1988) lists *Baccharis salicifolia* with a wetland indicator status of FACW.

Baccharis salicifolia Alliance forms a continuous scrub canopy of less than four meters (12 feet) tall growing over a sparse ground layer. This plant community requires seasonally flooded or saturated, freshwater, wetland habitats, such as canyon bottoms, irrigation ditches, and moist streambanks or channels. *Baccharis salicifolia* often occurs in pure stands or may mix, at a fine scale, with other wetland series. *Baccharis salicifolia* often forms ecotonal transitions between riparian and upland scrub communities. (Sawyer and Keeler-Wolf 1995.)

Baccharis salicifolia Alliance occurs centrally, along Lyons Ranch Road and along Lyon Canyon Creek, which bisect the project site. Often, *Baccharis salicifolia* Alliance is significantly influenced by *Sambucus mexicana* (Mexican Elderberry) as a major contributor to the shrub canopy. In addition to *Sambucus mexicana*, other scattered associate species to *Baccharis salicifolia* Alliance include: *Amsinckia menziesii* (Common Fiddleneck), *Anagallis arvensis* (Scarlet Pimpernel), *Artemisia douglasiana*, *Baccharis pilularis* (Coyote Brush), *Conium maculatum* (Poison Hemlock), *Erodium cicutarium* (Redstem Filaree), *Eucrypta chrysanthemifolia* var. *chrysanthemifolia* (Common Eucrypta), *Heliotropium curassavicum*, *Hirschfeldia incana*, *Leymus condensatus* (Giant Wildrye), *Marah macrocarpus* var. *macrocarpus* (Big-fruited Man-root), and *Nicotiana glauca* (Tree Tobacco). *Baccharis salicifolia* Alliance occupies approximately 0.14 acre of the project site.

***Sambucus mexicana-Baccharis salicifolia* Alliance (Mexican Elderberry-Mulefat Scrub)**

Sambucus mexicana-Baccharis salicifolia Alliance (Mexican Elderberry-Mulefat Scrub) is dominated by *Sambucus mexicana* (Mexican Elderberry) and *Baccharis salicifolia*. *Sambucus mexicana* is a common large shrub that produces cream-colored flowers and bluish-black berries. This species is commonly found growing along streams at elevations below 3,000 meters (Hickman 1993). *Sambucus mexicana* is listed with a wetland indicator status of FAC, or a Facultative species that is equally likely to occur in wetlands as in non-wetlands (Reed 1988). (*Baccharis salicifolia* is described above.)

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Sambucus mexicana-*Baccharis salicifolia* Alliance typically forms an intermittent shrub canopy over various riparian scrub shrubs and a grassy ground layer. This series occurs in intermittently flooded or seasonally saturated soils of freshwater wetlands, such as stream banks, floodplains, and open riparian forests at elevations below 300 meters. *S. mexicana* is also common in many series, often as a small emergent tree over Coastal Sage Scrub, chaparral communities, and as an understory to woodlands. (Sawyer and Keeler-Wolf 1995.)

Baccharis salicifolia was often a co-dominant to *Sambucus mexicana* in several areas; however, other scattered associate species observed growing with this alliance include most of those listed above for *Baccharis salicifolia* Alliance. *Distichlis spicata* and *Salix* spp. (Arroyo Willow and Red Willow) were also observed frequently growing as associates in stands of *Sambucus mexicana*-*Baccharis salicifolia* Alliance. *Sambucus mexicana*-*Baccharis salicifolia* Alliance occupies approximately 9.01 acres of the project site.

RIPARIAN HERBACEOUS

Riparian Herbaceous habitat is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This habitat usually consists of persistent plant species that normally remain standing at least until the beginning of the next growing season (Cowardin et al. 1979). The Riparian Herbaceous habitat observed onsite is described below as *Distichlis spicata* Alliance (Saltgrass Wet Meadow). Riparian Herbaceous occupies approximately 0.34 acre of the project site.

***Distichlis spicata* Alliance (Saltgrass Wet Meadow)**

Distichlis spicata Alliance (Saltgrass Wet Meadow) is a plant community dominated by the hydrophytic perennial grass *Distichlis spicata* (Saltgrass). The National Inventory of Wetland Plants (Reed 1988) lists *Distichlis spicata* with a wetland indicator status of FACW (Reed 1988). This species occurs predominantly in saltmarshes and in moist alkaline or saline areas at elevations below 1,000 meters (Hickman 1993). Typically, *Distichlis spicata* Alliance includes groundlayer contributions of annual grasses and herb species. This plant community forms a low, dense, often matted ground layer on permanently moist soils, and tolerates haline to saline water chemistry. This plant community occupies the transitional landscape between upland grassland habitats to wetter riparian conditions, and has the potential for higher species richness compared to other adjacent upland plant communities (Sawyer and Keeler-Wolf 1995).

Associate species observed onsite within the herbaceous layer of *Distichlis spicata* Alliance include: *Ambrosia* spp. (Ragweed), *Atriplex semibaccata* (Australian Saltbush), *Avena barbata* (Slender Wild Oats), *Bromus* spp. (Brome grasses), *Claytonia parviflora* (Small-flowered Miner's Lettuce), *Heliotropium curassavicum*, *Juncus balticus* (Baltic Rush), *Medicago polymorpha* (Common Burclover), *Melilotus indica* (Sourclover), *Polygonum arenastrum* (Common Knotweed), *Polypogon monspeliensis* (Rabbitsfoot Grass), *Rumex crispus* (Curly Dock), *Silybum marianum* (Milk Thistle), and *Verbena lasiostachys* (Western Verbena). *Distichlis spicata* Alliance occupies approximately 0.34 acre of the project site.

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Upland Habitat

The upland habitats observed at the Lyons Canyon Ranch site include Woodland (*Juglans californica* Alliance, *Quercus agrifolia* Alliance, and *Quercus lobata* Alliance); Chaparral (three *Adenostoma fasciculatum* Alliances); Coastal Sage Scrub (*Eriogonum fasciculatum* Alliance, *Salvia apiana* Alliance, three *Salvia leucophylla* Alliances, *Sambucus mexicana*-*Salvia* spp. Alliance, *Hesperoyucca whipplei*-Lichen Alliance, and Lichen Alliance); and Grassland (*Avena-Brassica-Silybum* Alliance).

Upland habitats occupy approximately 214.84 acres of the project site.

WOODLAND

Woodland describes a vegetation type dominated by woody trees and tall shrub species, forming an intermittent canopy over a variety of low shrubs and a variable grassy ground layer. Some woodlands may not consist of any shrub canopy, and may only form a canopy over annual or perennial grasslands. The understory of woodlands is directly related to the density of the woodland and the cover of its canopy. Typically, if a woodland is dense, then the understory species are few, and this is a result of shading by the woodland canopy. The woodland plant communities observed at Lyons Canyon Ranch include *Juglans californica* Alliance (California Walnut Woodland), *Quercus agrifolia* Alliance (Coast Live Oak Woodland), and *Quercus lobata* Alliance (Valley Oak Woodland), which are discussed below. Woodland occupies approximately 40.54 acres of the project site.

***Juglans californica* Alliance (California Walnut Woodland)**

Juglans californica Alliance (California Walnut Woodland) is dominated by *Juglans californica* var. *californica* (Southern California Black Walnut), a broad-leaved winter-deciduous, monoecious tree. This walnut species is listed with a wetland indicator status of FAC (Reed 1988). *Juglans californica* Alliance forms an open to closed canopy (less than 10 meters tall) growing over a common or infrequent shrub stratum and a sparse or grassy ground layer. This habitat requires deep, shale-derived, intermittently flooded/saturated soils of freshwater riparian corridors, floodplains, incised canyons, seeps, and stream or riverbanks at elevations between 150 and 900 meters. (Sawyer and Keeler-Wolf 1995.)

Juglans californica is an uncommon California endemic species, ranging from coastal southern California from Santa Barbara County to Los Angeles County. *J. californica* is a CNPS List 4 (limited distribution) and has a CNPS R-E-D (Rare-Endangerment-Distribution) Code of 1-2-3 ([1] Rare, but low potential for extinction-[2] Endangered in a portion of its range-[3] Endemic to California) (CNPS 2001). *Juglans californica* Alliance is a much fragmented, declining natural community, and it is threatened by urbanization and grazing, which inhibit natural reproduction.

Juglans californica Alliance occurs in the southwestern portion of the project site. *Juglans californica* Alliance was observed as an open canopy consisting of several large, mature trees growing over an understory of associate shrubs and herbs including *Artemisia californica*

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(California Sagebrush), *Brickellia californica* (California Brickellbush), *Dichelostemma capitatum* (Blue Dicks), *Hazardia squarrosa* (Sawtooth Goldenbush), *Leymus condensatus*, *Lupinus succulentus* (Fleshy Lupine), *Marah macrocarpus*, *Salvia leucophylla* (Purple Sage), and *S. mellifera* (Black Sage). Emergent *Quercus agrifolia* were also observed contributing to the walnut canopy. *Juglans californica* Alliance occupies approximately 1.89 acres of the project site.

***Quercus agrifolia* (Upland) Alliance (Coast Live Oak Woodland)**

Quercus agrifolia (Upland) Alliance (Coast Live Oak Woodland) is described above in the Riparian Woodland subsection. As stated above, *Quercus agrifolia* (Upland) Alliance occurs in the valleys between the steep hills on the project site. *Quercus agrifolia* (Upland) Alliance was observed and classified as two different plant communities at the Lyons Canyon Ranch project site. The upland alliance of this plant community is similar to the description above for Coast Live Oak Riparian Woodland; however, this upland type is not associated with streams and riparian corridors. *Quercus agrifolia* (Upland) Alliance occupies approximately 38.42 acres of the project site.

***Quercus lobata* Alliance (Valley Oak Woodland)**

Quercus lobata Alliance (Valley Oak Woodland) is dominated by *Quercus lobata* (Valley Oak), which is a tall deciduous tree with light grayish bark and deeply lobed leaves. This uncommon oak species is found in slopes, valleys, and savannahs at elevations below 1,700 meters. The National Inventory of Wetland Plants (Reed 1988) lists *Quercus lobata* with a wetland indicator status of FAC* (tentatively, a Facultative species that is equally likely to occur in wetlands as in nonwetlands [Reed 1988]).

Quercus lobata Alliance forms a less than 30-meters tall open woodlands canopy with occasional shrubs below with a grassy groundlayer. This plant community requires intermittently flooded soils, and occurs in floodplains, valley bottoms, gentle slopes, and summit valleys.

Quercus lobata Alliance was observed in one small location onsite, near the entry in the northeastern portion of the project site. *Quercus agrifolia* was observed as an emergent tree associate to *Quercus lobata*, and the understory consists of primarily *Avena-Brassica-Silybum* Alliance (Ruderal Grassland Alliance), which is described below. *Quercus lobata* Alliance occupies approximately 0.23 acre of the project site.

CHAPARRAL

Chaparral is a type of shrubland that is dominated by evergreen shrubs with small, thick, leathery, dark green, sclerophyllous leaves. The shrubs of chaparral are relatively tall and dense, and are adapted to periodic wildfires by stump sprouting or by germination from a dormant seed bank. These evergreen shrubs are also adapted to drought by deep extensive root systems, while their small thick leaf structure prevents permanent damage from moisture loss (Zedler et al.

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1997). Many typical Coastal Sage Scrub species also grow intermixed as associates with chaparral species. Chaparral typically occurs on moderate to steep south-facing slopes with dry, rocky, shallow soils, becoming more abundant with higher elevations where temperatures are lower and moisture supplies are more ample. The chaparral plant communities observed onsite include three *Adenostoma fasciculatum* Alliances (Chamise Chaparral). Chaparral occupies approximately 69.41 acres of the project site.

***Adenostoma fasciculatum* Alliance (Chamise Chaparral)**

Adenostoma fasciculatum Alliance (Chamise Chaparral) is dominated by the evergreen shrub, *Adenostoma fasciculatum* (Chamise), which is the most abundant species in the non-desert shrublands of California. This species is a burlled and many-branched shrub that has gray-brown trunk bark, clustered small linear leaves, and tiny white flowers. It is adapted to California's Mediterranean climate by a dual root system that has both deep and shallow roots. *Adenostoma fasciculatum* individuals recover from fire by both resprouting and seedling recruitment. (Zedler et al. 1997.)

Adenostoma fasciculatum Alliance forms an intermittent to continuous canopy less than three meters tall, growing over a sparse herbaceous layer, especially in older stands. *Adenostoma fasciculatum* is usually associated with all slope aspects, but is commonly found on the drier south- and west-facing slopes and ridges, growing in very shallow soils (mafic-derived). To be classified as *Adenostoma fasciculatum* Alliance, the stand must have at least 60% cover by *A. fasciculatum*. (Sawyer and Keeler-Wolf 1995.)

The shrub canopy associate species observed as important contributors to *Adenostoma fasciculatum* Alliance include: *Arctostaphylos glauca* (Bigberry Manzanita), *Eriodictyon crassifolium* var. *nigrescens* (Thickleaf Yerba Santa), *Eriogonum fasciculatum* var. *polifolium* (Hoary California Buckwheat), *Hesperoyucca whipplei* (Our Lord's Candle), *Heteromeles [arbutifolia] salicifolia* (Toyon), *Lotus scoparius* var. *scoparius* (Deerweed), *Malacothamnus fasciculatus* (Chaparral Bush Mallow), *Malosma laurina* (Laurelleaf Sumac), *Quercus berberidifolia* (Scrub Oak), *Quercus john-tuckeri* (Tucker Oak), *Rhamnus ilicifolia* (Hollyleaf Redberry), *Rhus ovata* (Sugar Bush), *Sambucus mexicana*, *Salvia leucophylla*, and *S. mellifera*. Several understory herbs listed below for Coastal Sage Scrub are expected as associates in Chaparral plant communities onsite.

In addition to the *Adenostoma fasciculatum* Alliance onsite, *Adenostoma fasciculatum*-*Salvia mellifera* Alliance (Chamise-Black Sage Chaparral), and *Adenostoma fasciculatum*-*Sambucus mexicana* Alliance (Chamise-Mexican Elderberry Chaparral) are also mapped onsite. *Adenostoma fasciculatum* Alliance occupies approximately 31.78 acres of the project site.

***Adenostoma fasciculatum*-*Salvia mellifera* Alliance (Chamise-Black Sage Chaparral)**

Adenostoma fasciculatum-*Salvia mellifera* Alliance is similar to *Adenostoma fasciculatum* Alliance, except that the stand is co-dominated by *Adenostoma fasciculatum* and *Salvia mellifera*. More specifically, this alliance consists of *Adenostoma fasciculatum* cover between 60 and 30% and *Salvia mellifera* cover between 30 and 60%. This plant community occurs on

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south-facing slopes in shallow rocky soils. (Sawyer and Keeler-Wolf 1995.) *Adenostoma fasciculatum-Salvia mellifera* Alliance occupies approximately 24.98 acres of the project site.

***Adenostoma fasciculatum-Sambucus mexicana* Alliance (Chamise-Mexican Elderberry Chaparral)**

Adenostoma fasciculatum-Sambucus mexicana Alliance is also similar to *Adenostoma fasciculatum* Alliance, except this plant community is co-dominated by *Adenostoma fasciculatum* and *Sambucus mexicana*, or *A. fasciculatum* cover is between 60 and 30% and *S. mexicana* cover is between 30 and 60%. This alliance grows on the moister slopes (north-facing) in less rocky soils. Associate species are similar to those listed above for *Adenostoma fasciculatum* Alliance. *Adenostoma fasciculatum-Sambucus mexicana* Alliance occupies approximately 12.65 acres of the project site.

COASTAL SAGE SCRUB

Coastal Sage Scrub is a shrubland dominated by facultative drought-deciduous, low-growing, soft-leaved, and grayish-green (malacophyllus) shrubs and subshrubs. Coastal Sage Scrub plant series typically exhibit a patchy distribution, often in close association with areas inhabited by chaparral habitats. At one time, the Santa Clarita Valley area supported the region's most extensive development of sage and sagebrush scrub plant communities prior to urbanization. Coastal Sage Scrub is a community at risk, with approximately 90 percent already lost to development (urban and agriculture); very little Coastal Sage Scrub has been protected by any legal mechanisms, such as enforceable conservation easements (Davis et al. 1985). (Boyd 1999.)

Due to stand variations, Coastal Sage Scrub is often considered part of a collection of species-specific plant series (Sawyer and Keeler-Wolf 1995). The five most common scrub series described for Santa Clarita Valley include: *Artemisia californica* Alliance (California Sagebrush Scrub), *Salvia mellifera* Alliance (Black Sage Scrub), *Salvia leucophylla* Alliance (Purple Sage Scrub), *Salvia apiana* Alliance (White Sage Scrub), and Mixed Sage Alliance (Boyd 1999).

Coastal Sage Scrub generally occurs on rolling hills of the lower areas on the project site and transitions into chaparral where hills become steep. The majority of Coastal Sage Scrub on the project site occurs along the western border, the southeastern border, and on a road cut along The Old Road. The plant communities observed contributing to the Coastal Sage Scrub habitats at Lyons Canyon Ranch include *Eriogonum fasciculatum* Alliance (California Buckwheat Scrub), *Sambucus mexicana-Salvia leucophylla* Alliance (Mexican Elderberry-Purple Sage Scrub), *Salvia leucophylla* Alliance (Purple Sage Scrub), *Salvia apiana* Alliance (White Sage Scrub), and *Hesperoyucca whipplei* Alliance (Our Lord's Candle Sandstone Cliff). These plant communities are described in the following paragraphs. Coastal Sage Scrub occupies approximately 57.43 acres of the project site.

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***Eriogonum fasciculatum* Alliance (California Buckwheat Scrub)**

Eriogonum fasciculatum Alliance (California Buckwheat Scrub) is dominated by *Eriogonum fasciculatum* var. *fasciculatum*, a perennial shrub with fasciated tomentose (lower surface) leaves and small clustered white to pinkish flowers. *E. fasciculatum* commonly occurs on dry slopes, washes, and canyons that are scattered throughout foothills and mountains, and this shrub is likely to be seral to other plant communities. It is most often found on slopes that have been disturbed within the last ten years. *E. fasciculatum* Alliance forms a shrub canopy less than one meter tall, and forms an intermittent canopy over a variable or grassy ground layer. This scrub type prefers shallow and rocky soils at elevations between sea level and 1,200 meters (Sawyer and Keeler-Wolf 1995).

One patch of *Eriogonum fasciculatum* Alliance, along The Old Road and just south of Lyons Ranch Road, is a monotypic stand of *Eriogonum fasciculatum* var. *fasciculatum* (California Buckwheat). This particular patch of *Eriogonum fasciculatum* Alliance most likely originated from seed, following construction of The Old Road. Some associate species to this plant community include *Artemisia tridentata* ssp. *tridentata* (Great Basin Sagebrush), *Ericameria ericoides* ssp. *ericoides* (Mock Heather), and *Hazardia squarrosa*. *Eriogonum fasciculatum* Alliance occupies approximately 3.20 acres of the project site.

***Sambucus mexicana*-*Salvia leucophylla* Alliance (Mexican Elderberry-Purple Sage Scrub)**

The *Sambucus mexicana*-*Salvia leucophylla* Alliance (Mexican Elderberry-Purple Sage Scrub) observed onsite is co-dominated by *Sambucus mexicana* (Mexican Elderberry) and *Salvia leucophylla* (Purple Sage). *Sambucus mexicana* is a common large shrub that produces umbels of cream-colored flowers and bluish-black berries. This species is commonly found growing along streams or in floodplains at elevations below 3,000 meters (Hickman 1993). *Sambucus mexicana* is listed with a wetland indicator status of FAC, or a Facultative species that is equally likely to occur in wetlands as in non-wetlands (Reed 1988). *Salvia leucophylla* is a drought-deciduous, aromatic, shrub with puckered leaves with small rounded teeth on the leaf margins, and rose-lavender flowers. This species prefers dry open hills at elevations of 50 to 800 meters (Hickman 1993).

Sambucus mexicana-*Salvia leucophylla* Alliance forms an intermittent variable shrub canopy, of less than 8 meters tall. Typically, the *Sambucus mexicana* appears as a small tree growing over the *Salvia leucophylla*. This alliance occurs in intermittently flooded floodplains, as well as on steeper north-facing slopes, in colluvial-derived or rocky soils. (Sawyer and Keeler-Wolf 1995.)

Sambucus mexicana-*Salvia leucophylla* Alliance includes important shrub layer associates such as: *Baccharis pilularis*, *Brickellia californica*, *Cucurbita foetidissima* (Coyote Melon), *Encelia californica* (California Bush Sunflower), *Eriodictyon crassifolium* var. *nigrescens*, *Leymus condensatus*, *Malacothamnus fasciculatus*, *Marah macrocarpus* var. *macrocarpus*, *Mimulus longiflorus* (Sticky Bush Monkeyflower), *Nassella pulchra* (Purple Needlegrass), *Rhus ovata*, *Salvia mellifera*, and *Solanum douglasii* (Douglas Nightshade). *Sambucus mexicana*-*Salvia leucophylla* Alliance occupies approximately 17.96 acres of the project site.

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***Salvia apiana* Alliance (White Sage Scrub)**

Salvia apiana Alliance (White Sage Scrub) is dominated by *Salvia apiana* (White Sage), which is a drought-deciduous, very aromatic shrub, with white-gray leaves and whitish flowers in a long tomentose panicle extending well above the leaves (Hickman 1993). *Salvia apiana* Alliance exists when *S. apiana* is the sole, dominant, or important shrub growing with *Artemisia californica* in the canopy. This alliance forms a continuous or intermittent canopy over a variable ground layer. *Salvia apiana* Alliance grows on dry slopes, or in rarely flooded, low-gradient deposits along streams. It requires shallow soils, and occurs at elevations between sea level and 1,600 meters. (Sawyer and Keeler-Wolf 1995.)

Important shrub canopy contributors observed onsite include *Artemisia californica*, *Heterotheca sessiliflora* ssp. *echioides* (Hairy Golden Aster), *Malosma laurina*, and *Sambucus mexicana*. Other herbaceous associate species observed growing below the low shrub canopy include *Avena barbata*, *Hirschfeldia incana*, and *Nassella pulchra*. Emergent *Quercus agrifolia* and *Q. lobata* trees were also present. *Salvia apiana* Alliance occupies approximately 0.08 acre onsite.

***Salvia leucophylla* Alliance (Purple Sage Scrub)**

Salvia leucophylla Alliance (Purple Sage Scrub) is dominated by *Salvia leucophylla* (Purple Sage), and is often an important shrub with *Artemisia californica* (California Sagebrush). *Salvia leucophylla* typically forms a continuous to intermittent canopy over a variable ground layer. *Salvia leucophylla* Alliance grows on steeper north-facing slopes in colluvial-derived, rocky soils. It is considered part of the Coastal Sage Scrub series collection, and *Salvia leucophylla* stands typically create mosaics with *Quercus agrifolia* Alliance and *Juglans californica* Alliance.

Salvia leucophylla Alliance was observed as an important component of Coastal Sage Scrub within the study area. Several associate native species contribute to the canopy of *Salvia leucophylla* Alliance onsite, including: *Artemisia californica*, *Baccharis pilularis*, *Ceanothus crassifolius* (Snowball Ceanothus), *Emmenanthe penduliflora* (Whispering Bells), *Encelia californica*, *Eriogonum fasciculatum* var. *polifolium*, *Hesperoyucca whipplei*, *Keckiella cordifolia* (Heart-leaved Bush Penstemon), *Lotus scoparius*, *Malacothamnus fasciculatus*, *Nassella pulchra*, *Paeonia californica* (California Peony), *Rhus ovata*, *Ribes malvaceum* (Chaparral Currant), *Salvia mellifera*, *Toxicodendron diversilobum* (Western Poison Oak), and *Trichostema lanceolatum* (Vinegar Weed).

Three *Salvia leucophylla* Alliances are mapped on Exhibit 5.6-13, including the *Salvia leucophylla* Alliance described in the above paragraph, as well as *Salvia leucophylla* Alliance (South-facing) and *Salvia leucophylla*-*Brassica* Alliance (Purple Sage-Mustard Scrub). *Salvia leucophylla* Alliance occupies approximately 18.36 acres of the project site.

***Salvia leucophylla* Alliance (South-facing) (Purple Sage South-facing Slopes)**

The *Salvia leucophylla* Alliance (South-facing) plant community is very similar to the typical *Salvia leucophylla* Alliance; however, this type forms a significantly more open canopy with lower species richness. The south-facing slopes create drier and harsher conditions, which result- in a more scattered arrangement of plants. *Salvia leucophylla* Alliance (south-facing) occupies approximately 10.22 acres of the project site.

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***Salvia leucophylla-Brassica* Alliance (Purple Sage-Mustard Scrub)**

Salvia leucophylla-Brassica Alliance (Purple Sage-Mustard Scrub) is similar to the typical *Salvia leucophylla* Alliance onsite except that this plant community is significantly influenced by invasive introduced plant species (primarily *Avena barbata*, *Brassica nigra* [Black Mustard], and *Silybum marianum*), which also results in a more scattered arrangement of the *Salvia leucophylla* individuals. *Salvia leucophylla-Brassica* Alliance occupies approximately 7.61 acres of the project site.

Lichen Rock Outcrop

Lichen Rock Outcrop consists of exposed parent material, in the form of large and moderately sized boulders and exposed bedrock, on which is generally a lack of soil. The hard surfaces of the boulders and rock outcrops provide substrate to nonvascular plants, such as lichens and bryophytes (mosses and liverworts). The large and small sandstone or granite boulders and exposed bedrock of the rock outcroppings are covered, or partially covered, with few other plant species except for a diverse population of crustose (crust-like) and foliose (leaf-like) lichens. Lichen Rock Outcrop occupies approximately 9.50 acres of the project site.

LICHEN ALLIANCE

Lichens are pioneer plants that are adapted to sterile substrates and help the decomposition process. Lichens can also add considerable color to the substrate, from bright chartreuses, oranges and reds, to subtle shades of gray, white, yellow, brown, and green. The lichen flora of these boulders is distributed on each boulder according to aspect, light intensity, and moisture availability, all of which are related. Certain species of lichens are usually found only on the most exposed, south-facing surfaces, requiring direct sunlight, while others are typically found on protected, north-facing aspects with little or no direct sunlight. Lichen Alliance occupies approximately 0.57 acres of the project site.

***Hesperoyucca whipplei*-Lichen Alliance (Our Lord's Candle-Lichen Sandstone Cliff)**

Hesperoyucca whipplei-Lichen Alliance (Our Lord's Candle-Lichen Sandstone Cliff) is dominated by *Hesperoyucca whipplei* (Our Lord's Candle), a native scrub species that dies after it flowers (if it has not previously branched out at the base). This plant community includes a significant contribution by lichen-covered rock outcrops as well.

Our Lord's Candle generally forms one long inflorescence, exerting from a dense basal rosette of flat, pointed, gray-green, long leaves; and it has spheric, white flowers with purple tips. *Hesperoyucca whipplei* is common in chaparral and coastal or desert scrub communities, at elevations below 2,500 meters (Hickman 1993). Typically *Hesperoyucca whipplei* is an important contributor to alliances such as *Salvia apiana* Alliance, *Salvia leucophylla* Alliance, or *Eriogonum fasciculatum* Alliance onsite; however, this species forms *Hesperoyucca whipplei* Alliance on the cliff faces of the southeastern and western portions of the project site. This plant community supports sparse habitat on the dry, crumbling soil. *Chorizanthe staticoides* (Turkish Rugging) is the associate species observed growing with the scattered *Hesperoyucca whipplei*

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plants, which function as shrubs. *Hesperoyucca whipplei*-Lichen Alliance occupies approximately 0.57 acres of the project site.

Grassland

Grassland consists of low herbaceous vegetation that is dominated by introduced annual grasses, or less often by native perennial grasses, with herbaceous associates including either native wildflowers or invasive ruderal species. Grasslands generally grow in well-developed soils on gentle slopes and flats. For example, grassland covers the fine textured soils of coastal terraces, as well as the deeper soils of rolling hills at higher elevations. Areas dominated by grasses would most likely revert to shrublands or even woodlands if burning and disturbance frequencies were reduced. (Zedler et al. 1997.)

Grassland occupies approximately 37.96 acres of the project site.

The predominant grassland plant community observed at Lyons Canyon Ranch is *Avena-Brassica-Silybum* Alliance (Ruderal Grassland), which is dominated by nonnative and often invasive annual and perennial grass and forb species. Prior to the wildfire onsite, *Nassella pulchra* Alliance (Perennial Grassland) was expected in scattered patches onsite, and California Annual Grassland Alliance was expected to be more predominant than Ruderal Grassland onsite. Perennial Grassland is predominantly native and is dominated by native perennial bunchgrass species and native forbs, while California Annual Grassland, although dominated by introduced annual grass species, includes a large component of native wildflowers and native grasses. *Nassella pulchra* Alliance and California Annual Grassland have likely been reduced to Ruderal Grassland since the more competitive introduced species have taken advantage of the project site disturbances. Since *Avena-Brassica-Silybum* Alliance is currently the most predominant grassland onsite, this alliance is discussed in further detail below and is mapped in Exhibit 5.6-13 (above).

AVENA-BRASSICA-SILYBUM ALLIANCE (RUDERAL GRASSLAND)

Avena-Brassica-Silybum Alliance (Ruderal Grassland Alliance) is predominated by *Avena* spp. (Wild Oats), *Brassica* spp. (or *Brassica nigra* [Black Mustard] and *Hirschfeldia incana* [Summer mustard]), and *Silybum marianum* (Milk Thistle). This alliance is typically in early successional stages resulting from severe disturbance by natural or human causes, and/or is due to recurrent disturbance. These areas are dominated by pioneering herbaceous plants that readily colonize disturbed ground. The ability of exotic species to invade disturbed areas arises from their relationship to old-world ancestors that have co-existed with humans for millennia, and thus are more adapted to exploit disturbed land. Ruderal communities are typically a threat to regional biodiversity since they continually distribute nonnative propagules into native plant communities. These exotic species can colonize natural disturbances, such as burns, and typically can successfully compete with the more desirable natives. (Zedler et al. 1997.)

Ruderal Grassland is found on most level areas and overgrown roads on the project site. This plant community is located throughout the project site, and along Lyons Ranch Road and side roads. Many of the same grass species of California Annual Grassland - including *Avena* spp.

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(wild oats), *Bromus* spp. (bromes), *Hordeum* spp. (barley), and *Vulpia* spp. (fescues)- are often abundant in Ruderal Grassland; however, Ruderal Grassland is predominated by introduced and often invasive plant species. In addition to the typical introduced annual grass species, the predominant invasive plant species observed throughout the project site is *Silybum marianum* (Milk Thistle). Other invasive associate species observed include *Amaranthus albus* (Tumbleweed), *Brassica nigra*, *Carduus pycnocephalus* (Italian Thistle), *Centaurea melitensis* (Tocalote), *Chenopodium album* (Lambsquarters), *Cirsium vulgare* (Bull Thistle), *Erodium* spp. (filarees), *Foeniculum vulgare* (Sweet Fennel), *Hirschfeldia incana*, *Lactuca serriola* (Prickly Wild Lettuce), *Malva parviflora* (Cheeseweed), *Medicago polymorpha*, *Picris echioides* (Bristly Ox-tongue), and *Sonchus* spp. (sow-thistles). *Avena-Brassica-Silybum* Alliance occupies approximately 37.96 acres of the project site.

Disturbed Area

Disturbed Areas are often not vegetated due to development or disturbance, or may be planted areas onsite. Disturbed Area include the Road/Disturbed areas of the project site (including the pump station on the southern edge of the site, a dirt road on the western edge, and paved roads on the southern and eastern boundary), and Ornamental Plantings, which are areas that have been planted with introduced, often exotic or invasive plant species. These cover types are discussed below. Disturbed Area occupies approximately 8.71 acres of the project site.

ROAD/DISTURBED

Road/Disturbed describes land or habitat that has been negatively altered, either by human activities (for building and road development purposes) or by natural causes (fires). As a result, this altered land is generally initially bare ground until either development occurs or natural succession begins. Habitat succession is a slow process of reestablishing original plant communities, but successional habitats are readily invaded by ruderal grass and forb species.

Disturbed areas on the project site are primarily existing dirt roads. Limited vegetation occurs in this land cover type and tends to be weedy. These plant species include invasive species such as *Centaurea melitensis*, *Silybum marianum*, and *Hirschfeldia incana*. Road/Disturbed occupies approximately 8.01 acres of the project site.

ORNAMENTAL

Ornamental vegetation occurs on the southeastern corner of the project site. This vegetation type includes landscaped areas with planted species such as *Pinus* spp. (pines). Other ornamental species observed onsite include *Ailanthus altissima* (Tree-of-heaven), *Cupressus* sp. (cypress), *Magnolia* sp. (Magnolia), and *Vinca major* (Periwinkle). Ornamental occupies approximately 0.70 acre of the project site.

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5.6.4.2 Flora

All plant species observed and reported on the project site were compiled from all DMEC and BonTerra Consulting floristic surveys and vegetation mapping, as well as from species recorded during the wetland delineation and oak tree surveys.

During the surveys, the project site was evaluated for its potential to support special-status plant species that are known or are expected to occur in the region. All plant species observed during the course of the surveys were documented in field notes. A total of 324 plant taxa were observed onsite³. Of those 324, approximately 242 are native (75%), and 82 are introduced (25%), a ratio similar to that for the California flora (Hickman 1993). Fifty-six (56) (17%) of these taxa are hydrophytes (water loving plants), and 268 of the taxa (83%) are upland species, or have no wetland indicator status according to Reed (1988). The plant habits observed amongst the species consist of: 1 annual vine; 16 annual grasses; 137 annual herbs; 6 biennial herbs; 4 perennial ferns; 25 perennial grasses; 48 perennial herbs; 12 perennial vines; 60 shrubs, and 15 trees.

All plant species observed are listed as Appendix C, Plant Species Observed at Lyons Canyon Ranch, of the biota report (DMEC 2006), which is included as Appendix G to this EIR. Appendix C of the biota report (Appendix G to this EIR) provides the scientific name, common name, habit, wetland indicator status (according to Reed 1988), family, and estimated abundance of each species observed onsite by DMEC and/or reported by BonTerra Consulting (2004). Scientific nomenclature follows the Flora of North America Editorial Committee (1993-2005).

DMEC documented the relative percent cover of plants occurring at each of the wetland delineation sample plots, focusing on dominant species at each plot. Since most vegetation was cleared by fire during the time of the surveys, DMEC can only estimate the abundance of plant species onsite, and cannot precisely predict population sizes of plant species onsite. Approximately 325 plant species were observed onsite. Of those 325, approximately 77 taxa observed are considered *common* species (approximately 1,000 individuals or more) within the boundary of the Lyons Canyon Ranch project site. Approximately 183 plant taxa observed are considered *uncommon* species (approximately 100 to less than 1,000 individuals) onsite, which contribute as associate species to the habitats onsite. The remaining approximate 65 plant taxa are considered *scarce* (fewer than 100 individuals) on the project site. Appendix C to the biota report (DMEC 2006) (Appendix G to this EIR) includes estimates of abundance for each plant species.

5.6.4.3 Oak Trees

A detailed GIS database was developed by DMEC for the assessed oak trees, which was used to determine which trees, by type, would be affected directly or indirectly by various project configurations and alternatives.

The Los Angeles County Oak Tree Ordinance defines oaks as the following:

³ The floristic surveys covered more than the present footprint of the Lyons Canyon Ranch project site, which may have documented more species than actually occur on the current project site.

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- **Oak Tree:** "...any tree of the oak genus which is (a) 25 inches or more in circumference (eight inches in diameter) as measured four and one-half feet above mean natural grade; in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured four and one half feet above mean natural grade..." (Los Angeles County Oak Tree Ordinance 22.56.2060).
- **Heritage Oak:** "...either of the following: any oak tree measuring 36 inches or more in diameter, measured four and one-half feet above the natural grade; any oak tree having significant historical or cultural importance to the community, notwithstanding that the tree diameter is less than 36 inches..." (Los Angeles County Oak Tree Ordinance 22.56.2090).

The project site contained 1,409 oak trees meeting the Los Angeles County definition, primarily consisting of *Quercus agrifolia* var. *agrifolia* (Coast Live Oak), prior to the Simi Fire of October 2003. Many of these trees have been damaged or killed by the fire, but a complete assessment of post-fire conditions has not been performed; therefore, the impact assessment will be based on pre-fire conditions. The oak tree totals for the project site are listed in Table 5.6-3, Oak Tree Inventory of the Lyons Canyon Ranch Project Site. (Refer to DMEC's *Oak Tree Assessment for Lyons Canyon Ranch* provided as Appendix H of this EIR [DMEC 2004b] for a detailed account of the oak trees existing onsite.)

Table 5.6-3. Oak Tree Inventory of the Lyons Canyon Ranch Project Site⁴

Scientific Name	Common Name	Number of Non-Heritage Trees	Number of Heritage Trees	Total Number
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast Live Oak	1,286(1)	77	1,363(1)
<i>Quercus berberidifolia</i>	Scrub Oak	25	0	25
<i>Quercus lobata</i>	Valley Oak	16	5(1)	21(1)
Total:		1327	82(1)	1,409(2)

5.6.4.4 Fauna

During the field surveys, the project site was evaluated for its potential to support special-status wildlife species that are known or are expected to occur in the region. All wildlife species detected during the course of the surveys were documented in field notes. Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and debris. Birds were identified by visual and auditory recognition. Surveys for mammals were conducted during the day and included searching for and identifying diagnostic sign, including scat, footprints, scratch-outs, dust bowls, burrows, and trails.

Up to 90 wildlife species were observed at Lyons Canyon Ranch, including 65 vertebrate species and 25 invertebrate species. Another 70 species are expected onsite. A list of those wildlife species observed and reported onsite was compiled from wildlife surveys, wetland delineation (Appendix O to this EIR [DMEC 2004a]), oak tree assessment (Appendix H to this EIR [DMEC 2004b]), and vegetation mapping sessions. This list of wildlife species is provided in Appendix

⁴ Trees in parentheses indicate trees that were dead prior to the –fire of October 2003.

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D, Wildlife Species Observed and Expected at Lyons Canyon Ranch, of the biota report (DMEC 2006), which is provided as Appendix G to this EIR (Biota of Lyons Canyon Ranch). Also included as Appendix D of the biota report (in Appendix G to this EIR) are wildlife species expected to occur onsite even though they were not observed during any of the field surveys.

DMEC counted individual wildlife species as they were observed onsite, and DMEC conducted small mammal trapping onsite. (No quantitative data were gathered by BonTerra Consulting on wildlife species to determine population sizes present onsite.) Based on the occurrences observed during the general surveys, the amount and type of habitats present onsite, and the results of the small mammal trapping, a general estimated abundance for each wildlife species observed has been made. These estimates are provided partially in the following subsection, as well as in Appendix D of the biota report (in Appendix G to this EIR), which lists the estimated abundance (scarce, uncommon, or common) for each wildlife species observed.

Small Mammal Trapping

Small mammal trapping was conducted for general species detection (identification) and population size purposes. Small mammals were trapped over the course of three nights, using Sherman live traps, to help account for any herbivorous small mammal species (special-status or otherwise) that inhabit the project site and to aid in the population estimations for the project site fauna. Table 5.6-4, Small Mammal Trapping Results at Lyons Canyon Ranch, summarizes the small mammal trapping results.

Table 5.6-4. Small Mammal Trapping Results at Lyons Canyon Ranch

Scientific Name	Common Name	Number Individuals Trapped/Recaptured				Capture Totals
		30 Sep 05	1 Oct 05	2 Oct 05	Recaptured ⁵	
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	0 ⁶	0	0	-	0
<i>Chaetodipus californicus</i>	California Pocket Mouse	4	7	5	1	16
<i>Peromyscus maniculatus</i>	Deer Mouse	12	29	61	5	102
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse	4	5	0	0	9
Capture Totals:		21	41	66	6	128
Trap Nights:		115	117	117	-	349
Percent Success:		18.3%	35.0%	56.4%	-	36.7%

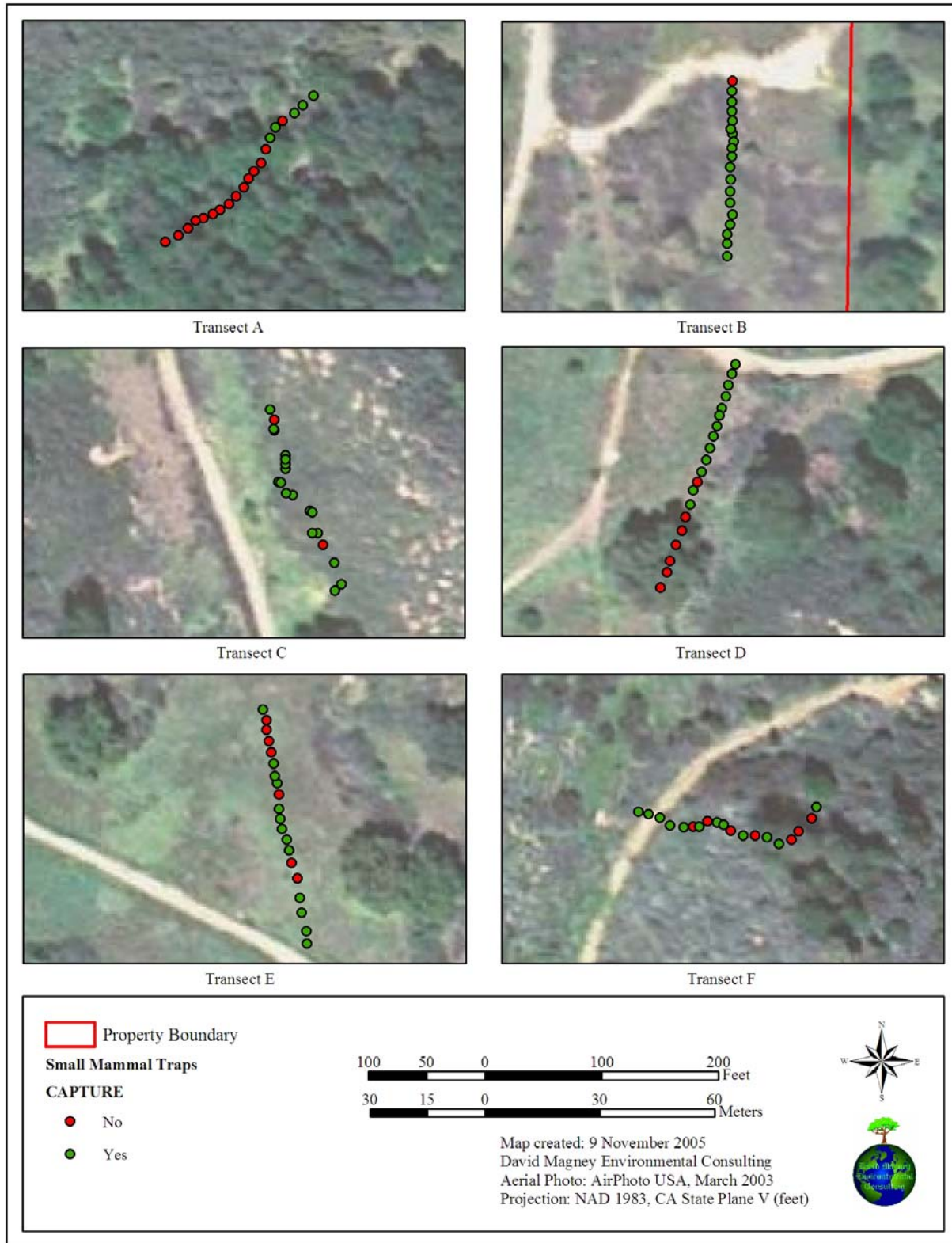
Three mammal species were caught onsite, including California Pocket Mouse, Deer Mouse, and Western Harvest Mouse. Exhibit 5.6-14, Small Mammal Trapping Results, illustrates the distribution of traps along each transect and indicates the traps where one or more species were captured at least once.

⁵ The recaptured totals are not included in the Capture Totals.

⁶ This is a special-status species. DMEC observed a nest only during trapping sessions, but an individual was not trapped.

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Exhibit 5.6-14. Small Mammal Trapping Results



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Exhibit 5.6-14 illustrates the distribution of successful traps, possibly indicating the varying density of these small mammals in various locations within the project site. One nest of a special-status species was detected during the trapping sessions, the San Diego Desert Woodrat, but it was not seen or trapped. A total of 349 trap nights were established, with a total of 128 captures of the three mammal species (~37% success [recaptures not counted]). Two traps captured two individuals at a time in one night, while all other captures were of one animal at a time. Six individuals were recaptured. Each consecutive trapping session resulted in a higher success rate.

Based on the number of individuals trapped for each species listed above in Table 5.6-4, DMEC estimates that the general abundance for these species is as follows: California Pocket Mouse, Deer Mouse, and Western Harvest Mouse onsite are *common* in that more than 1,000 individuals are expected onsite. A San Diego Desert Woodrat nest was observed onsite and DMEC estimates that the general abundance for this species is *scarce* (population size expected to be less than 100 individuals).

5.6.4.5 Wildlife Habitats

Wildlife habitats were mapped onsite based on the California Wildlife Habitat Relationships (CWHR) System. The CWHR habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly occurring birds, mammals, reptiles and amphibians. In this system, stages are defined for virtually all habitats. A stage is a combination of size and cover class for tree-dominated habitats, age and cover class for shrub habitats, height and cover class for herb habitats, and depth and substrate for aquatic habitats. (Mayer and Laudenslayer 1988.)

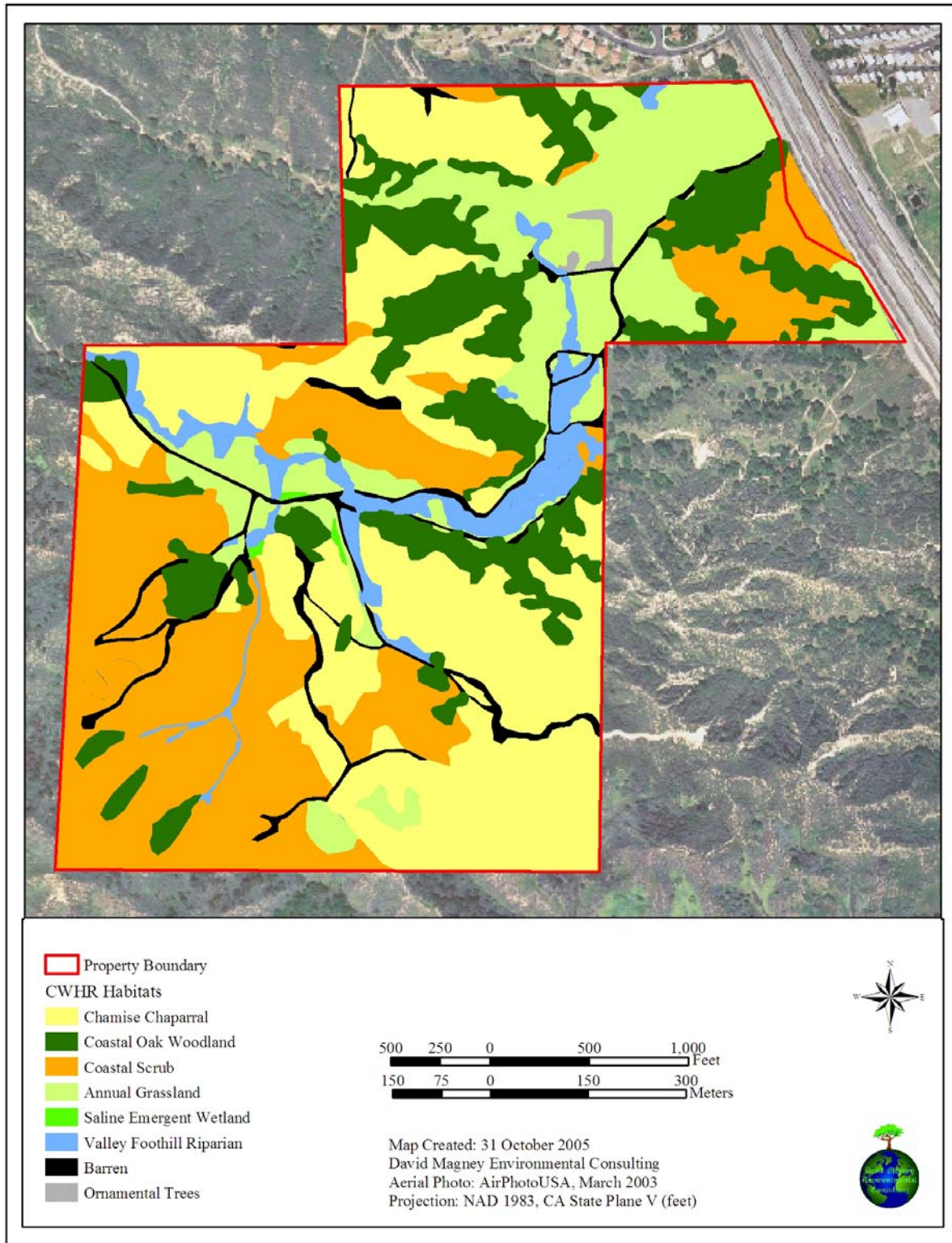
The wildlife habitats present on the project site are illustrated in Exhibit 5.6-15, California Wildlife Habitat Relationship (CWHR) Habitats of Lyons Canyon Ranch. The wildlife habitats mapped on Exhibit 5.6-15, which were classified based on the CWHR habitat classification, is a more general mapping level compared to the more detailed plant community (alliance) mapping level (presented above in Exhibit 5.6-13, Vegetation Observed and Classified at Lyons Canyon Ranch). Table 5.6-5, California Wildlife Habitat Relationship (CWHR) Habitats at Lyons Canyon Ranch, gives the total acreages for the wildlife habitat types present onsite. The habitats mapped below in Exhibit 5.6-15 generally fall into the higher classifications (as described above in the 5.6.4.1 Habitat Descriptions subsection).

Table 5.6-5. California Wildlife Habitat Relationship (CWHR) Habitats Onsite

CWHR Habitat Types	Acres
Coastal Oak Woodland (= Coast Live Oak Woodland)	40.30
Chamise Chaparral	69.41
Coastal Scrub (= Coastal Sage Scrub)	66.36
Annual Grassland (Includes California Annual Grassland and Ruderal Grassland)	37.96
Valley Foothill Riparian (Palustrine Forested and Shrub-Scrub Wetland Habitats [including Arroyo Willow Woodland and Mulefat Scrub])	11.84
Saline Emergent Wetland (Saltgrass Wet Meadow)	0.34
Ornamental Trees	0.70
Barren	8.59
Total Acres	235.50

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**Exhibit 5.6-15. California Wildlife Habitat Relationship (CWHR) Habitats
of Lyons Canyon Ranch**



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Fish

Most creeks in southern California are subject to periods of high water flow in winter and spring and little to no flow in late summer and fall. These creeks and waterways can support a variety of habitats, including Valley Foothill Riparian, Saline Emergent Wetland, and Freshwater Marsh. The herbaceous cover occupying these habitats varies by season from little to no cover during high water flows, to high coverage in late summer/fall. Native fish species that potentially inhabit these types of areas have adapted to living in the naturally fluctuating conditions of the region. However, natural and man-made impacts, such as drought, alteration of habitat, and introduced species, have contributed to the reduction of native fish populations in southern California. No fish were observed in creeks and drainages of the project site during general surveys or following the Simi Fire. Fish are not expected to inhabit any portions of the project site creek and drainages due to the downstream channelization of both watercourses that pass beneath I-5 and the intermittent nature of the watercourses. (BonTerra Consulting 2004.)

Amphibians

Amphibians require moisture for at least a portion of their life cycle and many require standing or flowing water for reproduction. Terrestrial species may or may not require standing water for reproduction. These species are able to survive in dry areas by aestivating (i.e. remaining beneath the soil in burrows or under logs and leaf litter, emerging only when temperatures are low and humidity is high). Many of these species' habitats are associated with water, such as Valley Foothill Riparian habitats, and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year in some habitat types, depending on factors such as the amount of vegetation cover, elevation, and slope aspect. (BonTerra Consulting 2004.)

The amphibian species observed during general wildlife surveys include Black-bellied Slender Salamander (*Batrachoseps nigriventris*) and California Western Toad (*Bufo boreas halophilus*). Other species of amphibians expected to occur onsite include the Pacific Treefrog (*Hyla regilla*) and Bullfrog (*Rana catesbeiana*), but none were observed. (Refer to Appendix D, Wildlife Species Observed and Expected at Lyons Canyon Ranch, of the biota report [DMEC 2006], which is provided as Appendix G to this EIR, for a complete list of all wildlife species observed and expected onsite.)

Reptiles

Reptilian diversity and abundance typically vary with vegetation type and character. Many species prefer only one or two vegetation types; however, most will forage in a variety of habitats, including Coastal Oak Woodland, Chamise Chaparral, Coastal Scrub, and Valley Foothill Riparian habitats. Most species occurring in open areas use rodent burrows for cover, protection from predators, and extreme weather conditions.

Common reptile species observed during the survey included Western Side-blotched Lizard (*Uta stansburiana elegans*), Western Fence Lizard (*Sceloporus occidentalis*), and Southern Alligator Lizard (*Elgaria multicarinatus*). Although no snake species were directly observed, the tracks of various snakes observed onsite include Gopher Snake (*Pituophis melanoleucus*) and Western Rattlesnake (*Crotalus viridis*) (Appendix D to Appendix G).

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Although none were in fact observed, reptile species expected to occur on the project site include: Silvery Legless Lizard (*Anniella pulchra pulchra*), Western Skink (*Eumeces skiltonianus*), California Whipsnake (*Masticophis lateralis*), Night Snake (*Hypsiglena torquata*), California Kingsnake (*Lampropeltis getula californiae*), San Diego Horned Lizard (*Phrynosoma coronatum*), San Diego Gopher Snake (*Pituophis melanoleucus annectens*), and Coast Patch-nosed Snake (*Salvadora hexalepis virgulata*).

Birds

Many bird species utilize most of the habitats present at Lyons Canyon Ranch. Bird species diversity and richness increases with the quality of riparian (Valley Foothill Riparian) and upland woodland (Coastal Oak Woodland) canopies. Well-developed Coastal Oak Woodland (*Quercus agrifolia* Alliance) occurs along the fringes of the riparian corridor, along the ridgelines, and on the north-facing slopes of the project site, and wildlife diversity, especially bird diversity, in these areas is relatively high.

Examples of resident bird species observed on the project site include: Mourning Dove (*Zenaida macoura*), Anna's Hummingbird (*Calypte anna*), Black Phoebe (*Sayornis nigricans*), Say's Phoebe (*Sayornis saya*), Western Scrub-jay (*Aphelocoma californica*), American Crow (*Corvus brachyrhynchos*), Bushtit (*Psaltriparus minimus*), Bewick's Wren (*Thryomanes bewickii*), Northern Mockingbird (*Mimus polyglottos*), European Starling (*Sturnus vulgaris*), Common Yellowthroat (*Geothlypis trichas*), California Towhee (*Pipilo crissalis*), and House Finch (*Carpodacus mexicanus*).

Birds of prey (raptors) *observed* in the project site include: American Kestrel (*Falco sparverius*), Barn Owl (*Tyto alba*), Turkey Vulture (*Cathartes aura*), Red-tailed Hawk (*Buteo jamaicensis*), Red-shouldered Hawk (*Buteo lineatus*), and Cooper's Hawk (*Accipiter cooperii*). Expected raptor species include Sharp-shinned Hawk (*Accipiter striatus*), Great Horned Owl (*Bubo virginianus*), White-tailed Kite (*Elanus leucurus*), Northern Harrier (*Circus cyaneus*), Western Screech-Owl (*Otus kennicotti*), Northern Pygmy-owl (*Glaucidium gnoma*), Burrowing Owl (*Athene cunicularia*), and Long-eared Owl (*Asio otus*), none of which were observed (Appendix D).

Other bird species expected onsite but not observed include: Costa's Hummingbird (*Calypte costae*), Rufous Hummingbird (*Selasphorus rufus*), Allen's Hummingbird (*Selasphorus sasin*), Downy Woodpecker (*Picoides pubescens*), Pacific Slope Flycatcher (*Empidonax difficilis*), Hammond's Flycatcher (*Empidonax hammondi*), Violet-green Swallow (*Tachycineta thalassina*), Cliff Swallow (*Petrochelidon pyrrhonota*), White-breasted Nuthatch (*Sitta carolinensis*), Cedar Waxwing (*Bombycilla cedrorum*), Sage Sparrow (*Amphispiza belli*), Bullock's Oriole (*Icterus bullockii*), and American Goldfinch (*Carduelis tristis*) (Appendix D).

Mammals

Lyons Canyon Ranch consists of a variety of functional connected wildlife habitats, most of which are readily utilized by mammal species for foraging, hunting, water, and cover resources. Several mammal species were observed inhabiting or frequenting, and are expected to inhabit, Valley Foothill Riparian, Coastal Scrub, and Coastal Oak Woodland habitats onsite.

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Mammals observed or detected (e.g. tracks, scat, skeletons) on the project site include: Virginia Opossum (*Didelphis virginiana*), Mule Deer (*Odocoileus hemionus*), Gray Fox (*Urocyon cinereoargenteus*), a mole (*Scapanus* sp.), Botta's Pocket Gopher (*Thomomys bottae*), Coyote (*Canis latrans*), California Pocket Mouse (*Perognathus californicus*), Bobcat (*Lynx rufus*), California Ground Squirrel (*Spermophilus beecheyi*), Desert Shrew (*Notiosorex crawfordi*), Desert Cottontail (*Sylvilagus audubonii*), Raccoon (*Procyon lotor*), and Striped Skunk (*Mephitis mephitis*) (See Appendix D of Appendix G).

Mammals expected to frequent or inhabit the project site but not observed include: Pacific Kangaroo Rat (*Dipodomys agilis*), House Mouse (*Mus musculus*), California Mouse (*Peromyscus californicus*), Brush Mouse (*Peromyscus boylii*), Parasitic Mouse (*Peromyscus californicus*), Cactus Mouse (*Peromyscus eremicus*), California Meadow Vole (*Microtus californicus*), Southern Dusky-footed Woodrat (*Neotoma macrotis*), Black Bear⁷ (*Ursus americanus*), Ring-tailed Cat (*Bassariscus astutus*), Long-tailed Weasel (*Mustela frenata*), and Mountain Lion (*Puma [Felis] concolor*).

Bats occur throughout most of southern California and may use any portion of the project site as foraging habitat. Different bat species characteristically utilize different roosting habitats. Most of the bats that potentially occur on the project site are either inactive during the winter (hibernating) or migrate south of the region to warmer climates. Bats expected to forage in and inhabit the project site include Long-legged Myotis (*Myotis volans*), California Myotis (*Myotis californicus*), Western Pipistrelle (*Pipistrellus hesperus*), Big Brown Bat (*Eptesicus fuscus*), Hoary Bat (*Lasiurus cinereus*), Long-eared Myotis (*Myotis evotis*), Fringed Myotis (*Myotis thysanodes*), and Brazilian Free-tailed Bat (*Tadarida brasiliensis*). No bat species were observed during surveys of the project site; however, no nighttime surveys were conducted when bats would normally be detected, as they are nocturnal. (See Appendix D of Appendix G.)

Invertebrates

The invertebrate species observed onsite include: Funnel Web Spider (*Agelenopsis* sp.), Red Skimmer (*Libellula saturata*), Circumpolar Bluet (*Enallagma cyanigerum*), Pallid Band-wing (*Trimerotropis pallidipennis*), Plicate Beetle (*Noserus plicatus*), Darkling Beetle (*Coelocnemis californicus*), Convergent Ladybird Beetle (*Hippodamia convergens*), an unidentified black and deep red ground beetle, European Honey Bee (*Apis mellifera*), Polybiine Paper Wasp (*Mischocyttarus flavitarsus*), and Vosnesenski's Bumble Bee (*Bombus vosnesenskii*).

Butterfly species observed onsite include: Painted Lady (*Vanessa cardui*), Buckeye (*Junonia coenia*), California Dog Face (*Colias eurydice*), Pale Swallowtail (*Papilio eurymedon*), Marine Blue (*Leptotes marina*), Senna Sulphur (*Phoebis sennae*), and Cabbage White (*Pieris rapae*).

The butterfly species expected to frequent the project site include: Silvery Blue (*Glaucopsyche lygdamus*), Sara Orangetip (*Anthocharis sara*), Lorquin's Admiral (*Limenitis lorquini*), Variable Checkerspot (*Euphydryas chalcedona*), California Ringlet (*Coenonympha tullia*), California Sister (*Adelpha bredowii*), Funeral Duskywing (*Erynnis funeralis*), Gray Hairstreak (*Strymon melinus*), Monarch Butterfly (*Danaus plexippus*), and Behr's Metalmark (*Apodemia virgulti*).

⁷ A Black Bear skull was observed on the adjacent Taylor-Prentice property prior to 2002 by Ty Garrison (pers. comm. 3 October 2005).

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5.6.4.6 Wildlife Movement

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. Various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information. (City of Santa Clarita and County of Los Angeles 2001.)

Corridors mitigate the effects of this fragmentation by:

- Allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (e.g. fire and disease), will result in population or local species extinction; and
- Serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources.

Wildlife movement activities usually fall into one of three movement categories: dispersal (e.g. juvenile animals from natal areas or individuals extending range distributions); seasonal migration; and movements related to home range activities (e.g. foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). A number of terms such as “wildlife corridor”, “travel route”, “habitat linkage”, and “wildlife crossing” have been used in various wildlife movement studies to refer to pathways by which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows (BonTerra Consulting 2004):

- **Travel Route** – A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources (e.g. water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas and provides a relatively direct link between target habitat areas.
- **Wildlife Corridor** – A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors, often referred to as “habitat or landscape linkages,” can provide both transitory and resident habitat for a variety of species.
- **Wildlife Crossing** – A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent “choke points” along a movement corridor, which may impede wildlife movement and increase the risk of predation.

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It is important to note that in a large open space area in which there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors as defined above may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (e.g. canyons, ridgelines, trails, riverbeds, and others), wildlife will use these “local” routes while searching for food, water, shelter, and mates and will not need to cross into other large, open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g. large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles such as roads and highways, the remaining landscape features or travel routes that connect the larger open space areas can “become” corridors as long as they provide adequate space, cover, food, and water, and do not contain obstacles or distractions (e.g. man-made noise, lighting) that would generally hinder wildlife movement. When these wildlife movement corridors provide connections between protected open space areas that have no other linkage, then the wildlife movement corridors become locally or even regionally important.

The amount of movement documented onsite suggests that there is heavy use of the site by wildlife and it is an essential and functional part of the regional habitat linkage between the San Gabriel and Santa Susanna Mountains.

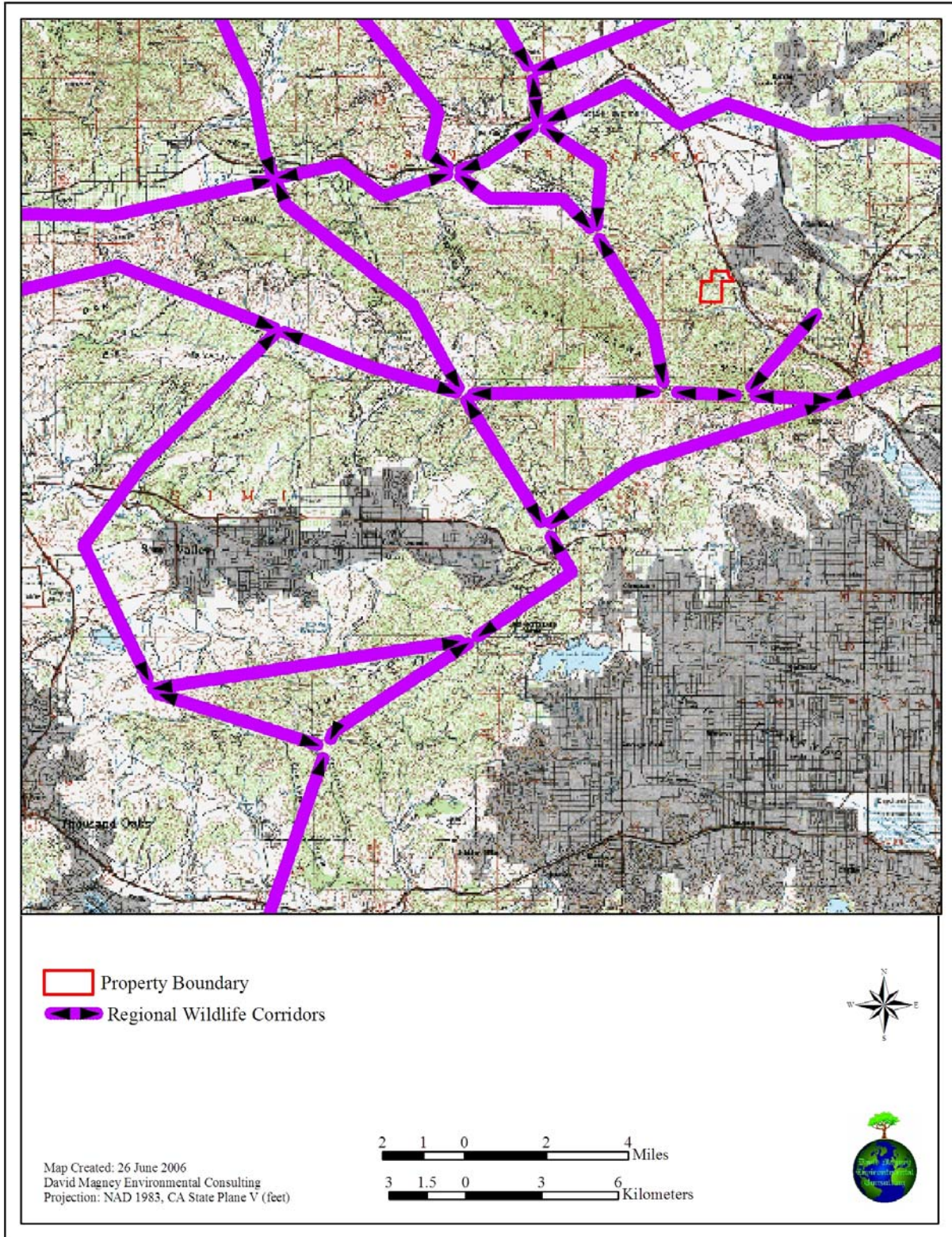
The project site presently provides high quality wildlife habitat that supports numerous travel routes for wildlife movement. In particular, drainages on the project site are natural conduits of wildlife movement whether in a natural setting or surrounded by development. Lyon Canyon Creek and the unnamed drainage in the southeastern corner of the site are tributaries of the South Fork of the Santa Clara River, and both flow beneath I-5 toward the Santa Clara River. These watercourses are concrete channels as they pass underneath I-5. They provide connections between the east and west sides of I-5. Their use may be limited due to their length, and overall distance to suitable habitat areas.

Lyons Canyon Ranch is the northernmost part of an important east-west movement corridor. Although not on the project site, this important wildlife movement corridor (or habitat linkage) has been identified in East and Rice Canyons. This open space area is located approximately three miles south of the project site. Further south, Weldon Canyon provides an important wildlife movement corridor near the I-5/SR14 junction. These canyons provide important habitat on an east/west axis between the Santa Susana Mountains to the west, and the San Gabriel Mountains and the Angeles National Forest to the east. The project site provides important and contiguous open space habitats that support the quality of these nearby regionally important wildlife movement corridors. Generally, known wildlife corridors in the region are mapped on Exhibit 5.6-16, Wildlife Corridors of the Newhall Region, and wildlife travel routes are illustrated in Exhibit 5.6-17, Wildlife Travel Routes at Lyons Canyon Ranch. The wildlife movement corridors illustrated on Exhibit 5.6-16 are based primarily on research conducted by the South Coast Wildlands (Penrod et al. 2004).

Since wildlife corridors (linking two core habitats) currently do not exist within the property boundaries (only wildlife paths exist onsite), the impact analysis for Impacts to Wildlife Corridors and Habitat Linkages (provided below in Section 5, Project Impacts) will be addressed specifically in terms of loss of wildlife travel routes onsite and in terms of interference with wildlife corridors within Lyon Canyon.

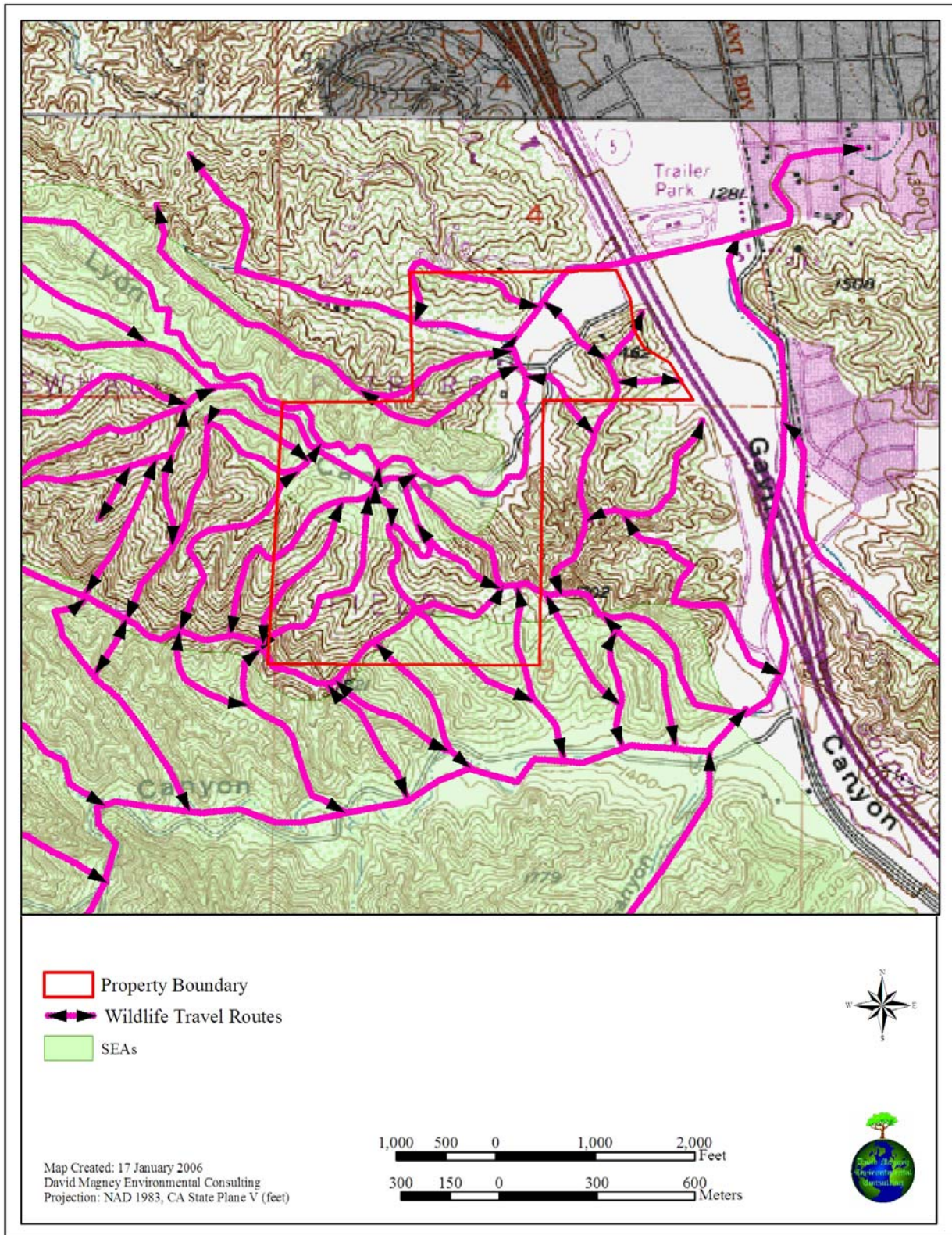
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Exhibit 5.6-16. Wildlife Corridors of the Newhall Region



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Exhibit 5.6-17. Wildlife Travel Routes at Lyons Canyon Ranch



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5.6.4.7 Project Site Flora and Fauna Population Estimates

No specific population estimates were made by BonTerra Consulting⁸ or DMEC as part of their assessments. However, DMEC documented the relative percent cover of plants occurring at each of the wetland delineation sample plots (Appendix O to this EIR [DMEC 2004a]), focusing on dominant species at each plot. The relative percent cover of the species observed at each plot aids in the estimation of the abundance of all plant species onsite; however, nearly all the vegetation had been burned prior to these surveys. Since most vegetation was cleared by the fire, DMEC can only estimate the abundance of plant species onsite.

Approximately 325 plant species were observed onsite (which included the parcel to the southeast of the Lyons Canyon Ranch parcels). Of those 325, approximately 77 taxa observed are considered *common* species within the boundary of the Lyons Canyon Ranch project site. These common taxa are dominant or important contributor species of the habitats onsite, with an estimated 1,000 individuals or more existing onsite. Approximately 183 plant taxa observed are considered *uncommon* species onsite, which are associate species to the habitats onsite, with estimated populations of 100 to less than 1,000 individuals onsite. The remaining approximate 65 plant taxa are considered *scarce* on the project site, since these taxa are estimated to have fewer than 100 individuals. Appendix C, Plant Species Observed at Lyons Canyon Ranch, of DMEC's biota report (DMEC 2006), which is Appendix G to this EIR (Biota of Lyons Canyon Ranch), estimates abundance for each plant species.

DMEC counted individual wildlife species as they were observed onsite, and DMEC conducted small mammal trapping onsite. (No quantitative data were gathered by BonTerra Consulting on wildlife species to determine population sizes present onsite.) Based on the general occurrences observed during the general surveys, the amount and type of habitats present onsite, and the results of the small mammal trapping, a general estimated abundance for each wildlife species observed has been made. These estimates are provided partially in the following subsection, as well as in Appendix D of the biota report (in Appendix G to this EIR), which lists the estimated abundance (*scarce*, *uncommon*, or *common*) for each wildlife species observed.

Three mammal species were caught onsite, including California Pocket Mouse, Deer Mouse, and Western Harvest Mouse. One special-status species was detected during the trapping sessions, San Diego Desert Woodrat (nest). A total of 349 trap nights were established, with a total of 128 captures (~37% success). Six individuals were recaptured. Each consecutive trapping session resulted in a higher success rate. Based on the number of individuals trapped for each species (refer to Table 5.6-4, Small Mammal Trapping Results at Lyons Canyon Ranch), DMEC estimates that the general abundance for these species is as follows: San Diego Desert Woodrat onsite is *scarce* in that less than 100 individuals are expected onsite; and California Pocket Mouse, Deer Mouse, and Western Harvest Mouse onsite are *common* in that more than 1,000 individuals are expected onsite.

⁸ Scott White of White & Leatherman Consulting provided DMEC with abundance estimates, which were incorporated into Appendix C.

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5.6.3.8 Special-Status Biological Resources

This section analyzes the biological significance of the project area in consideration of Federal, State, and local laws and policies. This section also provides the definitions of special-status species, and presents the special-status biological resources observed and expected onsite.

A search of the CNDDDB RareFind3 (CDFG 2005) was conducted to report all tracked special-status species and habitats with potential to occur at the project site. Nine (9) California Quadrangles (USGS 7.5-minute Series Topographic Map) were queried for the CNDDDB RareFind3 records search. Oat Mountain Quadrangle, in which the project site occurs, was searched, as well as all surrounding eight quadrangles, including Val Verde, Newhall, Mint Canyon, San Fernando, Van Nuys, Canoga Park, Calabasas, and Santa Susana.

Definitions of Special-Status Species

Special-status Habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Although special-status habitats are not afforded legal protection unless they support protected species, potential impacts on them may elicit concerns and mitigation suggestions by resources agencies.

Special-status species are plants and animals that are at least one of the following:

- *Listed as endangered or threatened* under Federal or California Endangered Species Acts,
- *Listed as rare* under the California Native Plant Protection Act, or
- *Considered rare* (but not formally listed) by resource agencies, professional organizations (e.g. Audubon Society, CNPS, The Wildlife Society), and the scientific community.

For the purposes of this project, special-status species are defined in Table 5.6-6, Definitions of Special-Status Species.

Listed species are those taxa that are formally listed as endangered or threatened by the federal government (e.g. U.S. Fish and Wildlife Service), pursuant to the Federal Endangered Species Act or as endangered, threatened, or rare (for plants only) by the State of California (i.e., California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act.

The CNPS' *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001, 2005) categorizes rare California plants into one of five lists (1A, 1B, 2, 3, and 4) representing the five levels of species status, one of which is assigned to a sensitive species to indicate its status of rarity or endangerment and distribution. Table 5.6-7, California Native Plant Society (CNPS) List, provides a definition for each List code number. A CNPS List is a more general designation than the three separate sets of information provided in a CNPS R-E-D Code (defined in Table 5.6-8, California Native Plant Society R-E-D Code). However, the CNPS List is a significant designation in terms of a species' overall status throughout all of California, and it works well in conjunction to the specifications of the R-E-D Code.

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Table 5.6-6. Definitions of Special-Status Species

<ul style="list-style-type: none"> • Plants & animals legally protected under the California and Federal Endangered Species Acts or under other regulations. • Plants and animals considered sufficiently rare by the scientific community to qualify for such listing; or • Plants and animals considered to be sensitive because they are unique, declining regionally or locally, or are at the extent of their natural range. 	
Special-Status Plant Species	Special-Status Animal Species
<ul style="list-style-type: none"> • Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in <i>Federal Register</i> for proposed species). • Plants that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (55 CFR 6184, February 21, 1990). • Plants that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380). • Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001). • Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 and 4 in CNPS 2001). • Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5). • Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). • Plants considered sensitive by other federal agencies (i.e. U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions. • Plants considered sensitive or unique by the scientific community; occurs at natural range limits (<i>State CEQA Guidelines</i>, Appendix G). 	<ul style="list-style-type: none"> • Animals listed/proposed for listing as threatened/endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in <i>Federal Register</i> for proposed species). • Animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under Federal Endangered Species Act (54 CFR 554). • Animals that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380). • Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5). • Animal species of special concern to the CDFG (Remsen [1978] for birds; Williams [1986] for mammals). • Animal species that are fully protected in California (California Fish & Game Code, Sections 3511 [birds], 4700 [mammals], 5050 [reptiles, amphibians]).

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Table 5.6-7. California Native Plant Society List (CNPS List)

CNPS List	Definition
1A	Presumed Extinct in California
1B	Rare or Endangered in California and elsewhere
2	Rare and Endangered in California, more common elsewhere
3	Need more information
4	Plants of Limited Distribution

The CNPS R-E-D Code is a three-numbered numeric ranking, which is assigned to a special-status species, consisting of one number (1, 2, or 3) for each of the three categories (Rarity-Endangerment-Distribution). Each number accurately describes the species' population levels and distribution patterns within each category. The three number-codes are described for each category in Table 5.6-8, California Native Plant Society R-E-D Code, and is specific for each category.

Table 5.6-8. California Native Plant Society R-E-D Code

Rarity (R)	
1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
2	Distributed in a limited number of occurrences, occasionally more if each occurrence is small
3	Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported
Endangerment (E)	
1	Not endangered
2	Endangered in a portion of its range
3	Endangered throughout its range
Distribution (D)	
1	More or less widespread outside California
2	Rare outside California
3	Endemic to California

The CNDDDB Element Ranking system provides a numeric global and state-ranking system for all special-status species tracked by the CNDDDB. The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. This Element Ranking system is defined below in Table 5.6-9, California Natural Diversity Database Element Ranking System.

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Table 5.6-9. California Natural Diversity Database Element Ranking System

Global Ranking (G)	
G1	Less than 6 viable element occurrences (populations for species), OR less than 1,000 individuals, OR < 809.4 hectares (ha) (2,000 acres [ac]).
G2	6 to 20 element occurrences OR 809.4 to 4,047 ha (2,000 to 10,000 ac).
G3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac).
G4	Apparently secure; this rank is clearly lower than G3, but factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat).
G5	Population, or stand, demonstrably secure to ineradicable due to being commonly found in the world.
GH	All sites are historic ; the element has not been seen for at least 20 years, but suitable habitat still exists.
GX	All sites are extirpated ; this element is extinct in the wild.
GXC	Extinct in the wild; exists in cultivation.
G1Q	The element is very rare, but there is a taxonomic question associated with it.
<p>Subspecies Level: Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire <u>species</u>, whereas the T-rank reflects the global situation of just the <u>subspecies</u> or <u>variety</u>. * For example: <i>Chorizanthe robusta</i> var. <i>hartwegii</i> is ranked G2T1. The G-rank refers to the whole species range (<i>Chorizanthe robusta</i>), whereas the T-rank refers only to the global condition of the variety (var. <i>hartwegii</i>).</p>	
State Ranking (S)	
S1	Less than 6 element occurrences OR less than 1,000 individuals OR less than 809.4 ha (2,000 ac). S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known
S2	6 to 20 element occurrences OR 3,000 individuals OR 809.4 to 4,047 ha (2,000 to 10,000 ac). S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known..
S3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac). S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known
S4	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern (i.e., there is some threat, or somewhat narrow habitat). NO THREAT RANK.
S5	Demonstrably secure to ineradicable in California. NO THREAT RANK.
SH	All California sites are historic ; the element has not been seen for at least 20 years, but suitable habitat still exists.
SX	All California sites are extirpated ; this element is extinct in the wild.
Notes	
<p>1. Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take an aerial view when ranking sensitive elements rather than simply counting element occurrences.</p>	
<p>2. Uncertainty about the rank of an element is expressed in two major ways: by expressing the rank as a range of values (e.g. S2S3 means the rank is somewhere between S2 and S3), and by adding a ? to the rank (e.g. S2?). This represents more certainty than S2S3, but less than S2.</p>	

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Special-Status Botanical Resources

This section provides the results of the special-status botanical resources survey and literature search conducted for Lyons Canyon Ranch. This section also gives the status of all special-status plant species and habitats known and tracked in the vicinity of the project site, and provides a description of the special-status plant species observed onsite.

Exhibit 5.6-18, Special-Status Biological Resources Observed at Lyons Canyon Ranch, gives the locations of the special-status plant and wildlife species observed onsite and maps the sensitive habitats observed at the project site.

SPECIAL-STATUS PLANT SPECIES

Table 5.6-10, Special-Status Plant Species with Potential to Occur at Lyons Canyon Ranch, lists all special-status plant species known to occur in the vicinity of the project site. Included in Table 5.6-10 is each species' scientific name, common name, status, required habitat, and likelihood of occurrence.

No federally or state listed plant species were observed at Lyons Canyon Ranch; however, 26 special-status plant species have the potential to occur in the vicinity of the project site. Of these 26 special-status plant species, 23 are tracked for the Lyons Canyon Ranch vicinity by CDFG's (2005) CNDDDB RareFind3, while the remaining three (3) are considered species of local concern (Boyd 1999). Seven (7) special-status plant species were observed onsite, including:

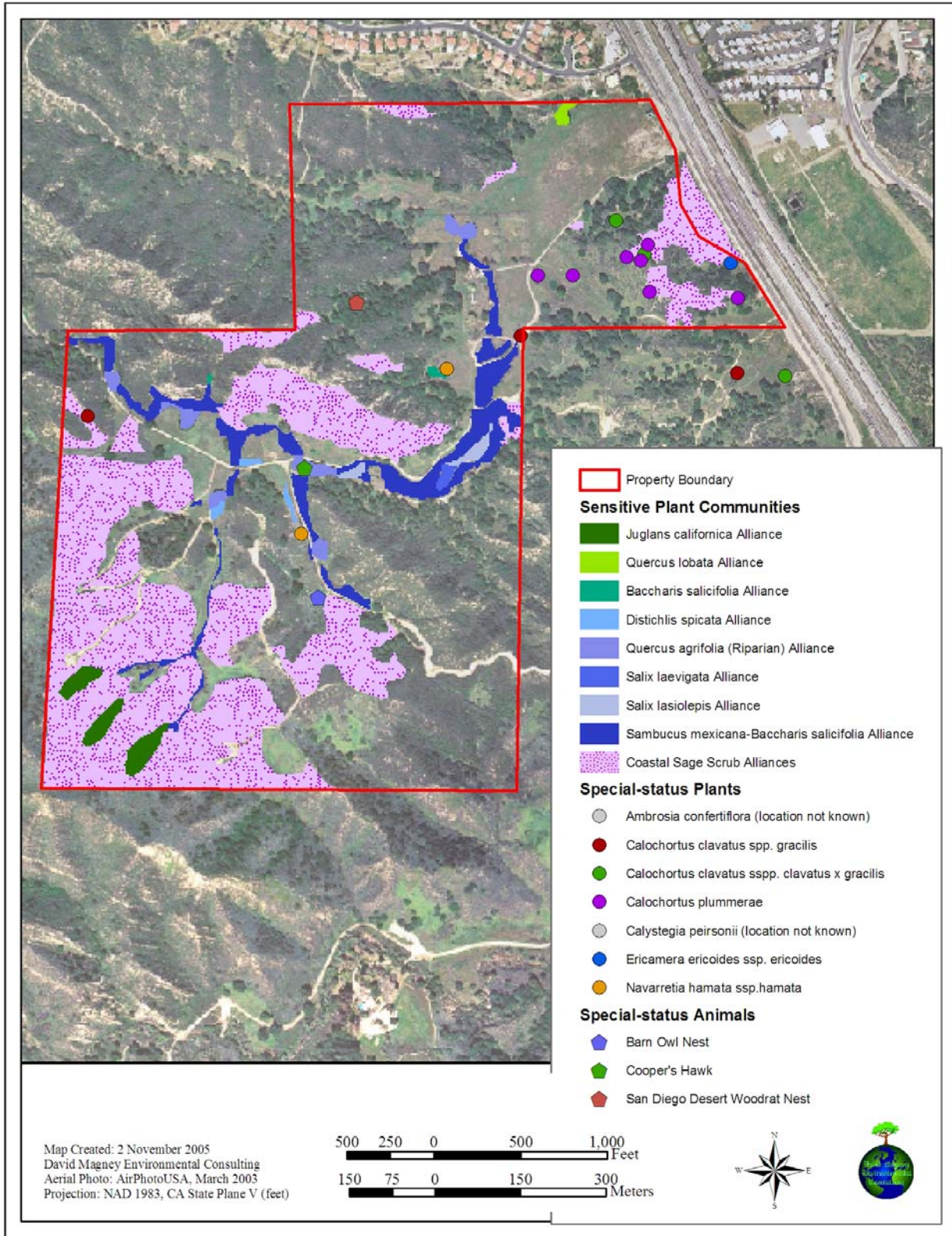
- *Ambrosia confertiflora* (Weakleaf Burweed);
- *Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily);
- *Calochortus plummerae* (Plummer's Mariposa Lily);
- *Calystegia peirsonii* (Peirson's Morning-glory);
- *Ericameria ericoides* ssp. *ericoides* (Mock Heather);
- *Juglans californica* var. *californica* (Southern California Black Walnut); and
- *Navarretia hamata* ssp. *hamata* (Skunk Navarretia).

Another six (6) special-status plant species are considered likely to occur onsite, based on suitable required habitat present onsite, and the CNDDDB results for special-status wildlife species tracked in the vicinity of the project site (CDFG 2005).

Voucher specimens were collected by BonTerra Consulting and/or Bowland & Associates for *Ambrosia confertiflora*, *Calystegia peirsonii*, *Calochortus plummerae*, and *Calochortus clavatus* var. *gracilis*, and deposited in at RSA to "ensure accuracy in identification" and provide verifiable vouchers.

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Exhibit 5.6-18. Special-Status Biological Resources Observed at Lyons Canyon Ranch



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Table 5.6-10. Special-Status Plant Species with Potential to Occur at Lyons Canyon Ranch

Scientific Name ⁹	Common Name	Federal ¹⁰	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D ¹¹	Habitat Requirements ¹²	Likelihood of Occurrence ¹³
<i>Ambrosia confertiflora</i>	Weakleaf Burweed	-	-	-	-	-	Species of local concern	Gr	Known: Observed by BonTerra Consulting onsite. No indication as to the location or abundance observed onsite. The population found represents the northernmost known occurrence of <i>Ambrosia confertiflora</i> in Los Angeles County and one of only eight known populations in the County. Only one (likely extirpated) population exists in Ventura County.
<i>Aster greatae</i>	Greata's Aster	-	-	G2	S2.3	1B	2-1-3	Ch, OW	Likely
<i>Astragalus brauntonii</i>	Braunton's Milkvetch	E	-	G2	S2.1	1B	3-3-3	Cl-cCF, Ch, CSS, Gr	Possible

⁹ Bold = special-status plant species known onsite.

¹⁰ Federal and State Listings: E = Endangered; T = Threatened; R = Rare; C = Candidate.
For special-status species definitions see Table 5.6-s 8 through 11 above.

¹¹ Species of local concern designations are presented here based on reporting by Boyd (1999) and Magney (2001).

¹² Habitat requirements definitions: AFSS = Alluvial Fan Sage Scrub; Cl-cCF = Closed-cone Coniferous Forest; Ch = Chaparral; ChenScrub = Chenopod Scrub; CSS = Coastal Sage Scrub; Gr = Grassland; JTW = Joshua Tree Woodland; LMCF = Lower Montane Coniferous Forest; MDS = Mojavian Desert Scrub; OW = Oak (Cismontane) Woodland; PJW = Pinyon-Juniper Woodland; RS/W = Riparian Scrub/Woodland; so. Calif. = southern California.

¹³ Likelihood of occurrence based on species' habitat requirements and the presence of required habitat in the project site.

Known = the species has been reported as inhabiting or frequenting the project site;

Likely = Required habitat exists at the project site and has been reported near by;

Possible = Marginal required habitat exists onsite, and/or required habitat exists in surrounding areas;

Unlikely = Required habitat does not exist at the project site nor does it exist nearby.

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Scientific Name ⁹	Common Name	Federal ¹⁰	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D ¹¹	Habitat Requirements ¹²	Likelihood of Occurrence ¹³
<i>Berberis nevinii</i>	Nevin's Barberry	E	E	G2	S2.2	1B	3-3-3	Ch, OW, CSS, RS.	Unlikely. Recorded population in San Franciscito Canyon was likely planted by Theodore Paine after the dam disaster of the 1930s and is not a natural population (Boyd 1999).
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender Mariposa Lily	-	-	G4T1	S1.1?	1B	3-2-3	Ch, CSS.	Known: Approximately 600 individuals of <i>Calochortus clavatus</i> var. <i>gracilis</i> were observed by BonTerra Consulting and Bowland & Associates in the northeastern portion of the project site south of Lyons Ranch Road, in the middle portion of the project site on the southeast side of "Lyons Ranch Road", and in the southeastern corner of the project site just west of The Old Road.
<i>Calochortus plummerae</i>	Plummer's Mariposa Lily	-	-	G3	S3.2	1B	2-2-3	CSS, Ch, Gr, OW, LMCF.	Known: 26 individuals observed by Bowland & Associates and approximately 1,100 individuals observed by BonTerra. These individuals were observed in the southeastern corner of the project site just west of The Old Road, in the mid-eastern portion of the project site, and in the northeastern portion near the intersection of The Old Road and Lyons Ranch Road.
<i>Calystegia peirsonii</i>	Peirson's Morning-glory	-	-	G3	S3.2	4	1-2-3	Ch, CSS, ChenScrub, OW, LMCF.	Known: Occasional individuals reported as observed by BonTerra Consulting. No indication was made as to where this species was observed onsite.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley Spineflower	C	E	G2T1	S1.1	1B	3-3-3	CSS.	Possible
<i>Deinandra minthornii</i>	Santa Susana Tarplant	-	R	G2	S2.2	1B	2-2-3	Ch, CSS.	Unlikely
<i>Dodecahema leptoceras</i>	Slender-horned Spineflower	E	E	G1	S1.1	1B	3-3-3	Ch, CSS (AFSS).	Unlikely

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Scientific Name ⁹	Common Name	Federal ¹⁰	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D ¹¹	Habitat Requirements ¹²	Likelihood of Occurrence ¹³
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's Dudleya	-	-	G2T2	S2.1	1B	2-3-2	CSS, coastal bluff scrub, Gr. Found with direct coastal or maritime influence.	Unlikely
<i>Dudleya multicaulis</i>	Many-stemmed Dudleya	-	-	G2	S2.1	1B	1-2-3	Ch, CSS, Gr.	Unlikely
<i>Ericameria ericoides</i> ssp. <i>ericoides</i>	Mock Heather	-	-	-	-	-	Species of local concern	CSS; inland sandy soils.	Known: The presence of this species so far inland represents a significant disjunction, and is treated here as a locally rare species. One individual was observed by DMEC in the northeastern-most corner of the project site, along The Old Road, in <i>Eriogonum fasciculatum</i> Alliance. Its presence is possibly a waif that may have been included in a hydroseed mix applied for erosion control on the road cut immediately south of Lyon Canyon, along with the non-indigenous <i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i> at this site.
<i>Erodium macrophyllum</i>	Round-leaved Filaree	-	-	G4	S2.1	2	2-3-1	Cismontane woodland, Gr.	Likely
<i>Harpagonella palmeri</i> var. <i>palmeri</i>	Palmer's Grapplinghook	-	-	G4	S3.2	4	1-2-1	Ch, CSS, Gr.	Possible
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles Sunflower	-	-	G5TH	SH	1A	-	Coastal salt and fresh-water marshes and swamps.	Unlikely: Presumed extinct. Historical from So. California. Possibly rediscovered at Newhall Ranch in 2003.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa Horkelia	-	-	G4T2	S2.1	1B	2-3-3	Ch, OW, CSS.	Likely

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Scientific Name ⁹	Common Name	Federal ¹⁰	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D ¹¹	Habitat Requirements ¹²	Likelihood of Occurrence ¹³
<i>Juglans californica</i> var. <i>californica</i>	Southern California Black Walnut	-	-	G3	S3.2	4	1-2-3	Ch, CSS, OW.	Known: Occasional individuals observed by BonTerra Consulting and DMEC in the southwestern corner of the project site.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's Peppergrass	-	-	G5T2?	S2.2	1B	3-2-2	Ch, CSS.	Likely
<i>Malacothamnus davidsonii</i>	Davidson's Bush Mallow	-	-	G1	S1.1	1B	2-2-3	CSS, RW, Ch.	Possible
<i>Navarretia fossalis</i>	Spreading Navarretia	T	-	G2	S2.1	1B	2-3-2	Vernal pools, ChenScrub, marshes & swamps, playas.	Unlikely
<i>Navarretia hamata</i> ssp. <i>hamata</i>	Skunk Navarretia	-	-	-	-	-	Species of local concern	Dry sandy or rocky sites in Ch.	Known: Approximately 50 individuals were observed by DMEC near the "empty pond" in the middle portion of the project site in Ruderal Grassland Alliance. It is considered a locally rare species in Ventura County (Magney 2005) and is not reported in the Liebre Mountains flora by Boyd (1999). No collections are reported this far north in LA County in the Jepson Herbarium database for this variety.
<i>Nolina cismontana</i>	Chaparral Nolina	-	-	G1	S1.1	1B	3-2-3	Ch, CSS.	Likely
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint Beavertail	-	-	G5T1	S1.2	1B	3-2-3	Ch, JTW, MDS, PJW, RW.	Unlikely
<i>Orcuttia californica</i>	California Orcutt Grass	E	E	G2	S2.1	1B	3-3-2	Vernal pools.	Unlikely
<i>Senecio aphanactis</i>	Rayless Ragwort	-	-	G3?	S1.2	2	3-2-1	OW, CSS.	Likely

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Observed Special-Status Plant Species

Seven (7) special-status plant species were observed onsite. A brief description of the special-status plant species observed during the focused surveys is presented below.

***Ambrosia confertiflora* (Weakleaf Burweed)**

Ambrosia confertiflora (Weakleaf Burweed) is a species of local concern (Boyd 1999, Magney 2001). This small shrub usually blooms during the summer. It ranges spottily from San Francisco County south to San Diego County and inland to San Bernardino and Riverside Counties. This species was observed and vouchered by BonTerra Consulting onsite. No indication was provided as to the location observed onsite, nor the abundance or population size observed onsite. The population found on Lyons Canyon Ranch represents the northernmost known occurrence of *Ambrosia confertiflora* in Los Angeles County and one of only eight known populations (based on Jepson Herbarium database search) in the County. Only one (likely extirpated) population exists in Ventura County (Marr Ranch in Simi Valley – *A.C. Sanders 22916 UCR*).

***Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily)**

Calochortus clavatus var. *gracilis* (Slender Mariposa Lily) is a CNPS List 1B species. This perennial bulbiferous herb typically blooms between March and May. It is found in canyons in chaparral below approximately 762 meters. All known occurrences are in Los Angeles County, with many locations in the Liebre Mountains. It is widespread, but only infrequently common locally in open scrub and especially on recent burns; it more or less freely grades into var. *clavatus*. Approximately 600 individuals of *Calochortus clavatus* var. *gracilis* were observed by BonTerra Consulting and Bowland & Associates in the northeastern portion of the project site south of Lyons Ranch Road, in the middle portion of the project site on the southeast side of “Lyons Ranch Road”, and in the southeastern corner of the project site just west of The Old Road (Exhibit 5.6-18).

***Calochortus plummerae* (Plummer’s Mariposa Lily)**

Calochortus plummerae (Plummer’s Mariposa Lily) is a CNPS List 1B species. This perennial bulbiferous herb typically blooms between May and July. It is found in dry rocky places and in brush below approximately 5,000 feet above msl, in coastal sage scrub and yellow pine forest vegetation communities. It is locally scarce on rocky slopes and alluvial fans. Twenty-six (26) individuals of *Calochortus plummerae* were observed by Bowland & Associates, and approximately 1,100 individuals were observed by BonTerra Consulting. These individuals were observed in the southeastern corner of the project site just west of The Old Road, in the mid-eastern portion of the project site, and in the northeastern portion near the intersection of The Old Road and Lyons Ranch Road (Exhibit 5.6-18).

***Calystegia peirsonii* (Peirson’s Morning-glory)**

Calystegia peirsonii (Peirson’s Morning-glory) is a CNPS List 4 species. This perennial rhizomatous herb typically blooms between May and June. It is found on dry slopes from approximately 3,000 to 4,500 feet above msl, in creosote bush scrub and Joshua Tree Woodland vegetation communities. This species is a climbing vine also found in openings in Coastal Sage Scrub and chaparral, typically following a burn. *Calystegia peirsonii* occurs in the San Gabriel and Liebre Mountains and in the Antelope Valley. It was known only from a few collections prior to 1970 (Boyd 1999), but it is now believed to be more abundant in Coastal Sage Scrub throughout the Newhall-Mint Canyon region. Occasional individuals were observed by BonTerra Consulting. No location was indicated onsite.

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***Ericameria ericoides* ssp. *ericoides* (Mock Heather)**

Ericameria ericoides ssp. *ericoides* (Mock Heather) is a species of local concern (Boyd 1999). This small shrub typically blooms during the summer. It is found usually on stabilized sand dunes along the coast. This shrub ranges from Marin County south to Los Angeles County. *Ericameria ericoides* typically occurs along the coast and its presence this far inland represents a significant disjunction and extralimital occurrence, and is therefore considered a locally rare species. One (1) individual of this species was observed by DMEC in the northeastern-most corner of the project site, along The Old Road, in *Eriogonum fasciculatum* Alliance (Exhibit 5.6-18). It is possible that its presence along The Old Road represents a waif that was included in a hydroseed mulch applied for erosion control on the road cut immediately south of Lyon Canyon, along with the introduced *Eriogonum fasciculatum* var. *fasciculatum* (native to California, but not indigenous to this region) at this site.

The fact that three species of *Ericameria* have been reported as occurring onsite raises questions about proper identification of one or more of the species since all three species, since all three species are morphologically similar. However, a search of the Jepson Herbarium online database found that *E. pinifolia* has been collected from Elizabeth Lake in the Liebre Mountains to the north south to Pacoima, including in Newhall both north and south of Lyon Canyon. Furthermore, *E. palmeri* var. *pachylepis* has been collected in the Newhall area, north and east of the project site.

***Juglans californica* var. *californica* (Southern Calif. Black Walnut)**

Juglans californica var. *californica* (Southern California Black Walnut) is a CNPS List 4 species. This perennial deciduous tree typically blooms between March and May. It is found on slopes, canyons and valleys from approximately 200 to 3,000 feet above msl. This species occurs in Orange County, and from western cismontane San Bernardino County to Ventura County. Occasional individuals (a few small stands) were observed by BonTerra Consulting and DMEC in the southwestern corner of the project site (Exhibit 5.6-18).

***Navarretia hamata* ssp. *hamata* (Skunk Navarretia)**

Navarretia hamata ssp. *hamata* (Skunk Navarretia) is a species of local concern (Boyd 1999, Magney 2001). Skunk Navarretia is a small annual herb that blooms during the late spring and early summer. *Navarretia hamata* ssp. *hamata* ranges from Santa Cruz County south to San Diego County along the coast and inland within Riverside and San Bernardino Counties below 500 meters. Approximately 50 individuals of *N. hamata* ssp. *hamata* were observed by DMEC near the “empty pond” in the middle portion of the project site in Ruderal Grassland Alliance (Exhibit 5.6-18). This taxon is treated as a locally rare species. It is considered a locally rare species in Ventura County (Magney 2005) and is not reported in the Liebre Mountains flora by Boyd (1999). No collections are reported this far north in Los Angeles County in the Jepson Herbarium online database for this variety.

SENSITIVE PLANT COMMUNITIES

Table 5.6-11, Sensitive Habitats Tracked in the Vicinity of Lyons Canyon Ranch, lists the sensitive habitat types that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by Federal, State, and local government conservation programs.

Fourteen (14) of the sensitive habitats listed below are tracked by CNDDDB (CDFG 2005), while Coast Live Oak Woodland is protected by the Los Angeles County Oak Tree Ordinance. Eight (8) of those 15 sensitive habitat types were observed onsite by DMEC biologists.

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Table 5.6-11. Sensitive Habitats Tracked in the Vicinity of Lyons Canyon Ranch

Habitat Name (Holland 1986, CDFG 2005)	Alliance Name Described Above in Habitat Descriptions (Sawyer and Keeler-Wolf (1995))	i-Rank ¹⁴	s-Rank	Observed Onsite?
Southern Calif. Threespine Stickleback Stream	-	G?	S?	Not observed, and highly unlikely to occur onsite.
Cismontane Alkali Marsh	<i>Distichlis spicata</i> Alliance	G2	S2.1	Observed onsite. Dense patches of this alliance were observed on the boundary of riparian communities; however, the characteristic associate species for Cismontane Alkali Marsh were not present.
Southern Riparian Scrub	<i>Sambucus mexicana-Baccharis salicifolia</i> Alliance	G3	S3.2	Observed onsite
Riversidian Alluvial Fan Sage Scrub	<i>Lepidospartum squamatum</i> Alliance	G1	S1.1	Not observed, but could possibly occur onsite.
Southern Willow Scrub	<i>Salix</i> Alliance	G3	S2.1	Not observed, but could possibly occur onsite.
Southern Mixed Riparian Forest	<i>Salix lasiolepis</i> Alliance <i>Salix laevigata</i> Alliance	G2	S2.1	Observed onsite
Southern Cottonwood Willow Riparian Forest	<i>Populus fremontii-Salix</i> Alliance	G3	S3.2	Not observed, and unlikely to occur onsite.
Southern Sycamore-Alder Riparian Woodland	<i>Platanus racemosa-Alnus rhombifolia</i> Alliance	G4	S4	Not observed, but could potentially occur onsite, especially after several years of wildfire succession.
Southern Coast Live Oak Riparian Forest	<i>Quercus agrifolia</i> Alliance	G4	S4	Observed onsite.
Coast Live Oak Woodland	<i>Quercus agrifolia</i> Alliance	n/a	n/a	Observed onsite.
Valley Needlegrass Grassland	<i>Nassella pulchra</i> Alliance	G1	S3.1	The habitat not observed onsite, only patches of <i>Nassella</i> observed in transition between grassland and scrub plant communities onsite.
Coastal Sage Scrub	<i>Sambucus mexicana-Salvia leucophylla</i> Alliance <i>Salvia leucophylla</i> Alliance <i>Salvia apiana</i> Alliance	n/a	n/a	Observed onsite.
California Walnut Woodland	<i>Juglans californica</i> Alliance	G2	S2.1	Observed onsite.
Mainland Cherry Forest	<i>Prunus ilicifolia</i> Alliance	G1	S1.1	Not observed, and unlikely to occur onsite.
Valley Oak Woodland	<i>Quercus lobata</i> Alliance	G3	S2.1	Observed onsite. Emergent Valley Oak trees observed in small stand in northeastern portion of the property.

¹⁴ For special-status definitions see Table 5.6-s 8 through 11 above.

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Table 5.6-11 provides the Holland classification used by CNDDDB as well as the Sawyer and Keeler-Wolf (1995) classification. Refer to the 5.6.4.1 Habitat Descriptions subsection for complete descriptions of the sensitive habitat types that were identified within the project site.

Special-Status Wildlife Resources

Sixty (60) special-status wildlife species have the potential to occur on Lyons Canyon Ranch, based on known occurrences in the vicinity of the project site. Table 5.6-12, Special-Status Wildlife Species with Potential to Occur at Lyons Canyon Ranch, provides a summary of those 60 special-status wildlife species tracked in the project region. Table 5.6-12 also provides information on the status, habitat requirements, and likelihood of occurrence.

No federal or state listed wildlife species were observed at Lyons Canyon Ranch; however, four special-status wildlife species were observed or detected onsite or immediately adjacent to the project site. Three special-status wildlife species were observed or detected by DMEC, including: Cooper's Hawk (*Accipiter cooperi*) flying overhead, San Diego Desert Woodrat (*Neotoma lepida intermedia*) detected by a nest, and Oak Titmouse (*Baeolophus inornatus*). The fourth species, Nuttall's Woodpecker (*Picoides nuttallii*), was observed in Towsley Park by Wendy Langhans with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005).

It should also be noted that DMEC observed an occupied Barn Owl (*Tyto alba*) nest in a Coast Live Oak (*Quercus agrifolia* ssp. *agrifolia*) tree onsite. Barn Owl is not a special-status species (and therefore is not listed in Table 5.6-12 below); however, all active raptor nests (of common or special-status species) are regulated by California Fish and Game Code Sections 3503, 3503.5, and 3513.

Of the 60 species tracked in the project region, 19 special-status wildlife species are *likely* to occur onsite, based on suitable required habitat present onsite, and based on the CNDDDB search results for special-status wildlife species tracked in the vicinity of the project site (CDFG 2005).

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Table 5.6-12. Special-Status Wildlife Species with Potential to Occur at Lyons Canyon Ranch

Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
FISH								
<i>Catostomus santaanae</i>	Santa Ana Sucker	T	-	G1	S1	SC	Endemic to Los Angeles basin south coastal streams.	Unlikely
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored Threespine Stickleback	E	E	G5T1	S1	-	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small so. Calif. streams.	Unlikely
<i>Gila orcutti</i>	Arroyo Chub	-	-	G2	S2	SC	Los Angeles basin south coastal streams.	Unlikely
AMPHIBIANS								
<i>Bufo californicus</i>	Arroyo Toad	E	-	G2G3	S2S3	SC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	Possible
<i>Rana aurora draytonii</i>	California Red-legged Frog	T	-	G4T2 T3	S2S3	SC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Unlikely
<i>Rana muscosa</i>	Mountain Yellow-legged Frog	E	-	G2	S2	SC	Federal listing refers to populations in the San Gabriel, San Jacinto & San Bernardino Mountains only. Always encountered within a few feet of water. Tadpoles may require up to 2 years to complete their aquatic development.	Unlikely
<i>Spea (=Scaphiopus) hammondi</i>	Western Spadefoot	-	-	G3	S3	SC	Occurs primarily in Gr habitats, but can be found in valley-foothill hardwood woodlands in the Central Valley and Coast Ranges from Point Conception, Santa Barbara County south to San Diego County. Rarely observed outside of the breeding season. They breed in vernal pools and other ponds. Has declined substantially throughout its range.	Possible
<i>Taricha torosa torosa</i>	Coast Range Newt	-	-	G5T4	S4	SC	Coastal drainages from Mendocino County to San Diego County.	Unlikely

¹⁵ * = Nesting habitat protected. ** = Wintering site protected.

¹⁶ Federal and State Listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; FSC = Federal Species of Concern. CDFG Listing: SC = California Species of Concern; FP = Fully Protected; SPM = Specially Protected Mammal.

For special-status species definitions see Table 5.6-s 8 through 11 above.

¹⁷ Habitat requirements definitions: Ch = Chaparral; CSS = Coastal Sage Scrub; Gr = Grassland; JTW = Joshua Tree Woodland; PJW = Pinyon-Juniper Woodland; RS/W = Riparian Scrub/Woodland; so. Calif. = southern California.

¹⁸ Likelihood of occurrence based on species' habitat requirements and the presence of required habitat in the project site.

Known = the species has been reported as inhabiting or frequenting the project site;

Likely = Required habitat exists at the project site and has been reported nearby;

Possible = Marginal required habitat exists onsite, and/or required habitat exists in surrounding areas;

Unlikely = Required habitat does not exist at the project site nor does it exist nearby.

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Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
REPTILES								
<i>Anniella pulchra pulchra</i>	Silvery Legless Lizard	-	-	G3G4 T3T4 Q	S3	SC	Sandy or loose loamy soils under sparse vegetation. Beneath soil, under stones, logs, debris, or in leaf litter. Inhabits moist soil, dry washes, woodlands, riparian, and scrub types at < 5,000 feet elevation within Coast, Transverse, and Peninsular ranges and northwestern Baja Calif.	Likely
<i>Aspidoscelis tigris stejnegeri</i>	Coastal Western Whiptail	-	-	G5T3 T4	S2S3	-	Found in deserts & semiarid areas w/ sparse vegetation and open areas. Also found in woodland & riparian areas in sandy or gravelly substrate. Occurs in the coastal region of so. Calif. south to central Baja Calif., Mexico. Prey includes terrestrial insects. Has apparently declined due to loss of habitat.	Likely
<i>Charina trivirgata</i>	Rosy Boa	-	-	G4G5	S3S4	-	Habitats with a mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains.	Likely
<i>Coleonyx variegatus abbotti</i>	San Diego Banded Gecko	-	-	G5T3 T4	S2S3	-	Coastal and cismontane southern California. Found in granite or rocky outcrops in Coastal Sage Scrub and chaparral habitats.	Likely
<i>Emys (=Clemmys) marmorata pallida</i>	Southwestern Pond Turtle	-	E	G3G4 T2T3 Q	S2	SC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6,000 ft elev. Occurs in freshwater rivers, streams, lakes, ponds, vernal pools, and seasonal wetlands requiring water depths > 6 feet and basking sites such as logs & banks. Occurs from Monterey Bay south through the Coast Ranges to northern Baja Calif. Current range is similar to the historic range, but populations fragmented by agriculture and urban development.	Unlikely
<i>Phrynosoma coronatum (blainvillei)</i>	San Diego Horned Lizard	-	-	G4T3 T4	S2S3	SC	Inhabits open CSS and Ch in arid and semi-arid climate conditions. Prefers loose, friable soil for burrowing. Has declined due to loss of habitat, over-collecting, and introduction of exotic ants. Occurs in Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura Counties southward into the Peninsular Ranges to Baja Calif.	Likely
<i>Salvadora hexalepis virgulata</i>	Coast Patch-nosed Snake	-	-	G5T3	S2S3	SC	Brushy or shrubby vegetation in coastal so. Calif. Its Calif. range is from San Luis Obispo and Kern Counties south to San Diego County. Inhabits open sandy areas with rocky outcrops within scrub, grassland, and woodland vegetation types. It occurs < 7,000 feet in elevation. Nearest known populations to project site are in the watershed of Santa Clara River.	Likely
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	-	-	G3	S2	SC	Coastal Calif. from vicinity of Salinas to northwest Baja Calif. From sea to about 7,000 ft elevation. Occurs from Monterey County south to northwest Baja Calif. This highly aquatic snake occurs in freshwater marsh and riparian habitats with perennial water. Prey consists of small fishes, frogs, and tadpoles. The nearest known populations to the project site are in the Santa Clara River watershed.	Possible

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Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
BIRDS								
<i>Accipiter cooperii</i>	Cooper's Hawk*	-	-	G5	S3	SC	(Nesting) woodland, chiefly of open, interrupted or marginal. An uncommon year-round resident in so. Calif. Prefers woodland habitats but can also be found in virtually any habitat during migration. Typical breeding habitat in so. Calif. consists of riparian and oak woodlands, but also nests in ornamental woodlands provided by parks.	Known: Observed by DMEC flying overhead.
<i>Accipiter striatus</i>	Sharp-shinned Hawk*	-	-	G5			(Nesting) Ponderosa Pine, Black Oak, riparian woodland, mixed conifer & Jeffrey Pine habitats. Prefers riparian areas. Fairly common winter resident in so. Calif. and a rare summer resident in the mountains.	Possible
<i>Agelaius tricolor</i>	Tricolored Blackbird*	-	-	G5	S3	SC	(Nesting colony) highly colonial species, most numerous in Central Valley & vicinity. Endemic to Calif.	Unlikely
<i>Aimophila ruficeps canescens</i>	Southern California Rufous-crowned Sparrow	-	-	G5T2 T4	S2	SC	Resident in so. Calif. CSS and sparse Mixed Ch. Prefer slopes with rock outcroppings.	Likely
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	-	-	G5	S2	-	(Nesting) dense grasslands on rolling hills, lowland plains, in valleys & on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely colonial when nesting.	Likely
<i>Amphispiza belli</i> ssp. <i>belli</i>	Bell's Sage Sparrow*	-	-	G5T2 T4	S2?	SC	(Nesting) nests in Ch dominated by fairly dense stands of Chamise. Found in CSS, often with stands of cactus (<i>Opuntia</i> sp.), in south of range. An uncommon to fairly common local resident in the interior foothills of coastal so. Calif.	Likely
<i>Aquila chrysaetos</i>	Golden Eagle*	Federal Bald Eagle Act.	-	G5	S3	SC, FP	(Nesting & wintering) rolling foothills, mountains, sage-juniper flats, desert. Uncommon year-round resident in so. Calif. Typically nests on rocky cliff ledges or trees, but also rarely on the ground.	Possible
<i>Asio flammeus</i>	Short-eared Owl	-	-	G5	S3	SC	(Nesting) found in swamplands, both fresh and salt; lowland meadows; irrigated alfalfa fields.	Unlikely
<i>Asio otus</i>	Long-eared Owl*	-	-	G5	S3	SC	(Nesting) riparian bottomlands grown to tall willows & cottonwoods; also, belts of oak paralleling stream courses. Uncommon resident in the deserts, and is quite rare coastally. Declined throughout Calif., but the most pronounced reductions have occurred in the southwestern part of the state with a minimum 55 percent decline.	Likely
<i>Athene cunicularia</i>	Western Burrowing Owl	-	-	G4	S2	SC	(Burrow sites) open, dry annual or perennial Gr, deserts & scrublands characterized by low-growing vegetation.	Possible

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Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
<i>Baeolophus inornatus</i>	Oak Titmouse	-	-	G5	S3?	-	Oak woodlands. Cavity nester.	Known: one individual observed by DMEC
<i>Buteo regalis</i>	Ferruginous Hawk**	-	-	G4	S3S4	SC	(Wintering) open Gr, sagebrush flats, desert scrub, low foothills & fringes of PJW. Occurs as a winter resident in Calif. Occupies open, dry habitats such as grasslands, shrublands, rangelands, and, in winter, plowed agricultural fields.	Possible: unlikely to nest onsite, but may occur as rare migrant
<i>Buteo swainsoni</i>	Swainson's Hawk*	-	-	G5	S2	-	(Nesting) breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah.	Possible
<i>Calypte costae</i>	Costa's Hummingbird	-	-	G5	S3?	-	(Nesting) desert riparian, desert and arid scrub foothill habitats.	Likely
<i>Campylorhynchus brunneicapillus sandiegensis</i>	Coastal Cactus Wren	-	T	G5T2 T3Q	S2S3	SC	So. Calif. CSS. Wrens require tall <i>Opuntia</i> cactus for nesting and roosting.	Unlikely
<i>Carduelis lawrencei</i>	Lawrence's Goldfinch	-	-	G3G4	S3	-	(Nesting) nests in open oak or other arid woodland and chaparral, near water. Nearby herbaceous habitats used for feeding. Closely associated with oak trees.	Likely
<i>Chondestes grammacus</i>	Lark Sparrow	-	-	G5	S?	-	(Nesting). For nesting they prefer edges between grasslands & trees or bushes or open grassy oak woodlands. Scattered trees or shrubs required for lookout, song perches & cover.	Likely
<i>Circus cyaneus</i>	Northern Harrier*	-	-	G5	S3	SC	(Nesting) coastal salt & freshwater marsh. Nest & forage in Gr, from Saltgrass in desert sink to mountain cienagas. Fairly common winter resident in so. Calif., but a very scarce and local breeder. Nests on the ground in a variety of wetland and upland habitats.	Likely
<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo*	C	-	G5T2 Q	S1	-	(Nesting) riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Unlikely
<i>Dendroica petechia brewsteri</i>	Western Yellow Warbler*	-	-	G5T3?	S2	SC	(Nesting) riparian plant associations. Prefers <i>Salix</i> , <i>Populus</i> , <i>Platanus</i> , & <i>Alnus</i> for nesting & foraging.	Possible
<i>Elanus leucurus</i>	White-tailed Kite*	-	-	G5	S3	-	(Nesting) rolling foothills/valley margins w/scattered oaks & river bottomlands or marshes next to deciduous woodland. Uncommon locally, but fairly common year-round resident on the coast of so. Calif. Requires open habitats, such as grasslands, marshlands, and agricultural fields with nearby trees for perching and nesting.	Possible

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Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher*	E	-	G5T1 T2	S1	-	(Nesting) RW in so. Calif. State listing includes all subspecies. Declined drastically due to a loss of breeding habitat and nest parasitism by Brown-headed Cowbirds. This species occurs in riparian habitats along rivers, streams, or other wetlands. On 12 October 2004, USFWS published a Final Rule designating critical habitat for this species. Approximately 99.8 river miles in Kern, Riverside, San Bernardino, and San Diego counties were designated for this species. The project site is not located within the designated critical habitat area for Southwestern Willow Flycatcher.	Unlikely suitable riparian habitat minimal for nesting requirements.
<i>Eremophila alpestris actia</i>	California Horned Lark	-	-	G5T3	S3	SC	Coastal regions, chiefly from Sonoma to San Diego Co. Also main part of San Joaquin Valley & east to foothills. In so. Calif., this subspecies is a fairly common breeding resident in grasslands and dry, open habitats.	Possible
<i>Falco columbarius</i>	Merlin**	-	-	G5	S3	SC	(Wintering) seacoast, tidal estuaries, open woodlands, savannahs, edges of Gr & deserts, farms & ranches. Uncommon fall migrant and rare winter resident in so. Calif. It prefers open to semi-open habitat for breeding and foraging.	Possible
<i>Falco mexicanus</i>	Prairie Falcon*	-	-	G5	S3	SC	(Nesting) inhabits dry, open terrain, either level or hilly. Uncommon year-round resident in the interior of so. Calif. An increasingly scarce winter resident and very rare summer resident along the coast of so. Calif. Prefers dry open habitats such as grasslands and ag fields.	Possible
<i>Icteria virens</i>	Yellow-breasted Chat	--	-	G5	S3	SC	(Nesting) summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses.	Unlikely
<i>Lanius ludovicianus</i>	Loggerhead Shrike	-	-	G4	S4	SC	(Nesting) broken woodlands, savannah, PJW, JTW, & RW, desert oases, scrub & washes. Widely distributed across North America but has declined throughout most of its range in recent decades. Has recently declined in its Calif. population. Found perched on fences and posts from which prey items can be seen hanging from a sharp object such as a barbed-wire fence.	Likely
<i>Picoides nuttallii</i> (nesting)	Nuttall's Woodpecker	-	-	G5S?	-	-	Prefers mesic habitats. Occupies chaparral plant communities mixed with scrub oak, wooded canyons, and riparian woodlands. Forages on tree trunks, probing crevices and chipping away loose bark.	Known: reported by Wendy Langhans (pers. comm. 21 July 2005)

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Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
<i>Poliophtila californica californica</i>	Coastal California Gnatcatcher	T	-	G3	S2	SC	Obligate, permanent resident of several distinct alliances of CSS below 2500 ft in so. Calif. Brood parasitism by Brown-headed Cowbird and loss of habitat to urban development have caused population decline. On 24 October 2000, USFWS published a Final Rule to designate critical habitat for this species. On 24 April 2003, the USFWS published a Proposed Rule re-evaluating the boundaries. They proposed to designate 495,795 acres of land as critical habitat. The project site is not located within designated or proposed critical habitat areas for this species.	Possible: Prior to Fire, project site provided suitable CSS habitat. When suitable CSS recovers, focused surveys recommended.
<i>Toxostoma redivivum</i>	California Thrasher	-	-	G5S?	-	-	Chaparral-covered foothills.	Likely
<i>Vireo bellii pusillus</i>	Least Bell's Vireo*	E	E	G5T2	S2	-	(Nesting) summer resident of so. Calif. in low riparian near water or dry river bottoms; < 2000 ft. Breeds primarily in riparian habitats dominated by willows (<i>Salix</i> spp.) with dense understory vegetation. A dense shrub layer two to ten feet above ground is the most important habitat characteristic for this species. On 2 February 1994, the USFWS published a final critical habitat for this species, designating approx. 37,560 acres of land in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego counties, Calif. The project site is not located within the designated critical habitat area.	Unlikely: Simi Fire took suitable habitat. When suitable riparian habitat recovers onsite, focused surveys for this species are recommended.
MAMMALS								
<i>Antrozous pallidus</i>	Pallid Bat	-	-	G5	S3	SC	Deserts, Gr, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. A locally common year-round resident at low elevations throughout most of Calif. Forages primarily on the ground for large insects. Roosting habitat consists of caves, crevices, mines, and occasionally hollow trees and buildings.	Possible
<i>Bassariscus astutus</i>	Ring-tailed Cat	-	-	G5	(S2)	SC, FP	Never far from water. Found in rocky dry areas such as chaparrals and deserts from southwestern Wyoming to central Mexico. Occasionally will live in woodlands. This species makes nests of leaves and grass, and lives in caves, hollow tree trunks, abandoned burrows, or in buildings.	Likely
<i>Corynorhinus townsendii pallescens</i>	Pale Big-eared Bat	-	E	G4T4	S2S3	SC	Lives in a wide variety of habitats but most common in mesic sites. One of two subspecies of Townsend's Big-eared Bat that occur throughout most of Calif. Pale Big-eared Bat occurs in the southern part of the state and occupies a variety of habitats including oak woodlands, arid deserts, grasslands, and high-elevation forests and meadows. Known roosting sites in Calif. include mine tunnels, limestone caves, lava tubes, and buildings. The roosts support larger breeding colonies and are especially susceptible to disturbance.	Possible

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Scientific Name	Common Name ¹⁵	Fed. ¹⁶	State	G-Rank	S-Rank	CDFG	Habitat Requirements ¹⁷	Likelihood of Occurrence ¹⁸
<i>Euderma maculatum</i>	Spotted Bat	-	-	G4	S2S3	SC	Occupies a wide variety of habitats from arid deserts and Gr through mixed conifer forests. Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting.	Unlikely
<i>Eumops perotis californicus</i>	Western Mastiff Bat	-	-	G5T4	S3?	SC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, CSS, Gr, & Ch. An uncommon year-round resident at low elevations in California. The largest bat in North America, roosts in small colonies in crevices on cliff faces or very large boulders. This species forages over far distances from roost sites and can forage as high as 2,000 feet above ground.	Likely
<i>Puma concolor</i>	Mountain Lion	FSC	-	G5	(S3)	SC, SPM	From sea level to 10,000 feet. Typical habitat is steep, rocky canyon country, or mountainous terrain. Male territories range from 15 to 30 square miles, and females range from 5 to 20 square miles, depending on the number of young. They may hunt in a radius of 30 to 50 miles. Mountain Lion territory sometimes is not one large area, but rather several separate ones connected by pathways.	Likely
<i>Lepus californicus bennettii</i>	San Diego Black-tailed Jackrabbit	-	-	G5T3?	S3?	SC	Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges.	Possible
<i>Macrotus californicus</i>	California Leaf-nosed Bat	-	-	G4	S2S3	SC	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub & palm oasis habitats. Known to occur from Riverside, Imperial, San Diego, and San Bernardino counties south to the Mexican border. Former populations have disappeared from coastal basins, in Los Angeles to San Diego counties. Prefers to roost in caves and mines, but may also roost in bridges or buildings.	Possible
<i>Myotis yumanensis</i>	Yuma Myotis	-	-	G5	S4?	-	Optimal habitats are open forests & woodlands w/ sources of water over which to feed. A common and widespread year-round resident in Calif. Found near ponds, stream, and lakes. Roosting habitat consists of buildings, mines, caves, crevices, and under bridges.	Possible
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	-	-	G5T3?	S3?	SC	Coastal so. Calif. from San Diego to San Luis Obispo Counties. Occupies arid areas with sparse vegetation (Coastal Sage Scrub and Desert Scrub). This subspecies of Desert Woodrat is restricted to the Pacific slope in a range that stretches from SLO County to northwestern Baja Calif.	Known/ Detected: Nest observed by DMEC in the northern portion of project site.
<i>Onychomys torridus ramona</i>	Southern Grasshopper Mouse	-	-	G5T3?	S3?	SC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrubs.	Possible
INVERTEBRATES								
<i>Danaus plexippus</i>	Monarch Butterfly	-	-	G5	S3	-	Winter roost sites extend along the coast from northern Mendocino to Baja Calif., Mexico.	Possible

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OBSERVED SPECIAL-STATUS WILDLIFE SPECIES

DMEC observed three special-status wildlife species. A brief description of the special-status wildlife resources observed during the biological resources surveys are presented in the following paragraphs.

Cooper's Hawk (*Accipiter cooperii*)

Cooper's Hawk is a California Species of Concern. DMEC observed one individual Cooper's Hawk flying overhead onsite during biological surveys. This raptor has a long, rounded, and barred tail, and short rounded wings. Its back is dark gray or gray-brown, with underparts barred reddish and white. Cooper's Hawk is an uncommon year-round resident in southern California. The Cooper's Hawk prefers woodland habitats but can also be found in virtually any habitat during migration. Typical breeding habitat in southern California consists of riparian and oak woodlands, but it also nests in ornamental woodlands provided by parks and other urban habitats. This medium-sized hawk preys primarily on medium-sized birds and mammals. The project site provides suitable foraging, as well as nesting habitat for the Cooper's Hawk.

Cooper's Hawks live in dense canopied evergreen and deciduous forests or in riparian zones throughout southern Canada and the continental United States (The Peregrine Fund World Center for Birds of Prey). Declines of the Cooper's Hawk in the late 1940s and 1950s were blamed on DDT and pesticide contamination. Populations started increasing in the late 1960s, but it is still listed as threatened or of special concern in a number of states. Appears to be adapting to breeding in urban areas, which may help increase populations. (Cornell Lab of Ornithology 2003).

Barn Owl (*Tyto alba*) Nest

A Barn Owl (*Tyto alba*) was observed flying from a nest in a Coast Live Oak tree onsite in the south central portion of the project site. The nest appeared to be occupied and active. Although Barn Owl has no protection as a species, all raptor nests are protected by the California Fish and Game Code Section 3503.5. Barn Owl has a body length of 14 - 20 inches, a 3¹/₂ foot wingspan, and weighs 8 - 21 ounces. Barn Owls are nearly cosmopolitan, living in North America, South America, Europe, Africa, India, Southeast Asia, and Australia. Their northern range is limited by the severity of winter weather and food availability. These owls prefer open lowlands with some trees, including farmlands, plantations, urban areas, various forest types, semiarid shrub lands, and marshes. (The Peregrine Fund World Center for Birds of Prey.)

Oak Titmouse (*Baeolophus inornatus*)

An Oak Titmouse was also observed by DMEC in a Coast Live Oak tree onsite in the south central portion of the project site. This species is listed with a Global-rank of G5, and a State-rank of S3?. Oak Titmouse lives year-round in warm, dry, intact oak or oak-pine woodlands. Loss of natural cavities for this sedentary species is affecting populations. Oak Titmouse is brownish-gray tinged with a plain face and short crest, and measures 5.75 inches in length. Oak Titmouse gives a repeated series of three to seven syllables, each comprised of one low and one high note. Its year-round range is from southwest Oregon through California to northwestern

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Baja California, Mexico, where it breeds in low to middle elevations. Though the bird clearly prefers open oak and pine-oak woodlands, populations have adapted locally to warm, dry environments without oaks. It nests in mostly natural cavities and sometimes in old woodpecker holes. Females build nests with grass, moss, feathers, shredded bark, and other material mostly from mid-March through April. The bird requires an elevated perch from which to forage, and changes its feeding strategy to correspond with the seasons. Oak Titmouse declined 1.9% per year throughout California from 1980 through 1996. Oak Titmouse experienced a 1.6% annual decline in the California foothills from 1966 through 1996. Habitat loss from development is the greatest threat to the species. (Summarized from National Audubon Society [2002] available at: <http://audubon2.org/webapp/watchlist/viewSpecies.jsp?id=148>.)

Nuttall's Woodpecker (*Picoides nuttallii*)

A Nuttall's Woodpecker was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). This species is listed with a Global-rank of G5S?. Nuttall's Woodpecker is a small black and white woodpecker 6.75 inches in length with a black-and-white barred back, wings and outer tail. The underparts are white with spotted flanks, and the face is black and white with white patch above bill (rear crown patch is red in males). This bird is resident from northern California to Baja California. Scrub oak communities, oak woodlands, and streamside growth are the preferred habitats of this species (Field Guide to Birds of North America, 2002-2005, Mitch Waite Group, available at: http://identify.whatbird.com/obj/182/_/Nuttalls_Woodpecker.aspx). Nuttall's Woodpecker behaves like large nuthatches, foraging on the trunks and branches of oaks and other trees, creeping diagonally as they search in crevices and underneath bark. They often hang upside down under limbs as they probe for insect prey.

San Diego Desert Woodrat (*Neotoma lepida intermedia*) Nest

San Diego Desert Woodrat (*Neotoma lepida intermedia*) is a California Species of Concern. A nest of this rodent was observed by DMEC during small mammal trapping onsite, but the species was not observed nor did small mammal trapping confirm its presence except for the observation of the apparently active nest. San Diego Desert Woodrat has a compact body, long tail, large ears, and large, slightly bulging, black eyes. Their feet are strongly built for grasping. This species has a pale to dark gray wash with yellow above, light undersides, grayish to yellowish below, and gray at the base of the throat region. Their tail, over half of the body length, is distinctively bicolored. Their hind feet are white. These woodrats live in high desert areas, chaparral, sagebrush flats, and Pinyon-Juniper Woodland. San Diego Desert Woodrat is vulnerable to predation by coyotes, raccoons, owls, gopher and rattlesnakes, and hawks. Populations may be impacted by habitat loss to agricultural and urban development, isolation, fragmentation of habitats, and wildfires, especially in cactus areas. (Aquarium of the Pacific Animal Data Base 2005.)

5.6.5 APPLICABLE POLICIES AND ORDINANCES

Several policies and ordinances related to biological resources apply to the Lyons Canyon Ranch project. These are described below.

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5.6.5.1 Significant Ecological Areas

The project site is located within portions of Significant Ecological Areas (SEAs) #20 and #63 (see Exhibit 5.6-3). These SEAs were designated by the County of Los Angeles. Los Angeles County defines a SEA as ecologically important or fragile land and water areas, valuable as plant and animal communities. These areas are classified as one or more of the following:

- Habitats for rare and endangered species of plants and animals;
- Restricted natural communities – ecological areas that are scarce on a regional basis;
- Habitat restricted in distribution in the County;
- Breeding or nesting grounds;
- Unusual biotic communities;
- Sites with critical wildlife and fish value; and
- Relatively undisturbed habitat.

Significant Ecological Areas (SEAs) were established in 1980 by Los Angeles County to protect biological resources. The County initiated an evaluation of the biological conditions of these SEAs in 2000. The updated study expanded the objective of the original study (1976) to include the future sustainability of biological diversity through the application of current practices in conservation planning, primarily by consolidation into larger interconnected SEAs. SEA boundaries broadly outline the biological resources of concern. The Los Angeles County General Plan allows development in SEAs as long as development is "highly compatible" with the identified resources, as discussed below.

As indicated previously, the Lyons Canyon Ranch property contains portions of two Los Angeles County SEAs (20 and 63). Approximately 19.3 acres of the southernmost portion of the project site are designated within SEA 20, Santa Susana Mountains, and approximately 28.4 acres the project site are designated within SEA 63, Lyon Canyon. Development within or adjacent to an SEA requires specific procedures and reporting before considering any approval of proposed development.

Los Angeles County provides SEA design compatibility criteria for development proposed within an SEA (listed under Los Angeles County Code Section 22.56.215, F2) that are intended to preserve the quality and integrity of SEAs. County compatibility criteria apply to this project. A detailed biota study and report (DMEC 2006), and a constraints analysis (DMEC 2005), are required for development applications within an SEA. The study must show how the project would meet the design compatibility criteria. These SEA design compatibility criteria applicable to projects within the County are as follows:

“VII. A. The report must include a discussion of how the project is consistent with the SEA CUP compatibility criteria (LA County Code Section 22.56.215, F2).

1. Development is designed to be highly compatible with biotic resources present, including setting aside appropriate and sufficient undisturbed areas, and
2. Development is designed to maintain water bodies, watercourses, and their tributaries in a natural state, and
3. Development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state, and

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4. Development retains sufficient natural vegetative cover and/or open spaces to buffer critical resource areas from the development, and
5. Roads and utilities serving the development are located and designed so as not to conflict with critical resources, habitat areas, or migratory paths.”

The Lyons Canyon Ranch property contains two Los Angeles County designated SEAs: 20 and 63. The County's current General Plan update process recommends changes to the status of the SEAs. One change proposes combining SEAs 13, 14, 20, 21, 63, and 64 into one Santa Susana Mountains/Simi Hills SEA. Furthermore, the boundary of this new reformulated SEA would include the entire Lyons Canyon Ranch development site.

5.6.5.2. County of Los Angeles Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance (Los Angeles County Oak Tree Permit Regulations, Section 22.56.2050 [Date of Adoption: September 13, 1988]) has been established to recognize oak trees as significant historical, aesthetic, and ecological resources. The goal of the ordinance is to create favorable conditions for the preservation and propagation of this unique and threatened plant heritage. By making this part of the development process, healthy oak trees will be preserved and maintained. The Los Angeles County Oak Tree Ordinance applies to all unincorporated areas of the County. Individual cities may have adopted the county ordinance or their own ordinance, which may be more stringent.

Under the Los Angeles County Ordinance, a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus, which is 8 inches or more in diameter, 4½ feet above mean natural grade, or in the case of oaks with multiple trunks, a combined diameter of 12 inches or more of the two largest trunks, without first obtaining a permit. Damage includes but is not limited to: burning, trenching, excavating, paving, application of toxic substances, pruning or cutting, operation of machinery or equipment, and changing the natural grade.

Several species of oak trees are native to Los Angeles County. All oak species are covered by the oak tree ordinance. Older oak trees that have thrived under natural rainfall patterns of dry summers and wet winters often cannot tolerate the extra water of a garden setting. These trees must be treated with special care if they are to survive. Oaks that have been planted into the landscaped areas or have sprouted as volunteers tend to be more tolerant of watered landscapes. While these vigorous young trees may grow 1½ to 4 feet a year in height under good conditions, they are not as long-lived as naturalized oaks or oaks grown in a more natural setting.

5.6.5.3. State of California Oak Woodlands Legislation

Recent legislation (SB1334) adopted by the California Legislature for the preservation and conservation of oak woodlands, provided for the inclusion of §21083.4 to the Public Resources Code (CEQA Statute). The new section requires projects, for which an EIR must be prepared, and a significant impact to oak woodlands would occur, one or more of the following mitigation alternatives shall be required to mitigate the significant effects of the conversion of oak woodlands:

- Conserve oak woodlands, through the use of conservation easements.

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- Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees.
- The requirement to maintain trees pursuant to this paragraph terminates seven (7) years after the trees are planted.
- Mitigation pursuant to this paragraph shall not fulfill more than one-half of the mitigation requirement for the project.
- The requirements imposed pursuant to this paragraph also may be used to restore former oak woodlands.
- Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board. A project applicant that contributes funds under this paragraph shall not receive a grant from the Oak Woodlands Conservation Fund as part of the mitigation for the project.
- Other mitigation measures developed by the County.

Some of these mitigation measures will be applicable to the proposed project's impacts to oak woodlands.

5.6.5.4 Wetlands Regulations

Wetlands such as freshwater stream channels are considered sensitive and declining by several regulatory agencies including California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS). Waters of the State are regulated by the CDFG pursuant to Section 1600 *et seq.* of the California Fish and Game Code (Streambed Alteration Agreement). Waters of the U.S., including stream channels and wetlands, fall under the jurisdiction of the U.S. Army Corps of Engineers (Corps) and State Water Resources Control Board (SWRCB) pursuant to Sections 404 and 401 of the Clean Water Act, respectively. Certain floodways within Los Angeles County are regulated by the Los Angeles Regional Water Quality Control Board, Los Angeles County Flood Control and Conservation District.

Several agencies have jurisdiction over, or policies regarding, waters and/or wetlands, including the Corps, State Water Resources Control Board (SWRCB), CDFG, and County of Los Angeles. Each agency or jurisdiction has slightly different definitions for wetlands or descriptions of their policies regarding them. For the Lyons Canyon Ranch project, the Corps and SWRCB use the same definition for waters of the U.S. and wetlands as they apply to the Clean Water Act. The CDFG uses a broader definition under Section 1600 *et seq.* of California Fish and Game Code.

Corps Jurisdiction

Waters of the U.S., including wetlands, are under jurisdiction of the Corps pursuant the Clean Water Act, and discharging dredge or fill material into waters of the U.S. requires a permit from the Corps. Certain activities are covered under a number of General permits, known as General (Nationwide) Permits. Activities not covered by existing Nationwide Permits require an application for an individual permit from the Corps.

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The term "waters of the United States" means:

- “(1) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to 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 – where 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 recreational or other purposes;
 - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
 - (iii) Which are used, or could be used, for industrial purposes by industries in interstate commerce; or
- (4) Including all impoundments of waters, otherwise defined as waters of the U.S., under the definition;
- (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
- (6) The territorial seas; and
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.
- (8) Waters of the U.S. do not included prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.”

Basically, areas exhibiting clearly defined bed and banks of water courses with evidence of periodic or regular erosion and/or deposition by water are considered to be waters of the U.S., and are under the jurisdiction of the Corps.

CDFG Streambed Alteration Agreement

The following paragraphs are taken directly from CDFG's *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) documentation.

“The California Fish and Game Code (FGC) sections 1601-1607 establish a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources. When adverse impacts cannot be avoided, the process also ensures that adequate mitigation and/or compensation is provided for project impacts. It is the negotiation of a legally binding agreement between a project proponent and the CDFG, which contains the measures the project proponent must implement in order to avoid or

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mitigate any adverse impacts to fish and wildlife resources. The program developed by the Department, to implement this process, is generally referred to as the Streambed Alteration Agreement Program.”

“Sections 1601 and 1603 of the FGC are the primary operative sections with regards to the developing Streambed Alteration Agreements. FGC Section 1601 regulates the agreement process for projects proposed by state or local government agencies or public utilities, while Section 1603 regulates the agreement process for projects proposed by all private projects, private Timber Harvest Plans (THPs), and federal projects without a state agency sponsor.”

The Applicant will be required to apply for a Streambed Alteration Agreement, pursuant to Section 1603.

Definitions of Wetlands

The Corps (Environmental Laboratory 1987) defines wetlands as:

“Those 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. Wetlands generally include swamps, marshes, and bogs”.

Specifically, to be a wetland as defined by the Corps, the wetland must possess the following three general diagnostic environmental characteristics:

1. **Hydrophytic Vegetation.** The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions described in wetland definitions above.
2. **Hydric Soil.** Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions.
3. **Hydrology.** The area is inundated either permanently or periodically at mean water depths less than or equal to two meters (6.6 feet), or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

The California Fish and Game Commission, and the CDFG, have adopted the USFWS definition for wetlands (Lollock 1987):

“When all three indicators (i.e., hydric soils, wetland vegetation, and hydrology) are present, the presumption of wetland existence shall be conclusive. Where less than three indicators are present, policy application shall be supported by the demonstrable use of wetland areas by wetland associated fish or wildlife resources, related biological activity, and wetland habitat values. The USFWS wetland classification system should be applied by professionals trained in its methodology.”

CDFG requires that one or more positive indicators must be found for *one of the three wetland criteria* (hydrophytic vegetation, hydric soil, and/or hydrology as listed above) to be considered a jurisdictional wetland for the purpose of state regulations.

The USFWS wetland classification system (Cowardin et al. 1979) is as follows:

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“Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water, or covered by shallow water, at some time during the growing season of each year.”

Furthermore, the Keene-Nejedly California Wetlands Preservation Act of 1976, §5812 of the Public Resources Code, defines wetlands as:

“(a) ‘Wetlands’ means streams, channels, lakes, reservoirs, bays, estuaries, lagoons, marshes, and the lands underlying and adjoining such waters, whether permanently or intermittently submerged, to the extent that such waters and lands support and contain significant fish, wildlife, recreational, aesthetic, or scientific resources.”

5.6.6 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the *State CEQA Guidelines* contains the Initial Study Environmental Checklist form, which includes questions relating to biological resources. The issues presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes:

1. 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 CDFG or USFWS;
2. Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;
3. Substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Substantial Interference 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Section 15065(a), Mandatory Findings of Significance, of the *State CEQA Guidelines* states that a project may have a significant effect on the environment if, “...the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species...”.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial

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impacts would be those that would diminish, or result in the loss of, an important biological resource or those that would obviously conflict with local, State or Federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

Section 15380 of the *State CEQA Guidelines* indicates that a lead agency can consider a non-listed species to be Rare or Endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of Rare or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special-status species was considered according to the definitions for Rare and Endangered listed in Section 15380 of the *State CEQA Guidelines*.

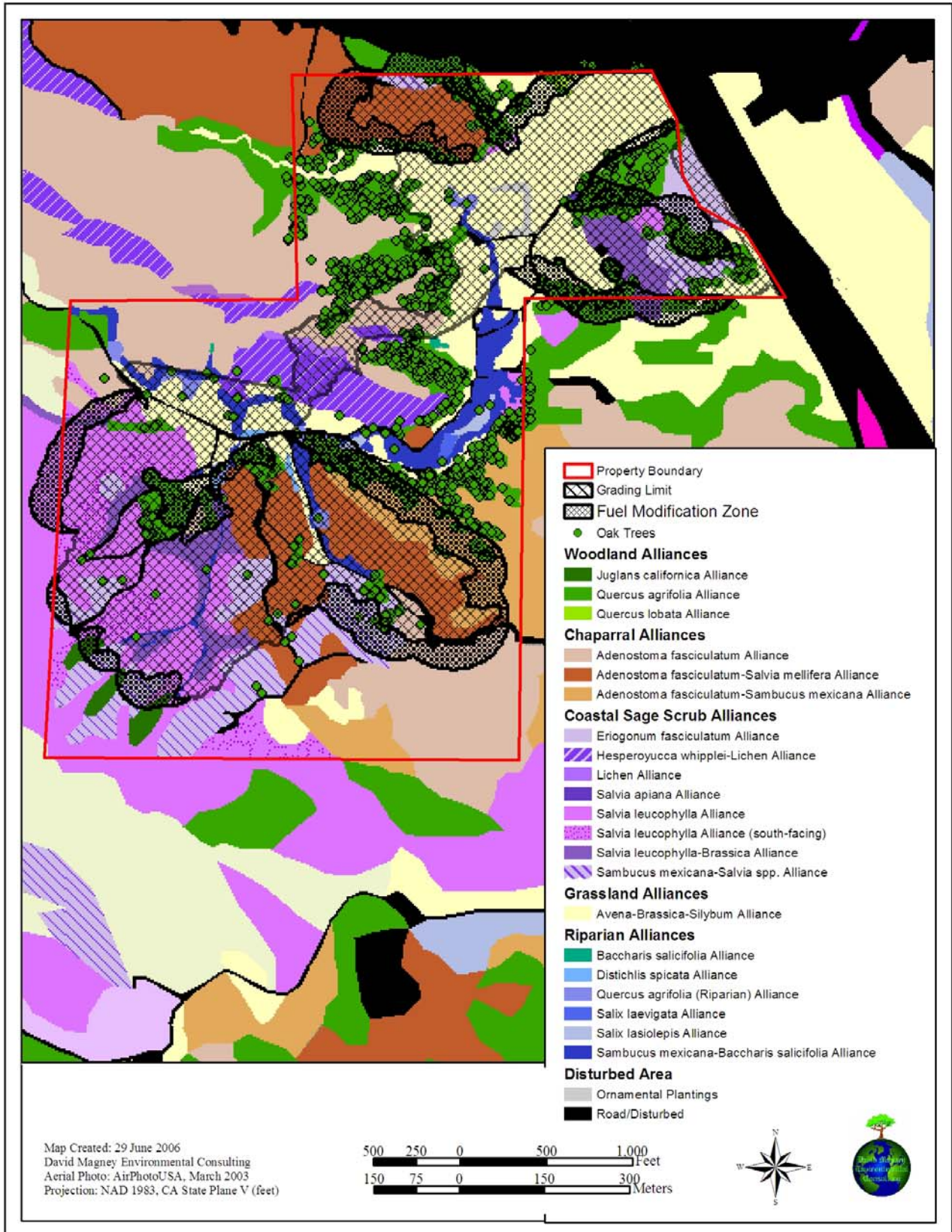
5.6.7 PROJECT RELATED IMPACTS

The project site will be mass-graded in one phase, with a total grading volume of 3.8 million cubic yards, which will be balanced on-site. The impacts of the proposed grading activities will result in several impacts, which are all addressed separately in the following subsections. Exhibit 5.6-19, Grading Impacts to Lyons Canyon Ranch Vegetation, including Trees, provides an illustration of the general impacts to the project site in terms of biological resources, such as the natural vegetation and important trees onsite. This section contains a discussion of the possible environmental effects of the proposed project for the specific issue areas that were identified, through the Initial Study process, as having the potential to experience significant impacts.

The assessment of each issue area begins with an introduction that summarizes the environmental effects considered for that issue area. This is followed by the issue area setting and impact analysis. Within each Impact Analysis, the first subsection identifies the criteria and significance thresholds. The significance thresholds are those criteria adopted by Los Angeles County or other agencies, and are universally recognized or developed specifically for impact analyses to determine whether potential effects are significant or less than significant.

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Exhibit 5.6-19. Grading Impacts to Lyons Canyon Ranch Vegetation, including Trees



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Following criteria and significance thresholds, the next subsection describes each specific impact of that issue area related to the proposed project. Each issue area impact under consideration is separately listed with a discussion of that impact. Each impact listing contains a significance determination for the environmental impact. The recommended mitigation measures (if required), the level of significance after mitigation, and the residual effects (if any), are presented after each environmental impact discussion.

A residual effect is the level of significance remaining after the implementation of the recommended mitigation measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

The impact analysis for each issue area concludes with a discussion of cumulative effects, which evaluates the impacts associated with the project in conjunction with other future development in the area. Growth-inducing impacts are also be discussed for each issue area.

5.6.7.1 Impacts and Mitigation Measures

The biological resources onsite may be directly and/or indirectly impacted by several general factors or mechanisms due to development of Lyons Canyon Ranch. Impact factors include:

- Soil integrity degradation (i.e. increased erosion, soil compaction, sedimentation, and turbidity levels);
- Vegetation damage, including sensitive/rare habitats;
- A temporary decrease in or permanent alteration of habitat (quality) for plants and wildlife that might otherwise become established or frequent the area's habitats;
- Noise and air pollution; and
- The potential for temporary or permanent damage or loss to wildlife and plant species, including special-status species.

Each of these potential impacts to the plants, wildlife, and habitats that may result from the Lyons Canyon Ranch Project contribute to the cumulative adverse affects of impacts to the total biological resources in the vicinity of the project and in the general region (Los Angeles County); however, not all of these impacts are considered *significant impacts*. If these impacts are determined to be significant, monitoring and/or mitigation measures are recommended for implementation to prevent and/or reduce potential impacts to less-than-significant levels.

Each of these identified potential impacts to the biological resources onsite are discussed further in the following subsections. Impacts are assessed for direct, indirect, and cumulative resource losses for the botanical and wildlife resources onsite. Mitigation measures are recommended for any significant adverse impacts resulting from the subject project.

Impacts to Biological Life History

DIRECT IMPACTS TO SPECIAL-STATUS PLANT SPECIES

No federally or state listed plant species were observed at Lyons Canyon Ranch; however, 27 special-status plant species have the potential to occur in the vicinity of the project site. Of these

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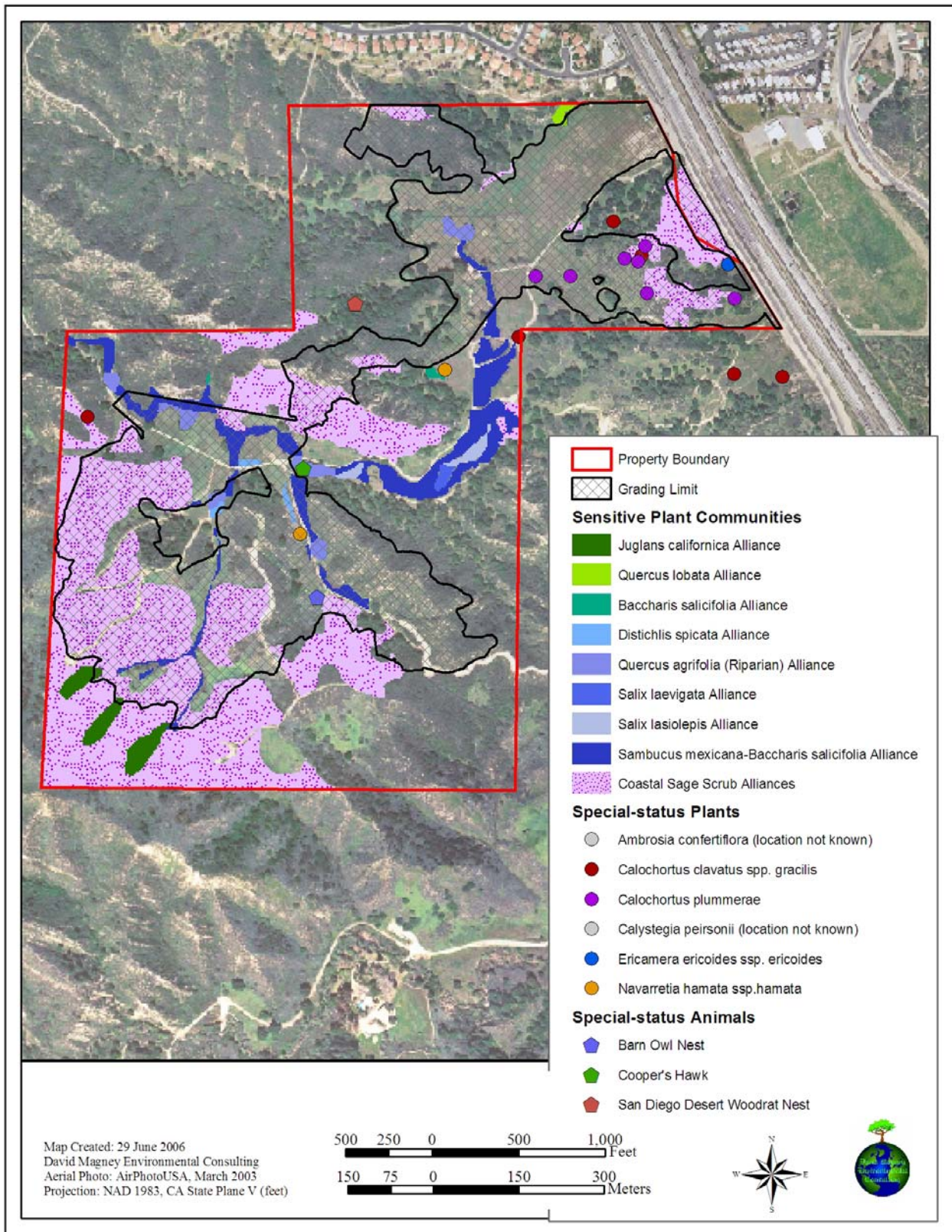
27 special-status plant species, 24 are tracked for the Lyons Canyon Ranch vicinity by CDFG's (2005) CNDDDB RareFind3, while the remaining three (3) are considered species of local concern (Boyd 1999, Magney 2001). Exhibit 5.6-20, Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch, illustrates the impacts to the special-status plant species observed onsite.

Seven (7) special-status plant species were *observed* (are known) onsite, including:

- ***Ambrosia confertiflora* (Weakleaf Burweed):** This species was observed by BonTerra Consulting onsite. No indication was provided as to the location or population size observed onsite. The population found on Lyons Canyon Ranch represents the northernmost known occurrence of *Ambrosia confertiflora* in Los Angeles County and one of only eight known populations (based on Jepson Herbarium database search) in the County. Only one (likely extirpated) population is known in Ventura County (Marr Ranch in Simi Valley – *A.C. Sanders* 22916 UCR).
- ***Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily):** This species is a CNPS List 1B species. All known occurrences are in Los Angeles County, with many locations in the Liebre Mountains. Approximately 600 individuals of *Calochortus clavatus* var. *gracilis* were observed by BonTerra Consulting and Bowland & Associates in the northeastern portion of the project site south of Lyons Ranch Road, in the middle portion of the project site on the southeast side of “Lyons Ranch Road”, and in the southeastern corner of the project site just west of The Old Road.
- ***Calochortus plummerae* (Plummer’s Mariposa Lily):** This species is a CNPS List 1B species. Twenty-six (26) individuals of *Calochortus plummerae* were observed by Bowland & Associates, and approximately 1,100 individuals were observed by BonTerra Consulting. These individuals were observed in the southeastern corner of the project site just west of The Old Road, in the mid-eastern portion of the project site, and in the northeastern portion near the intersection of The Old Road and Lyons Ranch Road.
- ***Calystegia peirsonii* (Peirson’s Morning-glory):** This species is a CNPS List 4 species. *Calystegia peirsonii* occurs in the San Gabriel and Liebre Mountains and in the Antelope Valley. It was known only from a few collections prior to 1970 (Boyd 1999), but it is now believed to be more abundant in Coastal Sage Scrub throughout the Newhall-Mint Canyon region. Occasional individuals were observed by BonTerra Consulting. No location was indicated onsite.
- ***Ericameria ericoides* ssp. *ericoides* (Mock Heather):** This species is a species of local concern (Boyd 1999, Magney 2001). *Ericameria ericoides* typically occurs along the coast, and its presence this far inland represents a significant disjunction and extralimital occurrence. One (1) individual of this species was observed by DMEC on the eastern edge of the project site, along The Old Road, growing with *Eriogonum fasciculatum* var. *fasciculatum* (California Buckwheat). It is possible that its presence along The Old Road represents a waif that was included in a hydroseed mulch applied for erosion control immediately south of Lyon Canyon, along with the non-indigenous *E. fasciculatum* at this site.

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Exhibit 5.6-20. Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch



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- ***Juglans californica* var. *californica* (Southern California Black Walnut):** This species is a CNPS List 4 species. Occasional individuals (a few small stands) were observed by BonTerra Consulting and DMEC in the southwestern corner of project site.
- ***Navarretia hamata* ssp. *hamata* (Skunk Navarretia):** This species is a species of local concern (Boyd 1999, Magney 2001). Approximately 50 individuals of *N. hamata* ssp. *hamata* were observed by DMEC near the “empty pond” in the middle portion of the project site in Ruderal Grassland Alliance. This taxon is treated as a locally rare species onsite, as it is considered a locally rare species in Ventura County (Magney 2005) and is not reported in the Liebre Mountains flora by Boyd (1999). No collections are reported this far north in Los Angeles County in the Jepson Herbarium online database for this variety.

Exhibit 5.6-20 (provided above) shows the footprint of the project in relation to the location of observed sensitive species onsite.

Six (6) of the 27 special-status plant species are *likely* to occur at Lyons Canyon Ranch. Species that are likely to occur onsite have required habitat existing at the project site and the species has been reported nearby, and they include:

- *Aster greatae* (Greata's Aster);
- *Erodium macrophyllum* (Round-leaved Filaree);
- *Horkelia cuneata* ssp. *puberula* (Mesa Horkelia);
- *Lepidium virginicum* var. *robinsonii* (Robinson's Pepper-grass);
- *Nolina cismontana* (Chaparral Nolina); and
- *Senecio aphanactis* (Rayless Ragwort).

There is potential to impact these special-status plant species that are likely to occur onsite as a result of the Lyons Canyon Ranch project.

Loss of *Ambrosia confertiflora* (Weakleaf Burweed) Plants Known Onsite

Ambrosia confertiflora was observed onsite; however, the exact location was not reported by BonTerra Consulting. The population found on Lyons Canyon Ranch represents the northernmost known occurrence of *A. confertiflora* in Los Angeles County and one of only eight known populations (based on Jepson Herbarium database search) in the County. Only one (likely extirpated) population exists in Ventura County (Marr Ranch in Simi Valley – *A.C. Sanders 22916* UCR). The loss of individual *A. confertiflora* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

BIO1 Seasonal Survey, Gather and Grow in Preserved Habitat, and Maintain and Monitor. A seasonal survey shall be conducted to account for all occurrences of this species and any other special-status plant species onsite. The survey shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. Seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating

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Ambrosia confertiflora or similar species, and grown out to 1-gallon container size. These plants shall be planted in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant impacted by the project.

Potential *Ambrosia confertiflora* mitigation areas onsite are shown on Exhibit 5.6-21, Potential Special-status Plant Species Mitigation Areas. The estimated mitigation area available for plantings of *Ambrosia confertiflora* is approximately 5.58 acres.

Seeds required for restoration plantings of *Ambrosia confertiflora*, as well as for other special-status species to be impacted onsite, shall be obtained from the native trees, shrubs, herbs, and grasses cleared from the project site during construction activities. If additional seeds are required to complete the restoration effort, seeds and/or plant material may also be salvaged from other areas of the project site. Additional seeds should only be collected from areas of the project site that are already disturbed in order to prevent any additional impacts. The seeds from preserved special-status plant species inhabiting the property shall be manually collected, without damage to the living plants or their habitats, during their appropriate seeding periods and used for planting onsite to mitigate for impacts to special-status species.

All replacement seed stock shall be obtained from the existing project site vegetation. The contractor shall provide a list of any materials that must be obtained from other than onsite sources prior to planting. Unacceptable plant material will be rejected, at the contractor's expense, by restoration specialists.

The planted plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

BIO2 Implement Conditions of Approval Related to Preserve Maintenance. The Lyons Canyon Ranch project shall provide for the establishment of a Home Owners' Association (HOA) and the preparation of Conditions, Covenants, and Restrictions (CC&Rs) prior to the recordation of the final tract map as a condition of project approval. The HOA shall be governed by CC&Rs that describe all aspects of property maintenance of common area preserves and biological resource mitigation areas under control of the HOA. The HOA shall be fully funded, pursuant to, and consistent with, the recorded CC&Rs.

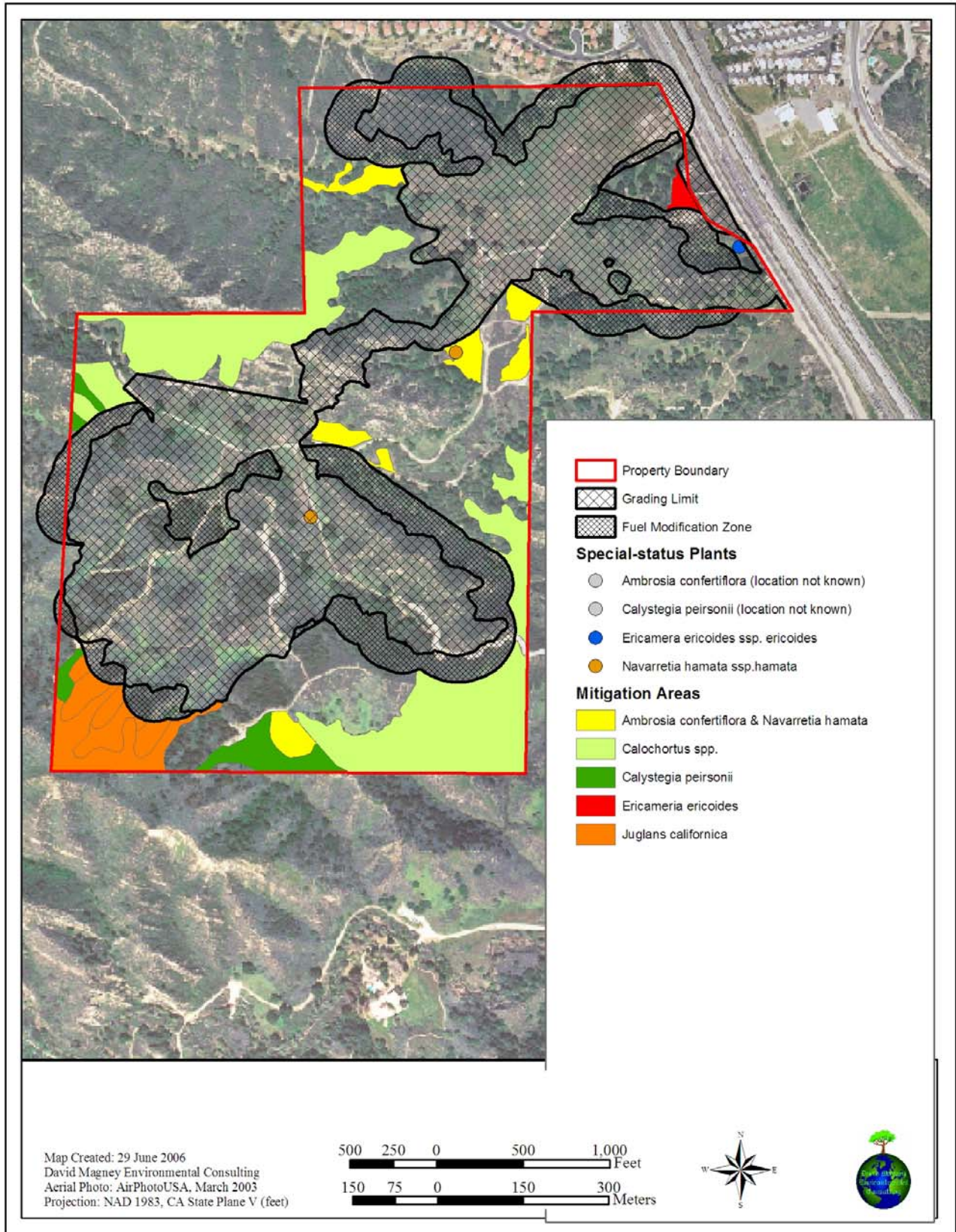
The Lyons Canyon Ranch project HOA shall maintain all common areas consistent with the applicable mitigation measures and conditions of approval adopted by the County of Los Angeles. The applicable mitigation measures and conditions of approval that fall under the responsibility of the HOA shall be explicitly specified in the CC&Rs, and shall be verified by the County of Los Angeles prior to recordation of the final tract map.

The HOA shall retain the services of a wildlands ecologist familiar with plants and wildlife native to the Santa Clarita region to provide review and approval of the specific activities of preserve parcels prior to installation consistent with the plant list approved by the County Biologist. The ecologist shall also oversee HOA maintenance staff, when performing the following maintenance, to ensure compliance with biological mitigation measures applicable to the project site:

- Fuel modification within common areas;
- Maintenance of privately owned wetlands restoration areas;
- Maintenance of common areas designated as preserves or mitigation areas; and
- Maintenance of privately owned trails.

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Exhibit 5.6-21. Potential Special-Status Plant Species Mitigation Areas



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Said landscape architect and/or HOA shall not be responsible for maintenance or oversight of activities within lands dedicated to Los Angeles County or any other agency. The HOA shall enforce the CC&Rs at all times through the terms outlined in the recorded CC&Rs.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Populations of *Ambrosia confertiflora* will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to this species. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

Loss of Special-Status *Calochortus* Species Known Onsite

Two special-status species of *Calochortus* were observed at the project site:

- *Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily): This species is a CNPS List 1B species. Approximately 600 individuals of *Calochortus clavatus* var. *gracilis* were observed by BonTerra Consulting and Bowland & Associates in the northeastern portion of the project site south of Lyons Ranch Road, in the middle portion of the project site on the southeast side of “Lyons Ranch Road”, and in the southeastern corner of the project site just west of The Old Road.
- *Calochortus plummerae* (Plummer’s Mariposa Lily): This species is a CNPS List 1B species. Twenty-six (26) individuals of *Calochortus plummerae* were observed by Bowland & Associates, and approximately 1,100 individuals were observed by BonTerra Consulting. These individuals were observed in the southeastern corner, in the mid-eastern portion, and in the northeastern portion near the intersection of The Old Road and Lyons Ranch Road.

Slender Mariposa Lily and Plummer’s Mariposa Lily are CNPS List 1B species, which are considered rare, threatened, or endangered in California and elsewhere. Impacts to these species are considered significant. These species have met the criteria of Section 15380 of the *CEQA Guidelines*, which states that species that are not formally listed by the USFWS or CDFG can be treated as if they are listed if they meet the definition of Threatened or Endangered. Impacts to a CNPS List 1B species would be considered significant depending on the size of the population located within the impact area.

The proposed project would impact several individual *Calochortus clavatus* var. *gracilis* plants, which is considered a *significant impact*.

The proposed project would impact approximately 45 individual *Calochortus plummerae* plants, which is considered a *significant impact*.

Level of Significance Before Mitigation: Slender Mariposa Lily and Plummer’s Mariposa Lily are CNPS List 1B species, which are considered rare, threatened, or endangered in California and elsewhere. Impacts to these species are considered significant. These species have met the criteria of Section 15380 of the *CEQA Guidelines*, which states that species that are not formally listed by the USFWS or CDFG can be treated as if they are listed if they meet the definition of

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Threatened or Endangered. Impacts to a CNPS List 1B species would be considered significant depending on the size of the population located within the impact area.

The proposed project would impact several individual *Calochortus clavatus* var. *gracilis* plants, which is considered a *significant impact*.

The proposed project would impact approximately 45 individual *Calochortus plummerae* plants, which is considered a *significant impact*.

Recommended Mitigation Measure:

To mitigate for the loss of several individual *Calochortus* plants, avoidance, bulb translocation, seed collection and propagation, and mitigation monitoring in protected locations are identified as four means to reduce the level of impact from significant to less than significant. This genus is not difficult to propagate from a production standpoint as long as species of *Calochortus* are not over-watered and are protected from predators (snails, slugs, birds, rabbits, and rodents) (Carol Bornstein, pers. comm. 30 January 2006).

BIO3 Supplemental Surveys. Prior to site disturbance activities associated with the proposed project, supplemental seasonal field surveys for *Calochortus plummerae* and *Calochortus clavatus* should be conducted to clearly determine and to mark off the exact locations and numbers of plants onsite in the development footprint as well as those to be preserved. Surveys should be conducted in the spring prior to construction to flag locations of *Calochortus* within and immediately adjacent to the project site. All bulbs and seeds of populations within the grading areas shall be salvaged, translocated, and planted in preserve areas. Rancho Santa Ana Botanic Garden would be an appropriate facility to conduct the translocation, storage, and ongoing propagation of these species.

Avoidance and Protection. Areas with *Calochortus* outside of the development footprint shall be avoided and preserved in perpetuity through an appropriate recordable legal instrument. The legal document shall be recorded prior to issuance of a grading permit. A qualified botanist shall survey for, and appropriately mark, all populations of *Calochortus* at Lyons Canyon Ranch that are to be avoided and preserved. Where avoidance and protection is not possible, mitigation shall be accomplished through bulb translocation and seed planting.

Bulb Translocation. A pre-construction survey during the peak flowering period, approximately March through June, shall be conducted by a qualified botanist, acceptable to the Los Angeles County Department of Regional Planning, in the areas of the project site that will be disturbed, and all individual *Calochortus* plants shall be marked for subsequent relocation. Each impacted *Calochortus* bulb shall be clearly delineated with pin flags for collection by a qualified collector. Bulbs shall be collected after the flowering period when the plants are dormant. If necessary, the bulbs could be lifted when the shoots are just breaking the soil surface; however, care should be taken not to damage the bulb itself, as well as the root mass. Any lifted bulbs with shoots would require immediate planting since they are actively growing (since they are not dormant). Where high lily concentrations exist onsite, the first ten inches of topsoil shall be moved in large blocks to the selected revegetation site. The salvaged bulbs or bulb-containing topsoil shall be translocated to an appropriate site(s) within the preserved portions of the project site.

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Seed Collection and Propagation. *Calochortus* are typically grown from seed for mitigation purposes (Carol Bornstein, pers. comm. 30 January 2006). A seasonal survey shall be conducted in suitable habitat after the flowering season to collect seeds. The survey shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. Seeds shall be collected when ripe, cleaned, stored by a qualified nursery or institution with appropriate storage facilities, and transferred to a native plant nursery experienced with propagating *Calochortus* species and grown out to 1-gallon container size. The best time to sow seed is in the fall in conjunction with the onset of rain. *Calochortus* usually takes at least three (3) years to achieve flowering size, depending upon the species (Carol Bornstein, pers. comm. 30 January 2006). These plants shall be planted in suitable preserved habitat onsite at a ratio of 10 plants for every 1 plant impacted by the project. The propagated plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

Determine Final Mitigation Sites. A site analysis plan must be conducted to determine potential planting areas and to identify the most appropriate mitigation site(s) acceptable to the Los Angeles County Department of Regional Planning, which should be conducted prior to bulb collection. A detailed mitigation plan shall be prepared and submitted to the appropriate agency(ies) for review prior to implementation. The plan must be prepared by a qualified botanist as determined by Los Angeles County Director of Planning. Potential mitigation areas for *Calochortus* species onsite are shown above on Exhibit 5.6-21, Potential Special-status Plant Species Mitigation Areas. The estimated mitigation area available for relocation and plantings of *Calochortus* is approximately 28.53 acres.

Prepare Detailed Mitigation Plan. Following seed and bulb collection, the *Calochortus* shall be relocated into a suitable mitigation site in the undeveloped portion of the project site, or in an adjacent undeveloped acreage that shall be preserved in perpetuity. A qualified botanist shall be selected by the applicant that is acceptable to the County to prepare and implement a detailed mitigation plan, which shall include the following requirements:

- ◆ Following collection, seeds and bulbs shall be stored by a qualified nursery, or by an institution with appropriate storage facilities. Then, the upper 12 inches of topsoil from the *Calochortus* locations shall be scraped, stockpiled, and re-spread at the selected mitigation site(s).
- ◆ The mitigation site(s) shall be located in dedicated open space on the project site, or at an appropriate offsite location acceptable to the County. The site shall be selected based on the species habitat requirements and to promote growth of the individual plantings and the population as a whole.
- ◆ The mitigation site(s) shall be prepared for seeding and bulb planting as described in a detailed restoration plan.
- ◆ The topsoil shall be re-spread in the selected location as approved by the project biologist. Approximately sixty percent (60%) of the seeds and bulbs shall be planted in the site during the fall, following soil preparation. Forty percent (40%) of the seeds and bulbs shall be kept in storage by a qualified nursery for subsequent seeding, if necessary.
- ◆ A detailed maintenance and monitoring plan for the mitigation site shall be developed by a qualified botanist prior to issuance of the grading permit. The plan shall include

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descriptions of maintenance activities appropriate for the site, monitoring requirements, and annual reporting requirements. The project botanist shall have the full authority to suspend any operation on the project site that is directly impacting *Calochortus* plants outside the approved development footprint, and to suspend any activity related to the *Calochortus* plants that is not consistent with the restoration plan. Any dispute regarding the consistency of an action with the restoration plan shall be resolved by the applicant and the County of Los Angeles Department of Regional Planning.

- ◆ The performance criteria developed in the maintenance and monitoring plan shall include requirements for a minimum of 60 percent germination of the amount of plant material collected and transferred to the mitigation site. This assumes that there will be a 40% mortality of the bulbs and seed plantings. The performance criteria should also include percent cover created by the established plants, density, and seed production requirements, and shall be developed by the project botanist following habitat analysis of an existing high-quality lily habitat. Performance monitoring shall be conducted by a qualified botanist.
- ◆ If the seed germination and bulb sprouting goal of 60 percent is not achieved following the first season, remediation measures shall be implemented prior to planting with the remaining 40 percent of collected seeds and bulbs. Remedial measures shall include at a minimum: soil testing and amendments, control of invasive species, and physical disturbance of the planted areas by raking (or similar actions) to provide scarification of the seed.
- ◆ Potential seed sources from donor sites shall also be identified in case it becomes necessary to collect additional seeds for use on the site, following performance of remedial measures.
- ◆ Site shall be maintained for five years to ensure *Calochortus* populations are self-sustaining.

Implementing Mitigation Measure **BIO1 and BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Populations of *Calochortus* species will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to each species impacted. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

Loss of *Calystegia peirsonii* (Peirson's Morning-glory) Plants Known Onsite

Calystegia peirsonii (Peirson's Morning-glory) was observed onsite; however, the exact location was not reported by BonTerra Consulting. This species is a CNPS List 4 species and considered to have limited distribution.

The loss of individual *Calystegia peirsonii* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

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Recommended Mitigation Measure:

Implementing Mitigation Measure **BIO1** and **BIO2** will mitigate for this impact. Potential *Calystegia peirsonii* mitigation areas onsite are shown above on Exhibit 5.6-21, Potential Special-status Plant Species Mitigation Areas. The estimated mitigation area available for plantings of *Calystegia peirsonii* is approximately 3.50 acres.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Populations of *Calystegia peirsonii* will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to this species. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

Loss of *Ericameria ericoides* ssp. *ericoides* (Mock Heather) Plants Known Onsite

This species is a species of local concern (Boyd 1999, Magney 2001). *Ericameria ericoides* ssp. *ericoides* typically occurs along the coast, and its presence this far inland represents a significant disjunction and extralimital occurrence. One (1) individual of this species was observed by DMEC on the eastern edge of the project site, along The Old Road, and is likely to be lost as a result of the project. The loss of individual *E. ericoides* ssp. *ericoides* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of the same methods as described for **BIO1** and **BIO2** will mitigate for impacts to *Ericameria ericoides* ssp. *ericoides*. Potential *Ericameria ericoides* ssp. *ericoides* mitigation areas onsite are shown above on Exhibit 5.6-21, Potential Special-status Plant Species Mitigation Areas. The estimated mitigation area available for plantings of *Ericameria ericoides* ssp. *ericoides* is approximately 0.54 acre.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Populations of *Ericameria ericoides* ssp. *ericoides* will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to this species. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

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Loss of *Juglans californica* var. *californica* (Southern California Black Walnut) Plants Known Onsite

Juglans californica var. *californica* (Southern California Black Walnut) was observed onsite. This species is a CNPS List 4 species and considered to have limited distributions. Southern California Black Walnut Woodland is considered a sensitive plant community. The proposed project would impact approximately 15 trees of Southern California Black Walnut, which makes up approximately 0.50 acre of *Juglans californica* Alliance (including the loss of 0.08 acre resulting from direct grading impacts and the loss of an additional 0.42 acre resulting from indirect fuel modification impacts).

The loss of 0.50 acre of *Juglans californica* Alliance, including the loss of approximately 10 individual Southern California Black Walnut trees, is considered a *significant impact*.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

BIO4 Plant *Juglans californica* var. *californica* Onsite. To mitigate for the loss of 0.50 acre of *Juglans californica* Alliance, including the loss of approximately 10 individual Southern California Black Walnut trees, plant locally indigenous seeds (walnuts) of *Juglans californica* var. *californica* in a designated mitigation site. *Juglans californica* var. *californica* fruit (walnuts) shall be collected from locally indigenous (onsite) sources. Seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating *Juglans californica*, and grown out to 1-gallon container size, preferably in liners rather than 1-gallon pots. Seeds are a viable source for mitigation; however, nursery-grown plantings should have higher success. These plants shall be planted in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant impacted by the project. Since approximately 10 individuals of this species will be impacted from the project, at least 100 trees will be required to mitigate for this species. The seedlings should be monitored and irrigated on a regular basis to ensure survival. *Juglans californica* can also be grown from mature stem cuttings and sprouted in a greenhouse. Rooted cuttings can then be planted at the mitigation site(s). Planting should occur on one or more of the preserve areas onsite on a north-facing slope adjacent to Coast Live Oak Woodland areas. With proper maintenance and monitoring, the impacts should be fully mitigable. No sensitive habitat shall be impacted during *Juglans* mitigation efforts. The planted plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

Potential *Juglans californica* var. *californica* mitigation areas onsite are shown above on Exhibit 5.6-21, Potential Special-status Plant Species Mitigation Areas. The estimated mitigation area available for plantings of *Juglans californica* var. *californica* is approximately 6.96 acres.

Implementing Mitigation Measure **BIO1** and **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

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Cumulative Impacts:

Populations of *Juglans californica* var. *californica* will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to this species. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

Loss of *Navarretia hamata* ssp. *hamata* (Skunk Navarretia) Plants Known Onsite

This species is a species of local concern (Boyd 1999, Magney 2001). Approximately 50 individuals of *Navarretia hamata* ssp. *hamata* were observed by DMEC near the “empty pond” in the middle portion of the project site in Ruderal Grassland Alliance. Of the 50 individuals observed onsite, approximately 10 individuals of this species will be lost due to project construction. This taxon is treated as a locally rare species onsite, as it is considered a locally rare species in Ventura County (Magney 2005) and is not reported in the Liebre Mountains flora by Boyd (1999). No collections are reported this far north in Los Angeles County in the Jepson Herbarium online database for this variety. The loss of individual *N. hamata* ssp. *hamata* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of the same methods as described for **BIO1 and BIO2** will mitigate for impacts to *Navarretia hamata* ssp. *hamata*. Twenty (20) plantings of *N. hamata* ssp. *hamata* will be required to mitigate impacts to this species onsite. Potential *N. hamata* ssp. *hamata* mitigation areas onsite are shown above on Exhibit 5.6-21, Potential Special-status Plant Species Mitigation Areas. The estimated mitigation area available for plantings of *N. hamata* ssp. *hamata* is approximately 5.58 acres.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Populations of *N. hamata* ssp. *hamata* will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to this species. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

Loss of Rare Plants Potentially Occurring Onsite

Several special-status plant species are likely to occur onsite but have not been detected during the field surveys conducted onsite. The rare plant species that are likely to occur onsite include: *Aster greatae*, *Erodium macrophyllum*, *Horkelia cuneata* ssp. *puberula*, *Lepidium virginicum* var. *robinsonii*, *Nolina cismontana*, and *Senecio aphanactis*. Since it is likely for these plants to be present, impacts to them would be considered significant.

Level of Significance Before Mitigation: Potentially Significant

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Recommended Mitigation Measure:

BIO5 Conduct Survey, Propagate Seeds, and Plant Onsite. Since the location or presence of the rare plant species likely to occur onsite is not known, seasonal surveys shall be conducted in suitable habitat when positive identifications can be made. The surveys shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. If any of these plants are found to be within the project impact area, then seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating sensitive or similar species, and grown out to 1-gallon container size. These plants shall be propagated in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant of each species impacted by the project.

The mitigation plantings shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County. Seeding may require several seed sowing events to establish viable reproducing populations at the mitigation site.

Implementing Mitigation Measure **BIO1** and **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: If any likely special-status plant species are found onsite, the significance after mitigation would be *significant* if replanting efforts are not successful. If any likely special-status plant species are not found, impacts would be *less than significant*.

Cumulative Impacts:

The plant species with high potential to occur onsite include: *Aster greatae*, *Erodium macrophyllum*, *Horkelia cuneata* ssp. *puberula*, *Lepidium virginicum* var. *robinsonii*, *Malacothamnus davidsonii*, *Nolina cismontana*, and *Senecio aphanactis*. Continued losses of populations and individuals of these species contribute to the cumulative loss of rare species regionally and statewide. If these special-status plant species that are likely to occur onsite are indeed impacted by the proposed project, and mitigation fails, the loss of individuals and populations of these species would contribute to the cumulative impact to these special-status plants species and would represent a cumulative significant impact. Therefore, impacts to special-status plant species potentially onsite is considered *cumulatively potentially significant*.

INDIRECT IMPACTS TO SPECIAL-STATUS PLANT SPECIES

Impacts of Increased Dust and Urban Pollutants on Special-Status Plant Species

Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees, shrubs, and herbs. The respiratory function of the plants in the area would be impaired when dust accumulation is excessive. Dust that coats the leaves of plants has the potential to decrease plant vigor substantially, resulting in a decrease in habitat structure, diversity, and function. These adverse impacts could reduce any current native vegetation below self-sustaining levels onsite. Therefore, the indirect effect of project construction on the native vegetation in the immediate vicinity of the construction area would be *significant* and would require mitigation

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Additional impacts on the biological resources in the area could occur as a result of changes in water quality and water velocity. Urban runoff from the proposed development site, containing petroleum residues and the improper disposal of petroleum and chemical products from construction equipment (temporary) or residential areas (i.e. cars, improper disposal of chemicals) (permanent), could have the potential to adversely affect water quality. Negatively affected water quality in turn could affect populations of aquatic species (fish and amphibians), as well as those that use riparian areas (amphibians, reptiles, birds, and mammals) onsite and in downstream (offsite) habitats. Water quality could also be adversely affected by runoff of nutrients from urban development. These impacts are considered *potentially significant*.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO6 Apply for 401 Certification. Prior to the issuance of a grading permit, the project applicant shall apply for and obtain coverage under the California Regional Water Quality Control Board's general permit for storm water discharge associated with construction activity and shall comply with all the provisions of the permit, including the development of a storm water pollution prevention plan, which includes provisions for the implementation of best management practices and erosion control measures. Best management practices shall include both structural and non-structural measures.

Implementing Mitigation Measures **AQ1 through AQ4** (Mitigation Measures for Dust Control), in the Air Quality section of this EIR, will also mitigate for this impact.

BIO7 Implement Conditions of Approval Related to Landscaping. The Lyons Canyon Ranch project shall provide for the establishment of a Home Owners' Association (HOA) and the preparation of Conditions, Covenants, and Restrictions (CC&Rs) prior to the recordation of the final tract map as a condition of project approval. The HOA shall be governed by CC&Rs that describe all aspects of property maintenance of common area landscape, and the overall regulation of aesthetics for the property grounds and buildings. The HOA shall be fully funded, pursuant to, and consistent with, the recorded CC&Rs.

The Lyons Canyon Ranch project HOA shall maintain all common areas, that are routinely maintained, consistent with the applicable mitigation measures and conditions of approval adopted by the County of Los Angeles. The applicable mitigation measures and conditions of approval that fall under the responsibility of the HOA shall be explicitly specified in the CC&Rs, and shall be verified by the County of Los Angeles prior to recordation of the final tract map.

The HOA shall retain the services of a licensed landscape architect familiar with plants native to the Santa Clarita region to provide review and approval of the landscaping of individual parcels prior to installation consistent with the plant list approved by the County Biologist. The landscape architect shall also oversee HOA maintenance staff, when performing the following maintenance, to ensure compliance with biological mitigation measures applicable to the project site:

- Fuel modification within common areas;
- Maintenance of street or roadway landscaping;

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- Maintenance of parks;
- Maintenance of landscaped common areas; and
- Maintenance of roadway landscaping.

Said landscape architect and/or HOA shall not be responsible for maintenance or oversight of activities within lands dedicated in fee title to Los Angeles County or any other agency. The HOA shall enforce the CC&Rs at all times through the terms outlined in the recorded CC&Rs.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts: Less Than Significant

Impacts of Invasive Exotic Plant Species Introduction into Natural Plant Communities

The proposed project will include landscaping adjacent to the natural vegetation. The landscaping may include ornamental species that are known to be particularly invasive. Subsequent homeowners may also plant invasive plant species in their yards. Seeds or propagules from invasive planted species may escape to natural areas and degrade the native vegetation, particularly along downstream riparian areas. These impacts would be considered *adverse* and *potentially significant* considering the two SEAs on the project site.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO8 Submit Project Landscape Design Submitted for County Approval. Project landscape design shall be submitted to the County for review and approval by a qualified botanist. The review shall ensure that no invasive, exotic plant species such as those listed in the CNPS and California Invasive Plant Council 1999 List (CalIPPC 1999) and subsequent (draft) list for 2005 are used in any proposed landscaping, and that suitable substitutes are proposed. Only locally indigenous native species shall be used in landscaping along a boundary bordering open space/SEA. Native plants used shall include coastal sage scrub, chaparral, and woodland species that currently occur on the project site.

BIO9 Comply with CC&R Landscape Plan Review. The CC&Rs for the homes shall prohibit planting any invasive exotic species listed by either CNPS or CalIPPC. Homeowner landscaping plans shall be submitted to the landscape architect for review and approval consistent with this requirement as described in the CC&Rs. The review shall ensure that no invasive exotic plant species are planted onsite in order to reduce the chance of inadvertent introductions or escapes of invasive exotic species into native habitats, including bordering open space areas and SEAs.

Implementing Mitigation Measure **BIO7** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

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Cumulative Impacts: Less Than Significant

IMPACTS TO GENERAL WILDLIFE SPECIES

The identified potential impacts to wildlife species, as a result of the Lyons Canyon Ranch project, include the following:

- Permanent loss of, or temporary impacts to, any aquatic or terrestrial wildlife species, due to the use of heavy equipment and temporary streambed alteration at the project site;
- Disturbance of breeding and nesting activities of various songbirds and fall migratory birds depending on the timing of construction; and
- Permanent or temporary impacts to any terrestrial wildlife due to temporary or long-term alteration of aquatic habitat; temporary loss of foraging and cover habitat; and temporary reductions in food sources for aquatic, semi-aquatic, and terrestrial wildlife species.

Loss of and Disturbance to Aquatic/Semi-Aquatic Wildlife During Construction

Aquatic wildlife are not present onsite for most of the year; however, these resources may be present when water is flowing in Lyon Canyon Creek and its tributaries during the winter and early spring months. The potential for harm to, or permanent loss of, aquatic wildlife species is high since portions of the drainages onsite will be filled during construction activities associated with the development of Lyons Canyon Ranch. Permanent and temporary streambed alterations and filling by heavy equipment, in an active stream channel, create potential for increased erosion, sedimentation, and water turbidity levels, and it reduces the ecological integrity of an otherwise functional Riverine habitat.

The potential for impacts to aquatic wildlife species inhabiting the Riverine and Palustrine habitats onsite may increase in significance if project construction is conducted during seasons of peak channel flows. If construction activities are performed in the presence of active flows, several additional issues - including soil compaction, new channel morphology, potential for increased channel sedimentation and deposition, increased water turbidity levels, and increased erosion due to unstable bank soils - need to be addressed in order to ensure that as much of the aquatic and riparian habitats as possible remains intact and sustainable after construction activities have ceased.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO10 Implement BMPs. In order to minimize impacts to aquatic (Riverine) habitat and aquatic wildlife due to alteration of the Riverine habitat onsite, the construction activities shall be conducted during times of no active channel flows (during the dry season, generally June through October). However, if construction must be conducted while active flows are present within the Riverine system, these measures shall be implemented to minimize impacts:

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- Equipment contact with the active channel should be minimized to a maximum extent possible, and equipment should only enter the active channel within the permitted and demarcated areas;
- Flows should be diverted from the work area prior to initializing work;
- Sedimentation barriers should be installed downstream of any work areas within the active channel and should be maintained frequently to ensure they are working properly;
- Exposed groundwater should be allowed to settle behind a downstream diversion berm prior to discharge to the primary flow channel;
- Turbidity levels should be monitored and minimized to levels consistent with the project's RWQCB General Permit for stormwater discharge requirements (no greater than a 20% increase in turbidity downstream of the work areas); and
- All foreign materials and litter should be removed from the channel, including but not limited to trash, concrete, metal, fencing, rebar, Styrofoam, plastic, and any dumped materials.

BIO11 Pre-construction Surveys and Relocation. Prior to grading or site-clearing activities, a qualified biologist shall survey the construction areas of the site to determine if wildlife species are foraging, frequenting, or nesting on or adjacent to the construction areas. If any wildlife species are observed foraging, frequenting, or nesting during construction activities, the wildlife biologist shall allow the wildlife species to escape or shall relocate the wildlife species to a preserved area with similar required habitat.

Implementing Mitigation Measure **BIO6** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Wetland habitats impacted by the proposed project will be mitigated onsite through onsite habitat restoration and enhancement. Successful implementation of the recommended mitigation measures should avoid any cumulative project-related impacts to aquatic wildlife or degradation of instream habitats. Therefore, the cumulative loss of aquatic/semi-aquatic wildlife is considered a *cumulatively less than significant* impact.

Loss of and Disturbance to Amphibian Wildlife During Construction

Amphibian wildlife are present onsite year-round, and are most active when flows are present onsite. The potential for harm to, or permanent loss of, amphibian wildlife species is high since portions of the drainages onsite will be filled during construction activities associated with the development of Lyons Canyon Ranch. Permanent and temporary streambed alterations and filling by heavy equipment creates potential for increased erosion, sedimentation, and water turbidity levels, and it reduces the ecological integrity of an otherwise functional riparian habitat.

Level of Significance Before Mitigation: Potentially Significant

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Recommended Mitigation Measure:

Implementing Mitigation Measures **BIO6, BIO10, and BIO11** will mitigate for this impact,

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

The cumulative loss of amphibians globally has been an issue of concern to biologists. Habitat for amphibians has decreased significantly in Los Angeles County since European colonization and urban development has increased in the last decade in the Santa Clarita Valley region. Currently proposed and permitted projects will further reduce habitat in the near future. The cumulative loss of amphibians and amphibian habitats would contribute to the incremental and cumulative loss of amphibian wildlife, and is considered a *cumulatively potentially significant* impact.

Loss of and Disturbance to Reptile Wildlife During Construction

Reptile wildlife species are present year round. Species of reptile onsite utilize all habitats existing onsite, especially oak woodland, chaparral, Coastal Sage Scrub, and riparian communities. The potential for harm to, or permanent loss of, reptile wildlife is high since portions of these habitats onsite will be graded during construction activities associated with the development of Lyons Canyon Ranch. Permanent and temporary natural habitat alterations and filling by heavy equipment creates potential for loss of individuals as well as a loss of habitat required by these species.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Implementation of **BIO11** should mitigate for project-related impacts to reptile wildlife during construction.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Habitat for reptiles has decreased significantly in Los Angeles County since European colonization and urban development has increased in the last decade in the Santa Clarita Valley region. Currently proposed and permitted projects will further reduce habitat in the near future; however, since a majority of the land within the region is preserved, and a majority of the project site habitat will be preserved, the cumulative impact to common reptile wildlife is considered *less than significant*.

Loss of and Disturbance to Breeding and Nesting Birds During Construction

The potential for temporary harm to, or permanent loss of, observed and expected **breeding birds** within the project area still exists, especially with use of heavy equipment during

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construction. For example, birds (migratory or nesting birds) may be harmed or lost due to vegetation clearing with the use of heavy equipment or brush clearing. Take (killing, disturbance, harassing, etc.) of active bird nests is prohibited by California Fish and Game Code Section 3503, and migratory birds are protected by the Migratory Bird Treaty Act.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO12 Comply with Migratory Bird Treaty Act. To avoid violating the Migratory Bird Treaty Act or Fish and Game Code §3503, a qualified ornithologist shall survey the construction site(s) two weeks prior to initiation of site disturbance to identify any nests of birds that would be directly or indirectly affected by the construction activities. Bird nesting typically occurs from February through August. Some bird species nest outside this period. To protect any active nest sites, the following restrictions on construction are required between February and August (or until nests are no longer active as determined by a qualified biologist). Clearing limits shall be established a minimum of 300 feet in any direction from any occupied nest (or as otherwise deemed appropriate by the monitoring biologist). Access and land surveying shall not be allowed within 100 feet of any occupied nest (or as otherwise deemed appropriate by the monitoring biologist). Onsite nests shall be avoided until vacated. Any encroachment into the 300/100-foot-buffer area around the known nest shall only be allowed if it is determined by a qualified biologist that the proposed activity would not disturb the nest occupants. Construction during the non-nesting season shall occur at the sites only if a qualified biologist has determined that fledglings have left the nest. Occupied nests adjacent to the construction site(s) may need to be avoided for short durations to ensure nesting success. Any nest permanently vacated for the season need not be protected.

Implementing Mitigation Measure **BIO11** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Habitat for nesting birds has decreased significantly in Los Angeles County since European colonization and urban development has increased substantially in the last decade in the Santa Clarita Valley region. The loss of unoccupied individual bird nests (other than raptor nests) and nesting habitat is considered a less-than-significant impact; however, the loss of an occupied nest is considered a significant impact. Currently proposed and permitted projects will further reduce existing bird nests and habitat for nesting birds in the near future. The cumulative loss of bird nests and nesting habitat would contribute to the incremental and cumulative loss of such habitat, and is considered a *cumulatively potentially significant* impact.

Loss of and Disturbance to Mammal Wildlife During Construction

Vegetation clearing and grading activities will result in the loss of or harm to mammal species that cannot escape the project site. In particular, small (burrowing) mammals hide in shrubs and herbaceous vegetation or in holes when threatened, and may be harmed during vegetation

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clearing activities. However, larger mammals will flee the area due to construction preparation activities and the mere presence of human beings. Assuming the adjacent habitats are fully occupied, those wildlife species that escape harm from heavy equipment have a high potential for death because of competition with other mammals occupying the habitats the refugees invade.

Level of Significance Before Mitigation: Potentially Significant.

Recommended Mitigation Measure:

Implementation of **BIO11** should mitigate for project-related impacts to mammal wildlife during construction.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

Habitat for mammals has decreased significantly in Los Angeles County since European colonization and urban development has increased in the last decade in the Santa Clarita Valley region. Currently proposed and permitted projects will further reduce habitat in the near future; however, since a majority of the land within the region is preserved, and a majority of the project site habitat will be preserved, the cumulative impact to common mammal wildlife is considered *cumulatively less than significant*.

DIRECT IMPACTS TO SPECIAL-STATUS WILDLIFE SPECIES

The identified potential impacts to special-status wildlife species, as a result of the Lyons Canyon Ranch project, include those listed above in Impacts to General Wildlife Species.

Sixty (60) special-status wildlife species have the potential to occur on Lyons Canyon Ranch, based on known occurrences in the vicinity of the project site (refer to Table 5.6-12, Special-Status Wildlife Species with Potential to Occur at Lyons Canyon Ranch). No federal or state listed wildlife species were observed at Lyons Canyon Ranch; however, four special-status wildlife species were observed or detected onsite or immediately adjacent to the project site. Three special-status wildlife species were observed or detected by DMEC, including: Cooper's Hawk (*Accipiter cooperi*) flying overhead, San Diego Desert Woodrat (*Neotoma lepida intermedia*) detected by a nest, and Oak Titmouse (*Baeolophus inornatus*). The fourth species, Nuttall's Woodpecker (*Picoides nuttallii*), was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). It should also be noted that DMEC observed an occupied Barn Owl (*Tyto alba*) nest in Coast Live Oak (*Quercus agrifolia* ssp. *agrifolia*) onsite.

The observed special-status wildlife species are described briefly below:

- **Cooper's Hawk (*Accipiter cooperii*):** Cooper's Hawk is a California Species of Concern. DMEC observed one individual Cooper's Hawk flying overhead onsite during biological surveys. The project site provides suitable foraging as well as nesting habitat for the Cooper's Hawk. Declines of the Cooper's Hawk in the late 1940s and 1950s were blamed on DDT and pesticide contamination. Populations started increasing in the late

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1960s, but it is still listed as threatened or of special concern in a number of states. (Cornell Lab of Ornithology 2003.)

- **Barn Owl (*Tyto alba*) Nest:** A Barn Owl (*Tyto alba*) was observed flying from a nest in a Coast Live Oak tree onsite in the southeastern portion of the project site. The nest appeared to be occupied and active. Although Barn Owl has no protection as a species, all raptor nests are protected by the California Fish and Game Code Section 3503.5.
- **Oak Titmouse (*Baeolophus inornatus*):** An Oak Titmouse was also observed by DMEC in a Coast Live Oak tree onsite in the south central portion of the project site. This species is listed with a Global-rank of G5, and a State-rank of S3?. Though the bird clearly prefers open oak and pine-oak woodlands, populations have adapted locally to warm, dry environments without oaks. Oak Titmouse declined 1.9% per year throughout California from 1980 through 1996. Oak Titmouse experienced a 1.6% annual decline in the California foothills from 1966 through 1996. Habitat loss from development is the greatest threat to the species. (National Audubon Society [2002] available at: <http://audubon2.org/webapp/watchlist/viewSpecies.jsp?id=148> 2002 by.)
- **Nuttall's Woodpecker (*Picoides nuttallii*):** A Nuttall's Woodpecker was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). This species is listed with a Global-rank of G5S?. Scrub oak communities, oak woodlands, and streamside growth are the preferred habitats of this species (Field Guide to Birds of North America, 2002-2005, Mitch Waite Group, available at: http://identify.whatbird.com/obj/182/_/Nuttalls_Woodpecker.aspx).
- **San Diego Desert Woodrat (*Neotoma lepida intermedia*):** This species is a California Species of Concern. A nest of this rodent was observed by DMEC during small mammal trapping onsite. Populations may be impacted by habitat loss to agricultural and urban development, isolation and fragmentation of habitats, and wildfires, especially in cactus areas (Aquarium of the Pacific Animal Data Base).

Temporary harm to, or permanent loss of, any special-status wildlife species observed onsite is considered a *significant impact*; therefore, all potential impacts to special-status wildlife species observed onsite should be avoided and minimized to the maximum extent possible. This project may contribute to this species' habitat destruction and fragmentation, which are ultimately responsible for the continuing decline of these sensitive species.

Exhibit 5.6-20, Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch (provided above), shows the footprint of the project in relation the location of observed sensitive species onsite.

Of the 60 special-status wildlife species tracked in the project region, 19 special-status wildlife species are *likely* to occur onsite, based on suitable required habitat present onsite, and based on the CNDDDB results for special-status wildlife species tracked in the vicinity of the project site (CDFG 2005).

The 19 special-status wildlife species *likely* to occur onsite include:

- Silvery Legless Lizard (*Anniella pulchra pulchra*);

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- Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*);
- Rosy Boa (*Charina trivirgata*);
- San Diego Banded Gecko (*Coleonyx variegates abbotti*);
- San Diego Horned Lizard (*Phrynosoma coronatum*);
- Coast Patch-nosed Snake (*Salvadora hexalepis virgultea*);
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*);
- Grasshopper Sparrow (*Ammodramus savannarum*);
- Bell's Sage Sparrow (*Amphispiza belli* ssp. *belli*);
- Long-eared Owl (*Asio otus*);
- Costa's Hummingbird (*Calypte costae*);
- Lawrence's Goldfinch (*Caroluelis lawrencei*);
- Lark Sparrow (*Chondestes grammacus*);
- Northern Harrier (*Circus cyaneus*);
- Loggerhead Shrike (*Lanius ludovicianus*);
- California Thrasher (*Toxostoma redivivum*);
- Ring-tailed Cat (*Bassariscus astutus*);
- Western Mastiff Bat (*Eumops perotis californicus*); and
- Mountain Lion (*Puma concolor*).

If these species that are likely onsite actually do occur onsite, impacts to these, or any other special-status wildlife species found to be present, would be considered a significant impact. The potential for encountering and/or impacting some of these species is low considering nature of their habits and ability to avoid being killed during construction activities. The less mobile species - such as Silvery Legless Lizard, Coastal Western Whiptail, Rosy Boa, San Diego Banded Gecko, San Diego Horned Lizard, Coast Patch-nosed Snake, and San Diego Desert Woodrat - would not likely be able to escape. Pre-construction surveys and onsite monitoring during at least initial site clearing and grading are necessary to determine presence, and implementation of avoidance measures.

Recommended Mitigation Measure:

To mitigate for potential impacts to special-status wildlife species onsite and for the loss of foraging, roosting, and nesting habitat, specific mitigation measures are recommended:

BIO13 Preconstruction Surveys and Fencing off Sensitive Areas. Prior to grading or site-clearing activities, a qualified biologist shall survey the construction areas of the site to determine if any special-status wildlife species are foraging, frequenting, or nesting on or adjacent to the construction areas. If any special-status wildlife species are observed foraging, frequenting, or nesting during construction activities, the area in which the special-status species was observed should be flagged or fenced off to protect the wildlife species. In addition, the equipment operators shall be informed of the species' presence and provided with pictures in order to help avoid impacts to this species to the maximum extent possible. As part of the environmental training, contractors and heavy equipment operators shall be provided with photographs of expected special-status wildlife species to identify them, and to avoid harming them during construction.

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BIO14 Survey for Nests and Nesting Activity. Thirty (30) days prior to the onset of construction activities, a qualified biologist shall survey within the limits of project disturbance for the presence of any active raptor and bird nests. Any nest found during survey efforts shall be mapped on the construction plans and marked on the ground. If no active nests are found, no further mitigation is required. Results of the surveys shall be provided to the CDFG. If nesting activity is present at any raptor nest site, the active site shall be protected, 100 to 300 feet away from construction activities, until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for bird species in the region of the project site normally occurs from February through August.

BIO15 Avoid Contact or Harm to Special-status Species. To avoid impacts to all special-status wildlife species observed onsite, equipment operators shall avoid contact with or harm to any special-status species and any of their sources of cover (e.g. nest, midden, burrow). If a special-status wildlife species is encountered during construction activities, it shall be allowed to escape any danger that may result from construction work, and the onsite biological monitor shall be notified in order to implement all measures necessary to protect the sensitive species.

BIO16 Replace Required Habitat of Observed Special-status Species. Existing habitat, required by observed or likely special-status wildlife species, shall be replaced, or compensated for, after all development activities have been completed, as presented below in the Mitigation for Impacts to Natural Vegetation, Including Sensitive Habitats Section. Compensation for lost habitat onsite shall be accomplished at least in part through improving habitat conditions of preserved onsite habitats, such as through removal of invasive exotic plant species and replacing them with indigenous native species. A residual impact will remain since there will be a reduction of the total area of habitat available onsite.

Implementation of Mitigation Measures **BIO11 and BIO12** described above should also mitigate project-related impacts to special-status wildlife species.

Level of Significance After Mitigation: Direct impacts to active nests would be reduced to a *less-than-significant* level. The significance after mitigation for habitat loss would be *significant and unavoidable* because approximately 118.74 acres of suitable occupied foraging and nesting habitat onsite will be permanently lost (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts). Note: suitable habitat onsite varies for each species.

Cumulative Impacts:

The direct loss of foraging and nesting habitat for the special-status wildlife species at the Lyons Canyon Ranch project site contributes to the cumulative loss of habitat for all wildlife species. Currently proposed and permitted projects will further reduce habitat in the near future. Since occupied and suitable habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain as a project-related cumulative impact, and is considered a *cumulatively significant and unavoidable impact* to special-status wildlife species inhabiting the project site.

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Loss of Cooper's Hawk (*Accipiter cooperii*) and Foraging and Nesting Habitat

Cooper's Hawk is a California Species of Concern. DMEC observed one individual Cooper's Hawk flying overhead onsite during biological surveys. The project site provides suitable foraging and/or nesting habitat for this species. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs during nesting season and this species is present. In addition, impacts to any active raptor nest (common or special-status species) would be considered a violation of the California Fish and Game Code Sections 3503, 3503.5, and 3513.

The loss of Cooper's Hawk individuals would be considered a *significant* impact if construction occurs during the nesting season and the species is present. The loss of 118.74 acres of a variety of suitable habitats (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts) for this species would also be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO12 through BIO16** (described above) should adequately mitigate project-related impacts to Cooper's Hawk, except for cumulative loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *significant and unavoidable* because approximately 118.74 acres of suitable occupied foraging and nesting habitat onsite will be permanently lost.

Cumulative Impacts:

The direct loss of foraging and nesting habitat for the Cooper's Hawk at the project site contributes to the cumulative loss of habitat for this raptor. Suitable habitat for Cooper's Hawk exists onsite, and since suitable habitat to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

Loss of Barn Owl (*Tyto alba*) Foraging and Nesting Habitat

Barn Owl was observed flying from its nest in a Coast Live Oak tree onsite. This species is not a special-status wildlife species; however, the project site provides suitable foraging and/or nesting habitat for this species. Impacts to any active raptor nest (common or special-status species) regulated by California Fish and Game Code Sections 3503, 3503.5, and 3513.

The loss of a Barn Owl **nest** would be considered a *significant* impact. The loss of habitat required by Barn Owl is a less than significant impact since Barn Owl is not a special-status species. Only its nest is regulated by the Fish and Game Code.

Level of Significance Before Mitigation: Significant (for impacted nests only)

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Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO12 through BIO16** (described above) should mitigate project-related impacts to Barn Owl.

Level of Significance After Mitigation: The significance after mitigation would be *less than significant*.

Cumulative Impacts:

The significance after mitigation would be *less than significant* because this owl species is highly adaptable and routinely utilizes man-made structures, and is little affected by human activities as long as suitable foraging habitat remains nearby. The loss of natural habitat onsite for the Barn Owl does contribute to the cumulative loss of foraging habitat; however, this is considered a *cumulatively less-than-significant* impact.

Loss of Oak Titmouse (*Baeolophus inornatus*) and Foraging and Nesting Habitat

Oak Titmouse is listed with a Global-rank of G5, and a State-rank of S3?. An Oak Titmouse was also observed by DMEC in a Coast Live Oak tree onsite in the south central portion of the project site. The project site provides suitable foraging and/or nesting Coast Live Oak Woodland habitat for this species. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs during nesting season and this species is present.

The loss of Oak Titmouse individuals would be considered a *significant* impact if construction occurs during the nesting season and the species is present. The loss of 8.79 acres of Coast Live Oak Upland Woodland and Coast live Oak Riparian Woodland habitats (resulting from direct grading impacts) for this species would also be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO12 through BIO16** (described above) should adequately mitigate project-related impacts to Oak Titmouse, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *significant and unavoidable* since 8.79 acres of Coast Live Oak Woodland and Coast live Oak Riparian Woodland habitats, which are suitable and occupied foraging and nesting habitats for Oak Titmouse, will be permanently lost.

Cumulative Impacts:

The direct loss of foraging and nesting habitat for Oak Titmouse at the project site contributes to the cumulative loss of habitat for this bird species. Suitable oak woodland habitat for Oak Titmouse exists onsite, and since suitable habitat to be preserved will be improved through

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enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of oak woodland habitat will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

Loss of Nuttall's Woodpecker (*Picoides nuttallii*) and Foraging and Nesting Habitat

Nuttall's Woodpecker is listed with a Global-rank of G5S?. This species was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). The project site provides suitable foraging and/or nesting habitat (oak woodlands and riparian scrub/woodlands) for this species. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs during nesting season and this species is present.

The loss of Nuttall's Woodpecker individuals would be considered a *significant* impact if construction occurs during the nesting season and the species is present. The loss of 8.79 acres of Coast Live Oak Woodland and Coast live Oak Riparian Woodland (resulting from direct grading impacts [no indirect fuel modification impacts expected]), and 3.75 acres of riparian scrub habitats (including the loss of 3.56 acres resulting from direct grading impacts and the loss of an additional 0.19 acre resulting from indirect fuel modification impacts) for this species would be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO12 through BIO16** (described above) should adequately mitigate project-related impacts to Cooper's Hawk, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *significant and unavoidable* since 8.79 acres of Coast Live Oak Woodland and Coast live Oak Riparian Woodland, and 3.75 acres of riparian scrub habitats, which are suitable and occupied foraging and nesting habitats for Nuttall's Woodpecker, will be permanently lost.

Cumulative Impacts:

The direct loss of foraging and nesting habitat for Nuttall's Woodpecker at the project site contributes to the cumulative loss of habitat for this bird species. Suitable oak woodland and riparian scrub habitats for Nuttall's Woodpecker exists onsite, and since suitable habitat to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of oak woodland and riparian scrub habitats will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

Loss of San Diego Desert Woodrat (*Neotoma lepida intermedia*) and Habitat

San Diego Desert Woodrat is a California Species of Concern. A nest of this rodent was observed by DMEC during small mammal trapping onsite. The proposed project would result in

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the loss of 40.39 acres of suitable Coastal Sage Scrub habitat for this species (including the loss of 33.06 acres resulting from direct grading impacts and the loss of an additional 7.33 acres resulting from indirect fuel modification impacts). Any impacts to this species is considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs while this species is present.

The loss of San Diego Desert Woodrat individuals and loss of 40.39 acres of suitable Coastal Sage Scrub habitat for this species would be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO11, BIO13, BIO15, and BIO16** will provide some mitigation for potential losses of San Diego Desert Woodrat individuals and provide compensation for some lost habitat; however, the loss of 40.39 acres of occupied or potential habitat (Coastal Sage Scrub) onsite would not be fully mitigated to a less-than-significant level.

Level of Significance after Mitigation: Significant and Unavoidable.

Cumulative Impacts:

Habitat for the San Diego Desert Woodrat has decreased significantly in Los Angeles County since European colonization and urban development has increased substantially in the last decade in the Santa Clarita Valley region. The loss of habitat for this subspecies is considered a significant impact. Currently proposed and permitted projects will further reduce existing San Diego Desert Woodrat habitat in the near future. The cumulative loss of San Diego Desert Woodrat habitat contributes to the incremental and cumulative loss of such habitat, and is considered a *cumulatively significant and unavoidable impact*.

Loss of Special-Status Reptiles Potentially Present

Six (6) special-status reptile species are *likely* to occur onsite due to the present of suitable habitat onsite and their known occurrence nearby. These species are discussed in the following paragraphs. While none of these reptiles were observed during surveys, loss of individuals of these species would be considered a significant impact if any are actually present onsite.

Silvery Legless Lizard (*Anniella pulchra pulchra*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of 7.87 acres (resulting from grading activities) of potentially occupied Coast Live Oak Upland Woodland habitat, and loss of over 5 acres (resulting from direct grading impacts as well as from indirect fuel modification impacts) of potentially occupied riparian habitat for this species. This species is a CDFG California Species of Concern.

Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the

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loss of 7.87 acres of potentially occupied Coast Live Oak Upland Woodland habitat, and loss of over 5 acres of potentially occupied riparian habitat for this species.

Rosy Boa (*Charina trivirgata*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). The proposed project would result in the loss of up to 32.66 acres of suitable Chaparral habitat for this species (including the loss of 23.57 acres resulting from direct grading impacts and the loss of an additional 9.09 acres resulting from indirect fuel modification impacts).

San Diego Banded Gecko (*Coleonyx variegates abbotti*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of 2.66 acres of potentially occupied Rock Outcrops, 40.39 acres of Coastal Sage Scrub (including the loss of 33.06 acres resulting from direct grading impacts and the loss of an additional 7.33 acres resulting from indirect fuel modification impacts), and 23.57 acres of Chaparral habitat (including the loss of 23.57 acres resulting from direct grading impacts and the loss of an additional 9.09 acres resulting from indirect fuel modification impacts) for this species.

San Diego Horned Lizard (*Phrynosoma coronatum [blainvillei]*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite (Coastal Sage Scrub), and this species is reported nearby (CDFG 2005). The Argentine Ant is the primary prey of the San Diego Horned Lizard. The Argentine Ant is closely associated with urban and suburban habitats, particularly where landscaping is regularly irrigated. Argentine Ant invasions into natural habitats of native ant species will result in the loss of the native ant species, a vital food source for San Diego Horned Lizard. In addition, the proposed project would result in the loss of 40.39 acres of suitable Coastal Sage Scrub habitat for this species. This species is a CDFG California Species of Concern.

Coast Patch-nosed Snake (*Salvadora hexalepis virgulata*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of suitable habitat for this species, including 7.87 acres of Coast Live Oak Upland Woodland, 2.66 acres of Lichen Rock Outcrop, and 29.53 acres of Grassland (including the loss of 26.85 acres resulting from direct grading impacts and the loss of an additional 2.68 acres resulting from indirect fuel modification impacts). This species is a CDFG California Species of Concern.

Any impacts to Silvery Legless Lizard, Coastal Western Whiptail, Rosy Boa, San Diego Banded Gecko, San Diego Horned Lizard, and Coast Patch-nosed Snake are considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs while these species are present. The loss of individuals of these six species would be considered a *potentially significant* impact and the loss of suitable habitat would be considered a *significant* impact.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO17 Conduct Focused Surveys. Prior to grading, focused surveys shall be conducted on the proposed development site for special-status reptile species that have a high potential to occur onsite. The surveys results shall be submitted within 45 days after completion of the

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last survey to the CDFG for concurrence. If it is determined that special-status wildlife species are not present on the proposed development site, then no further mitigation is necessary.

BIO18 Implement Relocation Program. If Silvery Legless Lizard, Coastal Western Whiptail, Rosy Boa, San Diego Banded Gecko, San Diego Horned Lizard, and/or Coast Patch-nosed Snake (the six special-status reptile species that are likely to occur onsite) is/are found onsite, then a capture and relocation program shall be implemented. implemented. Prior to implementation of the relocation program, the program and the biologist(s) implementing the program shall be subject to approval of the CDFG and the County Biologist. A relocation program shall be prepared to include a detailed methodology for locating, capturing, and relocating individuals prior to construction. The program shall identify a suitable location for relocation of each species prior to capture. A qualified biologist with the necessary permits (if required by CDFG) shall be required for handling the specific special-status wildlife species. The adopted relocation program shall be implemented.

BIO19 Control Argentine Ants. The control of Argentine Ant from the project site is necessary to prevent the loss of forage resources for the San Diego Horned Lizard, which cannot survive on consumption of Argentine Ant. The landscaping plan, within 300 feet of any natural areas containing San Diego Horned Lizard, shall be designed to utilize native plant species that do not require supplemental irrigation in an attempt to keep invading Argentine Ant populations as low as possible. In addition, an Argentine Ant control plan shall be developed and implemented in perpetuity by the homeowners association or other responsible party.

Implementing Mitigation Measures **BIO13, BIO15, and BIO16** will also mitigate for this impact.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* because 118.74 acres of suitable habitat will be permanently lost onsite (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts). In addition, the control of Argentine Ant is very difficult in areas adjacent to urban landscaping.

Cumulative Impacts:

The direct loss of up to 118.74 acres of foraging and breeding habitat for the six special-status reptile species, that are *likely* to occur at the project site (based on the presence of suitable habitat and the species are tracked nearby), contributes to the cumulative loss of habitat for these reptiles. The proposed project would result in *the loss of*:

- 7.87 acres of potentially occupied Coast Live Oak Upland Woodland habitat (resulting from direct grading impacts), and loss of over 5 acres of potentially occupied riparian habitat (including riparian habitat loss from direct grading impacts and loss of additional habitat from indirect fuel modification impacts) for Silvery Legless Lizard.
- 7.87 acres of potentially occupied Coast Live Oak Woodland habitat, and loss of over 5 acres of potentially occupied riparian habitat for Coastal Western Whiptail.

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- 32.66 acres of potentially occupied suitable Chaparral habitat (including the loss of 23.57 acres resulting from direct grading impacts and the loss of an additional 9.09 acres resulting from indirect fuel modification impacts) for Rosy Boa.
- 2.66 acres of potentially occupied Rock Outcrops (resulting from direct grading impacts), 40.39 acres of Coastal Sage Scrub (including the loss of 33.06 acres resulting from direct grading impacts and the loss of an additional 7.33 acres resulting from indirect fuel modification impacts), and 23.57 acres of Chaparral habitat for San Diego Banded Gecko.
- 40.39 acres of potentially occupied foraging and breeding habitat (Coastal Sage Scrub) for San Diego Horned Lizard at the project site contributes to the cumulative loss of habitat for this reptile. Furthermore, urbanization adjacent to suitable habitat results in the introduction of the invasive Argentine Ant, which extirpates populations of native ants that the San Diego Horned Lizard feeds upon, resulting in an indirect impact.
- 7.87 acres of potentially occupied Coast Live Oak Upland Woodland, 2.66 acres of Lichen Rock Outcrop, and 29.53 acres of Grassland (including the loss of 26.85 acres resulting from direct grading impacts and the loss of an additional 2.68 acres resulting from indirect fuel modification impacts) for Coast Patch-nosed Snake. The direct loss of these foraging and breeding habitats for the Coast Patch-nosed Snake onsite contributes to the cumulative loss of habitat for this reptile.

Since preserved habitat onsite will be improved through enhancement actions, the cumulative loss of habitats for these six species will be mitigated in part; however, an incremental loss of habitat will remain as a project-related cumulative impact, and would be considered *cumulatively potentially significant and unavoidable* for each of the six reptile species likely to occur onsite.

Loss of Special-Status Bird Species Potentially Present

Since it is likely for ten (10) special-status bird species to occur onsite, there is potential for direct loss of these species, direct and indirect impacts to active nests, and a known loss of suitable habitat for these species. The impacts, to each special-status bird species likely to occur onsite, are discussed in the following paragraphs.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*): The loss of potential Southern California Rufous-crowned Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Southern California Rufous-crowned Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 40.39 acres of potentially occupied Coastal Sage Scrub (including the loss of 33.06 acres resulting from direct grading impacts and the loss of an additional 7.33 acres resulting from indirect fuel modification impacts), 32.66 acres of potentially occupied Chaparral (including the loss of 23.57 acres resulting from direct grading impacts and the loss of an additional 9.09 acres resulting from indirect fuel modification impacts), and 2.66 acres of potentially occupied Rock Outcrops for this species. The loss of its suitable habitat is also considered a *significant* impact.

Grasshopper Sparrow (*Ammodramus savannarum*): The loss of potential Grasshopper Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Grasshopper Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 29.53 acres of potentially occupied Grassland habitat for this species (including the loss of 26.85 acres resulting from direct grading impacts and the loss of an additional 2.68 acres resulting from indirect fuel modification impacts). The loss of its suitable habitat is also considered a *significant* impact.

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Bell's Sage Sparrow (*Amphispiza belli* ssp. *belli*): The loss of potential Bell's Sage Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Bell's Sage Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 40.39 acres of potentially occupied Coastal Sage Scrub, and 32.66 acres of potentially occupied Chaparral for this species. The loss of its suitable habitat is considered a *significant* impact.

Long-eared Owl (*Asio otus*): The loss of potential Long-eared Owl individuals onsite would be considered a *potentially significant* impact. The loss of observed Long-eared Owl individuals would be considered a *significant* impact. The proposed project would result in the loss of 3.75 acres of potentially occupied Southern Riparian Scrub (including the loss of 3.56 acres resulting from direct grading impacts and the loss of an additional 0.19 acre resulting from indirect fuel modification impacts), and the loss 0.92 acre of potentially occupied Coast Live Oak Riparian Woodland (resulting from direct grading impacts) for this species. The loss of its suitable habitat is considered a *significant* impact.

Costa's Hummingbird (*Calypte costae*): The loss of potential Costa's Hummingbird individuals onsite would be considered a *potentially significant* impact. The loss of observed Costa's Hummingbird individuals would be considered a *significant* impact. The proposed project would result in the loss of 40.39 acres of potentially occupied Coastal Sage Scrub and 3.75 acres of potentially occupied Southern Riparian Scrub for this species. The loss of its suitable habitat is also considered a *significant* impact.

Lawrence's Goldfinch (*Caroluelis lawrencei*): The loss of potential Lawrence's Goldfinch individuals onsite would be considered a *potentially significant* impact. The loss of observed Lawrence's Goldfinch individuals would be considered a *significant* impact. The proposed project would result in the loss of 7.90 acres of potentially occupied Coast Live Oak Upland Woodland and Valley Oak Woodland (resulting from direct grading impacts); 0.50 acre of Southern California Black Walnut Woodland (including the loss of 0.08 acre resulting from direct grading impacts and the loss of an additional 0.42 acre resulting from indirect fuel modification impacts); 32.66 acres of potentially occupied Chaparral; and 29.53 acres of potentially occupied Grassland habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Lark Sparrow (*Chondestes grammacus*): The loss of potential Lark Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Lark Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 29.53 acres of potentially occupied Grassland habitat, 7.87 acres of potentially occupied Coast Live Oak Upland Woodland, and 40.39 acres of potentially occupied Coastal Sage Scrub habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Northern Harrier (*Circus cyaneus*): The loss of potential Northern Harrier individuals onsite would be considered a *potentially significant* impact. The loss of observed Northern Harrier individuals would be considered a *significant* impact. The proposed project would result in the loss of 118.74 acres of a variety of potentially occupied habitats for this species (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts). The loss of its suitable habitat is considered a *significant* impact.

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Loggerhead Shrike (*Lanius ludovicianus*): The loss of potential Loggerhead Shrike individuals onsite would be considered a *potentially significant* impact. The loss of observed Loggerhead Shrike individuals would be considered a *significant* impact. The proposed project would result in the loss of 7.90 acres of potentially occupied Coast Live Oak Upland Woodland and Valley Oak Woodland (resulting from direct grading impacts); 0.50 acre of Southern California Black Walnut Woodland; 3.75 acres of potentially occupied Southern Riparian Scrub, and 0.92 acre of potentially occupied Coast Live Oak Riparian Woodland for this species. The loss of its suitable habitat is considered a *significant* impact.

California Thrasher (*Toxostoma redivivum*): The loss of potential California Thrasher individuals onsite would be considered a *potentially significant* impact. The loss of observed California Thrasher individuals would be considered a *significant* impact. The proposed project would result in the loss of 32.66 acres of potentially occupied Chaparral habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO12 through BIO16** (described above) should adequately mitigate project-related impacts to the ten special-status bird species that are likely to occur onsite, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* if any of the species are found to be present during future focused surveys (as required in **BIO23A** and **BIO24**), since up to 118.74 acres of suitable foraging and nesting habitat onsite will be permanently lost.

Cumulative Impacts:

The direct loss of up to 118.74 acres of foraging and nesting habitats for the ten special-status bird species, that are *likely* to occur at the project site (based on the presence of suitable habitat and the species are tracked nearby), contributes to the cumulative loss of habitat for these birds. Since preserved habitat onsite will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat would remain as a project-related cumulative impact, and would be considered *cumulatively potentially significant and unavoidable* for each of the ten bird species likely to occur onsite.

Disturbance to Mountain Lion (*Puma concolor*) and Loss of Habitat

Mountain Lion was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and known occurrences in the vicinity of the project site.

A total of 118.74 acres of natural habitat will be permanently lost (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts), which contributes to the cumulative loss of habitat for a population that is already at risk of local extinction. Construction activities will keep Mountain

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Lion from foraging onsite in the development area and temporarily from adjacent open space areas during construction.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO11, BIO13, BIO15, and BIO16** (described above) should adequately mitigate project-related impacts to Mountain Lion, except for incremental loss of habitat. Additional mitigation may be required if individuals are found onsite.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* if this species is found onsite, since up to 118.74 acres of suitable hunting and cover habitat onsite will be permanently lost.

Cumulative Impacts:

The direct loss of approximately 118.74 acres of foraging habitat for the Mountain Lion at the Lyons Canyon Ranch project site contributes to the cumulative loss of habitat for this top predator species. Currently proposed and permitted projects will further reduce habitat in the near future. Since occupied and suitable habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

Disturbance to Ring-tailed Cat (*Bassariscus astutus*) and Loss of Habitat

Ring-tailed Cat was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and known occurrences in the vicinity of the project site.

A total of 118.74 acres of natural habitat will be permanently lost (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts), which also contributes to the cumulative loss of habitat for this species. Foraging area will be lost and disturbed during construction.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO11, BIO13, BIO15, and BIO16** (described above) should adequately mitigate project-related impacts to Ring-tailed Cat, except for incremental loss of habitat. Additional mitigation may be required if individuals are found onsite.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* if this species is found onsite, since up to 118.74 acres of suitable hunting and cover habitat onsite will be permanently lost.

Cumulative Impacts:

The direct loss of approximately 118.74 acres of foraging habitat for the Ring-tailed Cat at the Lyons Canyon Ranch project site contributes to the cumulative loss of habitat for this wildlife species. Currently proposed and permitted projects will further reduce habitat in the near future.

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Since occupied and suitable habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

Disturbance to Western Mastiff Bat (*Eumops perotis californicus*) and Loss of Habitat

Western Mastiff Bat was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and known occurrences in the vicinity of the project site. Western Mastiff Bat may forage and nest on the project site. Project impacts are not expected to affect the overall availability of prey on the project site for bats foraging at night. However, project implementation would result in night lighting and may cause subsequent changes in inter-species bat and prey behavior. In addition, project implementation would result in the loss of some roosting habitat for bats. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs while this species is present.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO11, BIO13, BIO15, and BIO16** (described above) should provide sufficient mitigation for potential losses of Western Mastiff Bat individuals and provide partial compensation for lost habitat. Additional mitigation may be required if individuals are found onsite.

BIO20 Install Bat Boxes. If the Western Mastiff Bat, or other special-status bat species, is found to forage or nest onsite, then bat boxes shall be installed at appropriate locations within preserved land onsite to replace lost nesting habitat. A mitigation plan designed specifically to provide nesting and foraging habitat for special-status bat species shall be prepared and submitted to CDFG and the County Biologist for approval, and after approval, it shall be implemented.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts:

The loss of up to 118.74 acres of foraging and nesting habitat contributes to the cumulative loss of such habitat for bats. Currently proposed and permitted projects will further reduce habitat in the near future. The cumulative loss of foraging and nesting habitat for bats is considered cumulatively *significant and unavoidable*.

INDIRECT IMPACTS TO SPECIAL-STATUS WILDLIFE SPECIES

Indirect impacts to special-status wildlife species are caused when project-related activities cause unusual and detrimental behavioral changes in wildlife that results in sickness, death, or abandonment of otherwise suitable habitat. The causes of such behavioral changes can be

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excessive noise, annoyance, harassment by humans and/or pets, and increased excessive nighttime lighting. Such indirect impacts have the potential to cause significant impacts to sensitive wildlife.

Impacts Related to Noise

Noise levels on the project site would increase over present levels during construction of the proposed project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species including reptiles, amphibians, mammals, and birds. Noise can also interfere with a species' ability to protect itself from predators, and to communicate. While each species of wildlife present onsite has different tolerance levels to noise, and individuals within each species can vary considerably, little data on thresholds are available. The degree of species habituation to various levels and types of noise disturbances in their territories and home ranges will dictate the extent, if any, of induced stresses.

The effect of intolerable construction-related noise on wildlife is related directly to a species' ability to breed, forage, and avoid predation. Excessive noise can reduce or eliminate some wildlife species' ability to attract mates, repel competitors, avoid predators, communicate, and detect food. Amphibians, reptiles, and mammals suffered deleterious effects from moderate exposure to off-road vehicle (ORV) noise (Brattstrom and Bondello 1983 in Schubert and Smith 2000). These effects included physiological and behavioral hearing loss and the misinterpretation of important environmental acoustic signals.

Specific Effects on Wildlife

Wildlife exposed to noise can suffer high levels of physiological stress even if they appear to fully adapt to the noise (Aune 1981 in Schubert and Smith 2000; Environmental Protection Agency [EPA] and Memphis State University 1971). Loss of hearing sensitivity can lead to increased exposure to predation, increased difficulty killing prey, and otherwise significant disruptions in predator-prey relationships (EPA and Memphis State University 1971). The impairment of intraspecific communication is another serious concern (Luz and Smith 1976; Luckenbach 1975 and 1978; and Weinstein 1978 in Schubert and Smith 2000). Specific problems can include the inability to recognize mating signals, warning calls, and calls by juveniles (EPA and Memphis State University 1971). The degree of species habituation to various levels and types of noise disturbances in their territories and home ranges will dictate the extent, if any, of induced stresses.

Sound Attenuation

Moderate noise levels associated with construction activities will be fluctuating and intermittent. High noise levels will also be fluctuating, but these noise levels will be more continuous in nature due to the extent and duration of the construction activities. Noise levels at any individual project site will be attenuated to varying degrees, dependent on the sound frequency, by atmospheric conditions, terrain, ground impedance, foliage and vegetation, and the actual distance between the sound source and potential wildlife species (U.S. Fish and Wildlife Service 1997). The formula to calculate sound attenuation with distance in a free field (outdoors) is:

Decibels of Change = 20 x log(distance 1/distance 2).

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For example, if you were standing 10 feet from a noise source, and were to move 100 feet away from that noise source, you would expect to see a drop in level of 20dB (Mc Squared System Design Group, Inc, 2005).

Species Affected

Birds: Nesting raptors and other bird species have the potential to incur temporary short-term impacts from construction noise, if present in the vicinity of the project site, and may be temporarily displaced due to these disturbances. The effect of intolerable construction-related noise on wildlife is related directly to a species' ability to breed, forage, and avoid predation.

Falcons: Peregrine Falcons are in this group and are known for being scared off their nest by sonic booms (Manci et al. 1988). A study done in Arizona found responses to extremely frequent and nearby jet aircraft by peregrines were often minimal; however, the disturbance was not found to be associated with reproductive failure. Nesting success and site reoccupancy rates were high for all aeries. The birds observed were noticeably alarmed by the noise stimuli (82-114 dBA), but the negative responses were brief and apparently not productivity limiting (Ellis 1981, as cited in Manci et al. 1988). Prairie Falcon and Merlin are not expected onsite (no nesting habitat).

Accipiters: White-tailed Kite, Sharp-shinned Hawk, Northern Harrier, and Golden Eagle have potential to occur at the project site. Cooper's Hawk is known onsite. Accipiters in general are not known to be as sensitive to noise, and Northern Harriers have been observed to continue to prey on disturbed smaller birds near the origination site of a loud noise from a practice bomb (Jackson et al. 1977 in Manci et al. 1988).

Amphibians: Spadefoot Toad (*Scaphiopus couchi*) is known to be cued by early summer thunderstorms to emerge from the burrow to mate and lay eggs, and larvae are subsequently born and undergo metamorphosis. If other noise mimics the sound of thunderstorms, reproductive activity can occur in the absence of appropriate environmental conditions, and cause adverse impacts to the local population. (McClanahan 1967; Brattstrom and Bondello 1983 in Schubert and Smith 2000). A congener, the Western Spadefoot Toad (*Scaphiopus hammondi*), is a species of special concern that may possibly occur onsite.

Reptiles: The reproductive success of lizards is known to decrease when ORV activity peaks in their vicinity (Mayhew 1966a and 1966b, as cited in Schubert and Smith 2000). Reptiles that may occur on the project site include Silvery Legless Lizard, Two-striped Garter Snake, and the Coast Patch-nosed Snake. The Coastal Western Whiptail and San Diego Horned Lizard are expected to occur onsite.

Mammals: Sprock et al. (1967), as cited in EPA and Memphis State University (1971), subjected caged wild rats and mice to sounds of varying frequencies (100-25,000 Hz) and Sound Pressure Level (60-140 dB). Rats exposed to high noise levels suffered impacts which included reduced body weight, increased heart rate, and the shrinking of ovaries and kidneys, decreased nesting, and death (Geber and Geber et al. (1966), as cited in EPA and Memphis State University (1971). Manci et al. (1988) reports that at noise levels above 90 decibels mammals may retreat, freeze, or become startled. One potential effect of noise on mammals is that of displacement. When a species is dependent upon a narrow range of habitat characteristics, displacement to marginal or unsuitable habitat can have lasting impacts on survival and productivity. This has been found to be true for the kangaroo rat (Brattstrom and Bondello 1983, as cited in Schubert

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and Smith 2000). These studies may indicate potential impacts for the San Diego Desert Woodrat, a special-status species that may occur at the project site.

A number of species of bat species are considered likely to occur at the project site. It has been shown that bats are generally resistant to jamming of their “radar” echo-location abilities by external noise sources (Griffin et al. 1963). Apparently, they orient themselves so that noise and signal are received from different angles. Signal masking is greatest when noise and signal are received from the same direction. Despite these results, it would be conservative to halt construction activities just before bat feeding times, before or at dusk, in the immediate vicinity of bat foraging areas onsite. Several special-status bats may occur at onsite, including Pallid Bat, Pale Big-eared Bat, Western Mastiff Bat, California Leaf-nosed Bat, and Yuma Myotis.

Equipment Noise Levels

Since wildlife sensitivity to specific noise levels is not well known, human sensitivity levels will be used as a surrogate. Generally, levels above 86 dBA at 15 meters would be used as the impact threshold, requiring implementation of measures to mitigate the adverse behavioral changes, based on the Caltrans Traffic Noise Analysis Protocols.

Effects on Wildlife after Development of Proposed Project

The project site is adjacent to a major State Highway generating substantial noise under existing conditions. Project related noise levels would not increase substantially over present levels when the land use is converted to a residential community. Nevertheless, wildlife habitat within isolated areas of the project site and immediately surrounding areas to the west and south could be disturbed. Therefore, some wildlife species stressed by noise may disperse from the remaining habitat on and in the vicinity of the site, leaving only wildlife tolerant of human activity. Though these adverse impacts from construction-related noise would not be expected to reduce any current wildlife population below self-sustaining levels, mortality of breeding wildlife of special-status species would be considered adverse and significant. Chronic (permanent) noise impacts would be less than significant and mitigation would not be required. Mitigation measures, such as capture and relocation, or capture and hold wildlife until the impact has ended or decreased to tolerable levels, have the potential for impacts equal to the temporary displacement of these animals, and are therefore not recommended. Noise attenuation and work scheduling measures are feasible mitigation to reduce temporary noise impacts to sensitive wildlife.

The impacts resulting from excessive noise levels that result in the abandonment of care-giving, and interference to survival, growth, and reproduction are considered adverse and *significant*, especially because the proposed project occurs adjacent to natural open space areas that support high wildlife value.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Recommended mitigation measures to reduce construction noise impacts on sensitive wildlife cover three basic actions: equipping equipment with mufflers, scheduling noisy work in less sensitive areas to minimize impact, and using noise attenuation structures/barriers to reduce noise levels locally.

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Implement Mitigation Measure **BIO13 and BIO14** of this Biological Resources section of this EIR, as well as Mitigation Measures **N1** through **N9** in the Noise section of this EIR to mitigate for indirect impacts to special-status wildlife species.

Implementing Mitigation Measure **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: The significance after mitigation for the temporary construction impacts would be *less than significant*. The impacts of noise after completion of grading activities for the proposed project would be *potentially adverse but less than significant*.

Cumulative Impacts: Less Than Significant

Impacts Related to Human Activity

The residents of the proposed development may use the proposed open space for passive recreation (e.g. hiking). This would increase the noise and disturbance of habitat areas remaining on the site, especially those adjacent to the proposed development. Human disturbance could disrupt normal foraging and breeding behavior of wildlife remaining on the site, substantially diminishing the value of habitat areas remaining. In addition, pets in these neighborhoods (i.e., cats and dogs) would become introduced predators and would increase the stresses of wildlife remaining in the open space areas on the site. This impact would be considered potentially significant.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO21 Install Perimeter Fencing. Perimeter fencing at houses onsite adjacent to open space areas shall be designed to prevent dogs from accessing open space areas onsite, and keep wildlife from entering yards and homes as much as feasible.

Implementing Mitigation Measure **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts: Less Than Significant

Impacts Related to Night Lighting

Lighting of the urban development would inadvertently affect the behavior patterns of nocturnal and crepuscular (active at dawn and dusk) wildlife at these areas, especially amphibian and bat species. Of greatest concern is the effect on small ground-dwelling animals that use the darkness to hide from predators, and on owls that are specialized night foragers. Night lighting could inhibit wildlife from using the habitat adjacent to lighted areas.

Night lighting could negatively affect wildlife activities and wildlife vigor if exposed to bright artificial lighting from streetlights, or outdoor lighting at residences. While limited to the areas a short distance from the light source, and depending on the intensity of the outdoor lighting, such nuisance spillover lighting represents a potentially significant impact to wildlife sensitive to such lighting.

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Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

BIO22 County Review of Project Plans. Prior to issuance of building permits, the County of Los Angeles shall ensure that the following elements are included in all project plans, as appropriate:

- All exterior lighting shall be designed and located as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the project site. Motion detectors, low-intensity street lighting, and low-intensity exterior lighting shall be used throughout the development to the extent feasible. Lighting fixtures shall use shielding, if necessary, to prevent spill lighting on adjacent off-site areas;
- Design and placement of site lighting shall minimize glare affecting adjacent properties, buildings, and roadways;
- Fixtures and standards shall conform to state and local safety and illumination requirements;
- All trail and park lighting shall provide optimum public safety, while at the same time reducing nighttime light spillover and glare;
- Development projects shall use minimally reflective glass and all other materials used on exterior building and structures shall be selected to minimize reflective glare; and
- Automatic timers on lighting shall be designed to maximize personal safety during nighttime use while saving energy.

These measures would partially mitigate for adverse impacts of landscaping nuisance lighting impacting wildlife in adjacent open space areas of the project site. In addition:

BIO23 Hooded Outdoor Lighting. Require all street and outdoor lighting to be hooded to direct away from, or prevent light from entering, open space areas of the project site. Light intensity should be set as low as possible while meeting the primary objective of the outdoor lighting.

Implementing Mitigation Measure **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts: Less Than Significant

Impacts to Natural Vegetation, Including Sensitive Habitats

Lyons Canyon Ranch includes 11 general vegetation types that make up the landscape onsite. Damage or loss of any natural, native vegetation ultimately contributes to the degradation of a region's structural diversity, species richness, and ecological integrity. Nine sensitive habitats were observed onsite that are tracked by CNDDDB (CDFG 2005).

Table 5.6-13, Project Impact Area for each Vegetation Type Onsite, presents the area of impact for each of the nine sensitive habitats as well as the area of impact to other plant communities creating the landscape onsite. The subsections following Table 5.6-13 provide an impact analysis for the sensitive plant communities observed onsite.

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The project site consists of approximately 226.79 acres of natural vegetation. The proposed project will impact a total of approximately 118.74 acres of natural vegetation would be impacted by the proposed project (52%) (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts), and 108.05 acres would be preserved. Of the 226.79 acres of vegetation onsite, approximately 119.42 acres consist of sensitive habitat types. Of the 119.42 acres of sensitive habitat onsite, the proposed project would impact approximately 56.55 acres of sensitive habitat onsite (47%) (including the loss of 48.44 acres resulting from direct grading impacts and the loss of an additional 10.79 acres resulting from indirect fuel modification impacts), and would preserve approximately 62.87 acres of sensitive habitat onsite.

Note: Chaparral habitats are typically not considered sensitive habitats. However, Lyon Canyon SEA 63, a portion of which exists onsite, specifically focuses on Chamise Chaparral along Lyon Canyon Creek. It should be noted here also that in addition to the sensitive habitat impacts discussed in the previous paragraph, the proposed project will result in the loss of 32.66 acres of the Chaparral that SEA 63 focuses on (including the loss of 23.57 acres resulting from direct grading impacts and the loss of an additional 9.09 acres resulting from indirect fuel modification impacts). 36.75 acres of Chaparral will be preserved onsite.

Exhibit 5.6-22, Potential Habitat Mitigation Areas, shows the locations of remaining habitat patches available for implementing the mitigation measures required for impacts to natural vegetation including sensitive habitats.

LOSS OF GRASSLAND HABITAT

Grasslands support some of the most diverse assemblies of plant and wildlife species in California (Jones & Stokes Associates, Inc. 1989), many of which are threatened and endangered. Mule Deer and Coyote both breed in grasslands, as do Short-eared Owl, Burrowing Owl, Peregrine Falcon, Northern Harrier, American Badger, Western Spotted Skunk, San Diego Black-tailed Jackrabbit, and many other species. Although the grassland communities onsite include a large component of nonnative plant species, this condition does not preclude it from being used as habitat by native plants and animals (Howald 1993). CWHR rates grasslands as of high reproductive, cover, and feeding value for many wildlife species.

Approximately 37.96 acres of Grassland habitat exists onsite. Approximately 29.53 acres of this natural habitat will be impacted by the proposed project (78%) (including the loss of 26.85 acres resulting from direct grading impacts and the loss of an additional 2.68 acres resulting from indirect fuel modification impacts). This is considered a *significant* impact.

Level of Significance Before Mitigation: Significant

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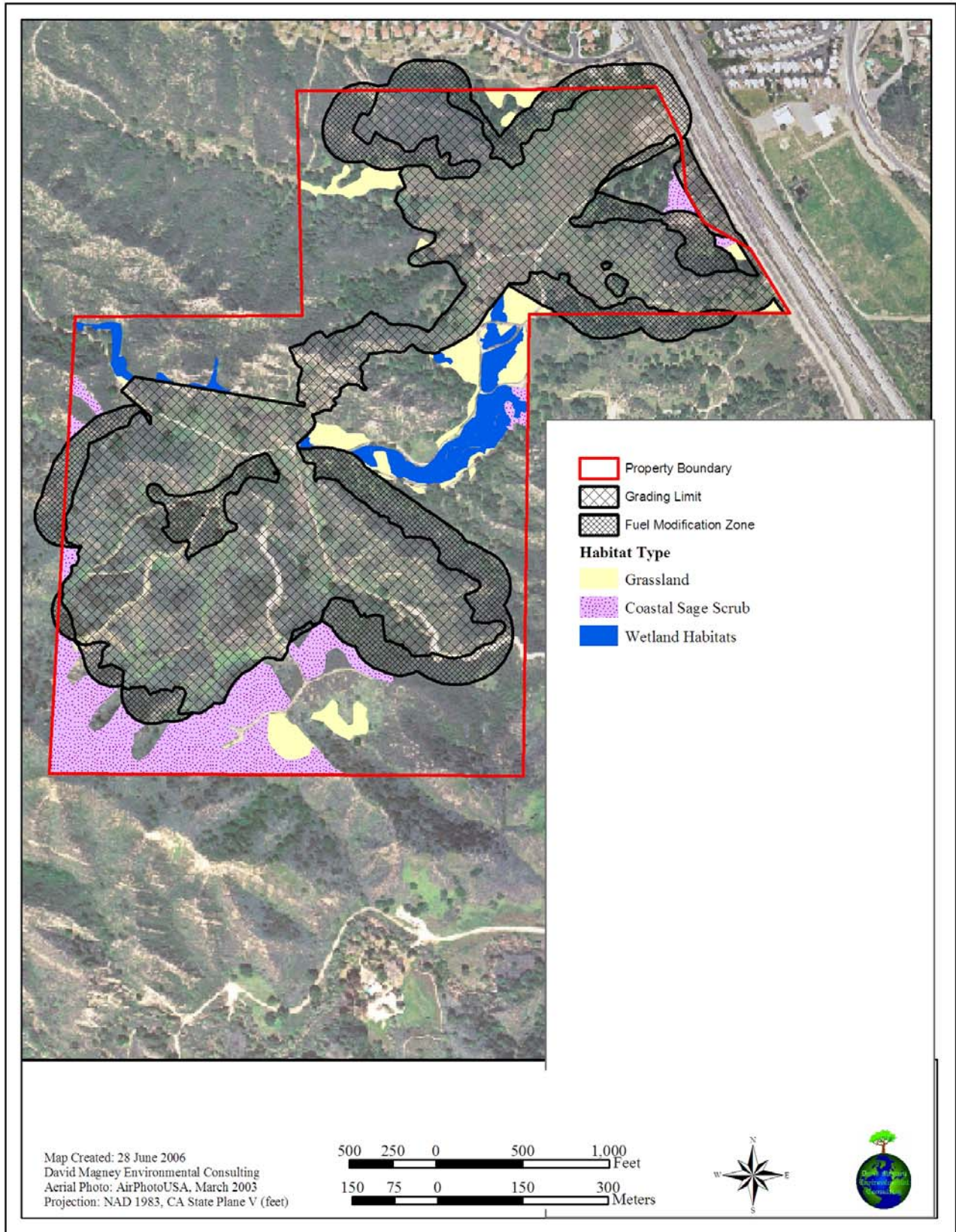
Table 5.6-13. Project Impact Area for Each Vegetation Type Onsite

Vegetation Type	Sensitive?	Existing Area (Acres)	Grading Impact (Acres)	Fuel Mod Impact (Acres) ¹⁹	Total Impact (Acres)	Percent Impact	Significant ?	Area Preserved (Acres)
<i>Riparian</i>								
Coast Live Oak Riparian Woodland (<i>Quercus agrifolia</i> Alliance)	Yes	1.65	0.92	(0.46)	0.92	56	Yes	0.73
Southern Mixed Riparian Forest (<i>Salix lasiolepis</i> Alliance and <i>Salix laevigata</i> Alliance)	Yes	0.81	0.00	0.09	0.09	11	Yes	0.72
Southern Riparian Scrub (<i>Baccharis salicifolia</i> Alliance and <i>Sambucus mexicana-Baccharis salicifolia</i> Alliance)	Yes	9.15	3.56	0.19	3.75	41	Yes	5.40
Cismontane Alkali Marsh (<i>Distichlis spicata</i> Alliance)	Yes	0.34	0.26	0.08	0.34	100	Yes	0.00
<i>Upland</i>								
Coast Live Oak Upland Woodland (<i>Quercus agrifolia</i> Alliance)	Yes	38.42	7.87	(10.15)	7.87	21	Yes	30.55
Valley Oak Woodland (<i>Quercus lobata</i> Alliance)	Yes	0.23	0.03	(0.21)	0.03	13	Yes	0.20
Southern California Black Walnut Woodland (<i>Juglans californica</i> Alliance)	Yes	1.89	0.08	0.42	0.50	27	Yes	1.39
Chaparral (<i>Adenostoma fasciculatum</i> Alliance, <i>Adenostoma fasciculatum-Salvia mellifera</i> Alliance, and <i>Adenostoma fasciculatum-Sambucus mexicana</i> Alliance)	No	69.41	23.57	9.09	32.66	47	Yes	36.75
Coastal Sage Scrub (<i>Eriogonum fasciculatum</i> Alliance, <i>Salvia leucophylla</i> Alliance, <i>Salvia leucophylla-Brassica</i> Alliance, <i>Salvia apiana</i> Alliance, and <i>Sambucus mexicana-Salvia leucophylla</i> Alliance)	Yes	57.43	33.06	7.33	40.39	70	Yes	17.04
Lichen Rock Outcrop (Lichen Alliance and <i>Hesperoyucca whipplei</i> -Lichen Alliance)	Yes	9.50	2.66	0.00	2.66	28	Yes	6.84
Grassland (<i>Avena-Brassica-Silybum</i> Alliance)	No	37.96	26.85	2.68	29.53	78	Yes	8.43
Natural Vegetation Total:	n/a	226.79	98.86	19.88	118.74	65	Yes	108.05
<i>Disturbed Area</i>								
Disturbed (Ornamental Plantings, Road)	No	8.71	5.05	1.09	6.14	70	No	n/a
Total:	n/a	235.50	103.91	20.80	124.71	53	Yes	n/a

¹⁹ The numbers in parentheses indicate the portions of Coast Live Oak Riparian Woodland, Coast Live Oak Upland Woodland, and Valley Oak Woodland that fall within the fuel modification zone. No oak trees will be removed within the fuel modification zones; however, any understory shrubs and herbs will be cleared for fuel control within these areas. Therefore, oaks will only be directly impacted as a result of proposed grading activities onsite. Since no oaks will be impacted in the fuel modification zones, the numbers in parentheses are not included in the total for indirect fuel modification impacts; rather, they are provided as general information only.

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Exhibit 5.6-22. Potential Habitat Mitigation Areas



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Recommended Mitigation Measure:

The loss of 29.53 acres of Grassland can be mitigated by avoidance, creation onsite or elsewhere, protection and enhancement onsite or elsewhere, and protection of equal area and quality of habitat already designated for destruction. Exhibit 5.6-22, Potential Habitat Mitigation Areas, shows the locations of remaining Grassland patches available for implementing the mitigation measures required for impacts to Grassland habitat. To fully mitigate the loss of 29.53 acres of Grassland habitat, one or more of the mitigation measures described below shall be implemented:

BIO24 Protect and Enhance Grassland. The loss of 29.53 acres of Grassland vegetation shall be mitigated by enhancing at an acreage rate of 1.5 acres for each acre lost (1.5:1 replacement ratio), equaling 44.29 acres of required mitigation. Prior to implementation of any restoration, a detailed program shall be developed by the project applicant and shall contain the following items:

- *Responsibilities and Qualifications Specified.* The responsibilities of the landowner, technical specialists, and maintenance personnel that shall supervise and implement the restoration plan shall be specified.
- *Protect Grassland Preserved Onsite.* The project shall preserve 8.43 acres of Grassland onsite in perpetuity by a legal instrument.
- *Enhance Degraded Grassland Preserved Onsite.* Habitat enhancement of the required 44.29 acres of Grassland will include eradicating invasive exotics from the remaining Grassland onsite. The areas of Grassland, from which invasive species will be eradicated, will be planted with supplemental native Grassland grasses and herbs. This will increase native groundlayer cover to match desired cover levels, and increase dominance by native species. Approximately 8.43 acres of Grassland vegetation will be avoided by the proposed project; however, the Grassland onsite is contaminated with invasive exotic plant species in varying amounts. Enhancement of up to 8.43 acres of degraded Grassland habitat onsite will mitigate for 19% of the area needed, based on the 1.5:1 enhancement ratio. An additional 35.86 acres would need to be preserved and enhanced, for a total of 44.29 acres of Grassland enhanced and protected. The lack of reasonable availability (the offsite component) may render this mitigation measure at least partially infeasible.
- *Mitigation Site Selection.* The site for the mitigation shall be determined in coordination with the project applicant and resource agencies. The site shall be located on the proposed development site in a dedicated open space area or dedicated open space area shall be purchased offsite. Appropriate sites shall have suitable hydrology and soils for the establishment of target native species.
- *Site Preparation and Planting Implementation.* A seasonal survey shall be conducted in suitable habitat after the flowering season to collect seeds from the native grasses and wildflowers inhabiting Grassland habitats onsite. The survey shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. Seeds shall be collected when ripe, cleaned, and stored by a qualified nursery or institution with appropriate storage facilities, and transferred to a native plant nursery experienced with propagating native herbaceous grassland species and grown out to 1-gallon container size plantings. The site preparation shall include: protection of existing native

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species; trash and weed removal; native species salvage and reuse (i.e. duff); soil treatments (i.e., imprinting, decompacting); temporary irrigation installation; erosion control measures (i.e., rice or willow wattles); seed mix application; and container plantings. The best time to sow seed is in the fall in conjunction with the onset of rain. These native annual and perennial grass and herb plantings shall be planted in suitable preserved habitat onsite. The propagated plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County. Mitigation Measure **BIO1** will aid in planting implementation.

- *Schedule.* A schedule shall be developed which includes planting to occur in late fall and early winter between October 1 and January 30.
- *Maintenance Plan/Guidelines.* The maintenance plan shall include: weed control; herbivore control; trash removal; irrigation system maintenance; maintenance training; and replacement planting.
- *Mitigation and Monitoring Plan.* A detailed mitigation plan shall be submitted for approval to the County prior to project implementation. The mitigation plan shall include specifics regarding grassland enhancement, planting details, timing, and monitoring proposed for grassland mitigation. The monitoring plan shall include: qualitative monitoring (i.e. photographs and general observations); quantitative monitoring (e.g. randomly placed transects); performance criteria as approved by the resource agencies; monthly reports for the first year and bimonthly thereafter; and annual reports for five years that shall be submitted to the resource agencies. The site shall be monitored and maintained for five years to ensure successful establishment of Grassland habitat within the restored and created areas.
- *Long-term Preservation.* Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development. An appropriate legal instrument over the area to be preserved shall be recorded prior to implementation of site grading to ensure protection in perpetuity.
- *Earth-moving Equipment.* Earth-moving equipment shall avoid maneuvering in any area identified as natural open space areas. Prior to grading, the open space limits shall be marked by the construction supervisor and the project biologist. These limits shall be identified on the grading plan.

Implementing Mitigation Measure **BIO1** and **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: If mitigation measure **BIO24** is implemented, then the impact would be *less than significant*. If offsite acquisition of mitigation land proves infeasible, the permanent loss of 35.86 (unmitigable) acres of Grassland onsite would be considered a *significant* impact.

Cumulative Impacts:

Grasslands were once extensive and wide-ranging in California; however, the extent of grassland habitat has been reduced substantially, by up to 90 percent, since European colonization. Grassland habitats are the first to be developed for agriculture and urban uses. While the grassland habitats present at Lyons Canyon Ranch are dominated primarily by invasive exotic plant species, the value of the existing grasslands to wildlife for foraging is nearly equal to native grasslands. Furthermore, degraded grassland habitats retain potential for restoration.

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The direct loss of approximately 29.53 acres of Grassland habitat for wildlife at the Lyons Canyon Ranch project site contributes to the cumulative loss of grassland habitat. Currently proposed and permitted projects will further reduce grassland habitats in the near future. Since grassland habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of grassland will be mitigated in part; however, an incremental loss of grasslands will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

LOSS OF LICHEN-ROCK OUTCROP HABITAT

Approximately 9.50 acres of sensitive Lichen-Rock Outcrop habitat exists onsite. Approximately 2.66 acres will be impacted by the proposed project (28%). 6.84 acres of Lichen-Rock Outcrop will be avoided onsite. This is considered a *potentially significant* impact.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

No feasible mitigation is available other than avoidance.

Level of Significance After Mitigation: Potentially Significant

Cumulative Impacts:

Impacts to 2.66 acres of Lichen-Rock Outcrop habitat will contribute to the cumulative impacts on this habitat. Currently proposed and permitted projects will further reduce habitat in the near future. Since there is no mitigation for this impact, this impact is a *cumulatively significant and unavoidable*.

LOSS OF COASTAL SAGE SCRUB

The sensitive Coastal Sage Scrub plant communities observed onsite include *Sambucus mexicana-Salvia leucophylla* Alliance, *Salvia leucophylla* Alliance, and *Salvia apiana* Alliance. Approximately 57.43 acres of Coastal Sage Scrub exist onsite. Of this, approximately 40.39 acres of Coastal Sage Scrub will be impacted by the project (including the loss of 33.06 acres resulting from direct grading impacts and the loss of an additional 7.33 acres resulting from indirect fuel modification impacts). Approximately 17.04 acres of Coastal Sage Scrub will be avoided onsite. Of the 40.39 acres of the Coastal Sage Scrub proposed to be impacted by the project, approximately 7.61 acres are degraded habitat infested by invasive exotic plants such as *Brassica nigra*, *Silybum marianum*, *Cirsium vulgare*, and *Avena barbata*, effectively decreasing its functional value to native wildlife species that may utilize it onsite. The remaining 32.76 acres of the 40.39 are dominated by natives; but still contain several nonnative forbs, degrading its value to wildlife, but to a lesser extent.

Although the vegetation burned in the Simi Fire, Coastal Sage Scrub recovers quickly and may support habitat for special-status species. The loss of 40.39 acres of Coastal Sage Scrub vegetation onsite (70%) is considered a significant impact due to the cumulative losses of this habitat in southern California, and the potential for it to support special-status species.

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Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

The loss of 40.39 acres of Coastal Sage Scrub can be mitigated in several ways: avoidance, creation onsite or elsewhere, protection and enhancement onsite or elsewhere, and protection of equal area and quality of habitat already designated for destruction. To fully mitigate the loss of 40.39 acres of Coastal Sage Scrub habitat, one or more of the mitigation measures described below shall be implemented:

BIO25 Protect and Enhance Coastal Sage Scrub. The loss of 40.39 acres of Coastal Sage Scrub vegetation shall be mitigated by enhancing at an acreage rate of 1.5 acres for each acre lost (1.5:1 replacement ratio), equaling 60.58 acres of required mitigation. Prior to implementation of any restoration, a detailed program shall be developed by the project applicant and shall contain the following items:

- *Responsibilities and Qualifications Specified.* The responsibilities of the landowner, technical specialists, and maintenance personnel that shall supervise and implement the restoration plan shall be specified.
- *Protect Coastal Sage Scrub Preserved Onsite.* The project shall preserve 17.04 acres of Coastal Sage Scrub onsite in perpetuity by a legal instrument.
- *Enhance Degraded Coastal Sage Scrub Preserved Onsite.* Habitat enhancement of the required 60.58 acres of Coastal Sage Scrub will include eradicating invasive exotics from the remaining Coastal Sage Scrub onsite. The areas of Coastal Sage Scrub, from which invasive species will be eradicated, will be planted with supplemental Coastal Sage Scrub species. This would increase native shrub canopy cover to match desired cover levels, and increase dominance by native species. Approximately 17.04 acres of Coastal Sage Scrub vegetation will be avoided by the proposed project; however, the Coastal Sage Scrub onsite is contaminated with invasive exotic plant species in varying amounts. Specifically, of the 17.04 acres avoided, 7.6 acres of Coastal Sage Scrub vegetation is highly infested with invasive exotic plants (*Salvia leucophylla-Brassica* Alliance). Enhancement of up to 17.04 acres of degraded Coastal Sage Scrub habitat onsite will mitigate for 28% of the area needed, based on the 1.5:1 enhancement ratio. An additional 43.54 acres would need to be preserved and enhanced, for a total of 60.58 acres of Coastal Sage Scrub enhanced and protected. The lack of reasonable availability (the offsite component) may render this mitigation measure at least partially infeasible.

Exhibit 5.6-22, Potential Habitat Mitigation Areas, shows the locations of remaining Coastal Sage Scrub patches available for implementing the mitigation measures required for impacts to Coastal Sage Scrub habitat.

- *Mitigation Site Selection.* The site for the mitigation shall be determined in coordination with the project applicant and resource agencies. The site shall be located on the proposed development site in a dedicated open space area or dedicated open space area shall be purchased offsite. Appropriate sites shall have suitable hydrology and soils for the establishment of target native species.
- *Site Preparation and Planting Implementation.* The site preparation shall include: protection of existing native species; trash and weed removal; native species salvage and reuse (i.e. duff); soil treatments (i.e., imprinting, decompacting); temporary irrigation

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installation; erosion control measures (i.e., rice or willow wattles); seed mix application; and container species. Mitigation Measure **BIO1** will aid in planting implementation.

- *Schedule and Maintenance.* A schedule shall be developed which includes planting to occur in late fall and early winter between October 1 and January 30. The maintenance plan shall include: weed control; herbivore control; trash removal; irrigation system maintenance; maintenance training; and replacement planting.
- *Mitigation and Monitoring Plan.* A detailed mitigation plan shall be submitted for approval to the County prior to project implementation. The mitigation plan shall include specifics regarding grassland enhancement, planting details, timing, and monitoring proposed for Coastal Sage Scrub mitigation. The monitoring plan shall include: qualitative monitoring (i.e. photographs and general observations); quantitative monitoring (e.g. randomly placed transects); performance criteria as approved by the resource agencies; monthly reports for the first year and bimonthly thereafter; and annual reports for five years that shall be submitted to the resource agencies. The site shall be monitored and maintained for five years to ensure successful establishment of Coastal Sage Scrub habitat within the restored and created areas.
- *Long-term Preservation.* Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development. An appropriate legal instrument over the area to be preserved shall be recorded prior to implementation of site grading to ensure protection in perpetuity.
- *Earth-moving Equipment.* Earth-moving equipment shall avoid maneuvering in any area identified as natural open space areas. Prior to grading, the open space limits shall be marked by the construction supervisor and the project biologist. These limits shall be identified on the grading plan.

Implementing Mitigation Measure **BIO1** and **BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: If mitigation measure **BIO25** is implemented, then the impact will be *less than significant*. If offsite acquisition of mitigation land proves infeasible, the permanent loss of 43.54 (unmitigable) acres of Coastal Sage Scrub onsite would be considered a *significant* impact.

Cumulative Impacts:

Coastal Sage Scrub was once extensive and wide-ranging in coastal California; however, the extent of Coastal Sage Scrub habitat has been reduced substantially, by up to 70 percent, since European colonization. Coastal Sage Scrub has been reduced as a result of agriculture (orchards) and urban development.

The direct loss of approximately 40.39 acres of Coastal Sage Scrub habitat for wildlife at the Lyons Canyon Ranch project site contributes to the cumulative loss of Coastal Sage Scrub habitat. Currently proposed and permitted projects will further reduce Coastal Sage Scrub habitats in the near future. Since Coastal Sage Scrub habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of Coastal Sage Scrub will be mitigated in part; however, an incremental loss of Coastal Sage Scrub will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

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LOSS OF CHAPARRAL HABITAT

Approximately 69.41 acres of functional Chaparral habitat exists on the Lyons Canyon Ranch property. Approximately 32.66 acres will be impacted by the proposed project (47%) (including the loss of 23.57 acres resulting from direct grading impacts and the loss of an additional 9.09 acres resulting from indirect fuel modification impacts). This loss will decrease natural open areas and contribute to the loss of habitats for several wildlife species. 36.75 acres of Chaparral will be avoided onsite.

Chaparral habitats are typically not considered sensitive habitats. However, Lyon Canyon SEA 63 specifically focuses on Chamise Chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek. SEA 63 includes the middle portion of the creek with the eastern end of the SEA in the center of the Lyons Canyon Ranch, extending westward beyond the project site. Lyon Canyon SEA 63 is approximately 174.45 acres total, of which approximately 58.48 acres of SEA 63 exist onsite.

The northern portion of the SEA contains Chamise Chaparral, which is dominated by *Adenostoma fasciculatum* (Chamise) and includes *Rhus ovata* (Sugarbush), *Ceanothus crassifolius* (Snowball Ceanothus), and *Salvia mellifera* (Black Sage), as major canopy contributors.

Of the 58.48 acres of SEA 63 existing onsite, 18.27 acres is occupied by Chaparral. Of the 18.27 acres of Chaparral within the SEA, approximately 7.34 acres will be directly impacted by the proposed project, and at least an additional 1.54 acres will be indirectly impacted resulting from fuel modification. Therefore, a total of 8.88 acres of Chaparral will be impacted within SEA 63. This is considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

No feasible mitigation is available other than avoidance.

Level of Significance After Mitigation: Significant

Cumulative Impacts:

The direct loss of approximately 23.57 acres, and the indirect loss of 9.09 acres (fuel modification), of Chaparral habitat for wildlife at the Lyons Canyon Ranch project site contributes to the cumulative loss of Chaparral habitat and open area throughout the region. Currently proposed and permitted projects will further reduce Chaparral habitats in the near future. An incremental loss of Chaparral will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

LOSS OF SOUTHERN CALIFORNIA BLACK WALNUT WOODLAND

The sensitive Southern California Black Walnut Woodland plant community observed onsite is also classified as *Juglans californica* Alliance, which is dominated by *Juglans californica* var. *californica*. Approximately 1.89 acres of Southern California Black Walnut Woodland exists

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onsite. Of the 1.89 acres, approximately 0.50 acre (consisting of approximately 10 walnut trees) will be impacted (27%) as a result of the Lyons Canyon Ranch project (including the loss of 0.08 acres resulting from direct grading impacts and the loss of an additional 0.42 acres resulting from indirect fuel modification impacts). 1.39 acres of Southern California Black Walnut Woodland will be preserved onsite.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementing Mitigation Measure **BIO4** for loss of *Juglans californica* var. *californica* individuals onsite will mitigate for the loss of 0.50 acre of *Juglans californica* Alliance onsite as well. Implementing Mitigation Measures **BIO1 and BIO2** will also mitigate for this impact.

Exhibit 5.6-22, Potential Habitat Mitigation Areas, shows the locations of possible mitigation sites available for implementing the mitigation measures required for impacts to *Juglans californica* var. *californica* and Walnut Woodland.

Level of Significance After Mitigation: Because a small amount of Southern California Black Walnut Woodland will be impacted onsite (0.5 of an acre) by the proposed project, and because impacts to this sensitive plant community are easily mitigated, impacts to this habitat would be considered *less than significant* after mitigation.

Cumulative Impacts: Less Than Significant

LOSS OF COAST LIVE OAK TREES, VALLEY OAK TREES, SCRUB OAKS, AND OAK WOODLANDS

Under the Los Angeles County Oak Tree Ordinance, “a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus, which is 8 inches or more in diameter four and one-half feet above mean natural grade or in the case of oaks with multiple trunks a combined diameter of twelve inches or more of the two largest trunks.”

Based on this 8-inch-diameter requirement for an oak species to be considered an oak tree, the project site contains 1,409 oak trees, including 1,363 *Quercus agrifolia* var. *agrifolia* (Coast Live Oak), 25 *Quercus lobata* (Valley Oak), and 21 *Quercus berberidifolia* (Scrub Oak) trees. Many of these trees have been damaged or killed by the Simi Fire of October 2003, but a complete assessment of post-fire conditions has not been performed; therefore, the impact assessment is based conservatively upon pre-fire conditions.

A detailed GIS database was developed by DMEC for the assessed oak trees, which was used to determine which trees, by type, would be affected directly or indirectly by various project configurations and alternatives.

The following are oak tree definitions used here to determine oak tree impacts:

- **Lost Tree:** Any tree, the centerpoint of which is located within the grading limits of the project.

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- **Encroached Tree:** Any tree, the protected zone of which is located within the grading limits of the project.
- **Avoided Tree:** Any tree that is neither lost nor encroached.
- **Protected Zone:** "...area within the dripline of an oak tree and extending there from to a point at least five feet outside the dripline, or 15 feet from the trunks of a tree, whichever distance is greater..." (Los Angeles County Oak Tree Ordinance 22.56.2060).

Based on the oak tree assessment and GIS database developed for the assessed oak trees, the number of oak trees potentially affected by the proposed project is calculated in Table 5.6-14, Impacts of Project on Onsite Oak Trees, which lists the trees by species. (Refer to DMEC's *Oak Tree Assessment for Lyons Canyon Ranch* provided as Appendix H of this EIR [DMEC 2004b] for a more detailed account of the oak trees existing onsite.)

A total of 1,409 oak trees meeting the Los Angeles County definition are documented to have occurred onsite prior to the Simi Fire of October 2003, as listed by species in Table 5.6-14 and illustrated in DMEC's oak tree assessment (provided as Appendix H of this EIR). Of these 1,409 oak trees onsite, the proposed project is expected to directly impact (or result in the loss of) 179 oak trees, and is expected to indirectly impact (encroach upon) 75 oak trees as a result of grading activities onsite. The remaining 1,155 oak trees would be avoided by the proposed project and preserved in the open space preserve areas of the site or in small internal park areas containing the avoided trees.

Table 5.6-14. Impacts of Project on Onsite Oak Trees²⁰

Scientific Name	Common Name	Number of Lost Trees	Number of Encroached Trees	Number of Avoided Trees	Total Number
<i>Quercus agrifolia</i> ssp. <i>agrifolia</i>	Coast Live Oak	168(1)	69	1,126	1,363(1)
<i>Quercus berberidifolia</i>	Scrub Oak	5	1	19	25
<i>Quercus lobata</i>	Valley Oak	6	5	10(1)	21(1)
Total:		179(1)	75	1,155(1)	1,409(2)

Heritage oak trees onsite are summarized in Table 5.6-15, Impacts of Project on Onsite Heritage Oak Trees. The location of heritage oaks that would potentially be impacted by the proposed project is illustrated in the oak tree assessment (DMEC 2004b). A total of 17 heritage-size Coast Live Oak trees will be lost as a result of the proposed project, and 8 heritage Coast Live Oak trees will be encroached upon as a result of the proposed project. None of the heritage-sized Valley Oak trees would be lost from the proposed project; however, 3 heritage Valley Oak trees will be encroached upon as a result of the proposed project.

²⁰ Trees in parentheses indicate trees that were dead pre-fire. This table includes all oak trees onsite, including Heritage oak trees. Heritage oak trees are presented separately in Table 5.6-15, Impacts of Project on Onsite Heritage Oak Trees.

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Table 5.6-15. Impacts of Project on Onsite Heritage Oak Trees

Scientific Name	Common Name	Number of Lost Heritage Trees	Number of Encroached Heritage Trees	Number of Avoided Heritage Trees	Total Number of Heritage Trees
<i>Quercus agrifolia</i> <i>ssp. agrifolia</i>	Coast Live Oak	17	8	52	77
<i>Quercus berberidifolia</i>	Scrub Oak	0	0	0	0
<i>Quercus lobata</i>	Valley Oak	0	3	2(1)	5(1)
Total:		17	11	54(1)	82(1)

The impact assessment for impacts to 254 oak trees (loss of 179 plus the encroachment of 75) existing onsite (shown above on Exhibit 5.6-19, Grading Impacts to Lyons Canyon Ranch Vegetation, including Trees) is as follows.

- 168 trees are **Coast Live Oaks** that will be lost (including 17 heritage trees), and 69 trees are Coast Live Oaks that will be encroached upon (including 8 heritage trees), totaling 237 Coast Live Oaks to be impacted onsite. Impacts to 237 Coast Live Oaks is considered a *significant* impact.
- 6 trees are **Valley Oaks** that will be lost, and 5 trees are Valley Oaks that will be encroached upon (including 3 heritage trees), totaling 11 Valley Oaks to be impacted onsite. Impacts to 11 Valley Oaks is considered a *significant* impact.
- 5 individuals are **Scrub Oaks** that will be lost, and 1 individual is a Scrub Oak that will be encroached upon, totaling 6 Scrub Oaks to be impacted onsite. Impacts to 6 Scrub Oaks is considered a *significant* impact.

The impact assessment for impacts to oak woodlands existing onsite (Exhibit 5.6-19) is as follows:

- Approximately 38.42 acres of **Coast Live Oak Upland Woodland** currently exist onsite. Of the 38.42 acres, approximately 7.87 acres will be impacted (21%) as a result of the project and 30.55 acres will be preserved. The loss of 7.87 acres of Coast Live Oak Woodland resulting from direct grading impacts (no indirect impacts resulting from fuel modification are expected) would be considered a *significant* impact.
- Approximately 1.65 acres of **Coast Live Oak Riparian Woodland** exist onsite. Of the 1.65 acres, approximately 0.92 acres will be impacted (56%) as a result of the proposed project and 0.73 acre will be preserved. The loss of 0.92 acre of Coast Live Oak Riparian Woodland resulting from direct grading impacts (no indirect impacts resulting from fuel modification are expected) would be considered a *significant* impact.
- Approximately 0.23 acres of **Valley Oak Woodland** exist onsite. Of the 0.23 acres, approximately 0.03 acres will be impacted (13%) as a result of the proposed project and 0.20 acre will be preserved. The loss of 0.03 acres of Valley Oak Woodland resulting from direct grading impacts (no indirect impacts resulting from fuel modification are expected) is considered a *significant* impact.

Level of Significance Before Mitigation: Significant

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Recommended Mitigation Measure:

Impacts to the 254 oak trees onsite (including the loss of 179 oaks, and the encroachment of 75 oaks) that contribute to the oak woodland alliances onsite, shall be implemented through a combination of the following measures: preserving the trees to be avoided onsite; planting 15-gallon young oaks onsite at a 2:1 ratio for non-heritage trees impacted, and at a 5:1 ratio for heritage trees impacted, per the County Oak Tree Ordinance replacement criteria; planting oak acorn seedlings onsite at a 5:1 ratio; and/or transplanting selected mature oaks to protected sites.

The temporal loss of the mature oaks cannot be fully mitigated by planting young oaks; however, this temporal loss of tree habitat is typically mitigated through planting at a high ratio, such as 2:1 and 5:1 (planting 2 or 5 saplings for each mature tree lost). Transplanting mature oak trees has been performed numerous times in southern California as mitigation of taking mature oak trees; however, the long-term mortality rate, and the costs associated with transplanting and long-term maintenance of the transplanted trees is high. There are differing expert opinions on the long-term success rate of such efforts.

Exhibit 5.6-23, Potential Oak Tree/Oak Woodland Mitigation Areas, shows the locations remaining onsite to implement the mitigation measures discussed in the following paragraphs.

Implementation of the following mitigation measures should partially mitigate for the loss of Coast Live Oak Woodland and Coast Live Oak Riparian Woodland onsite:

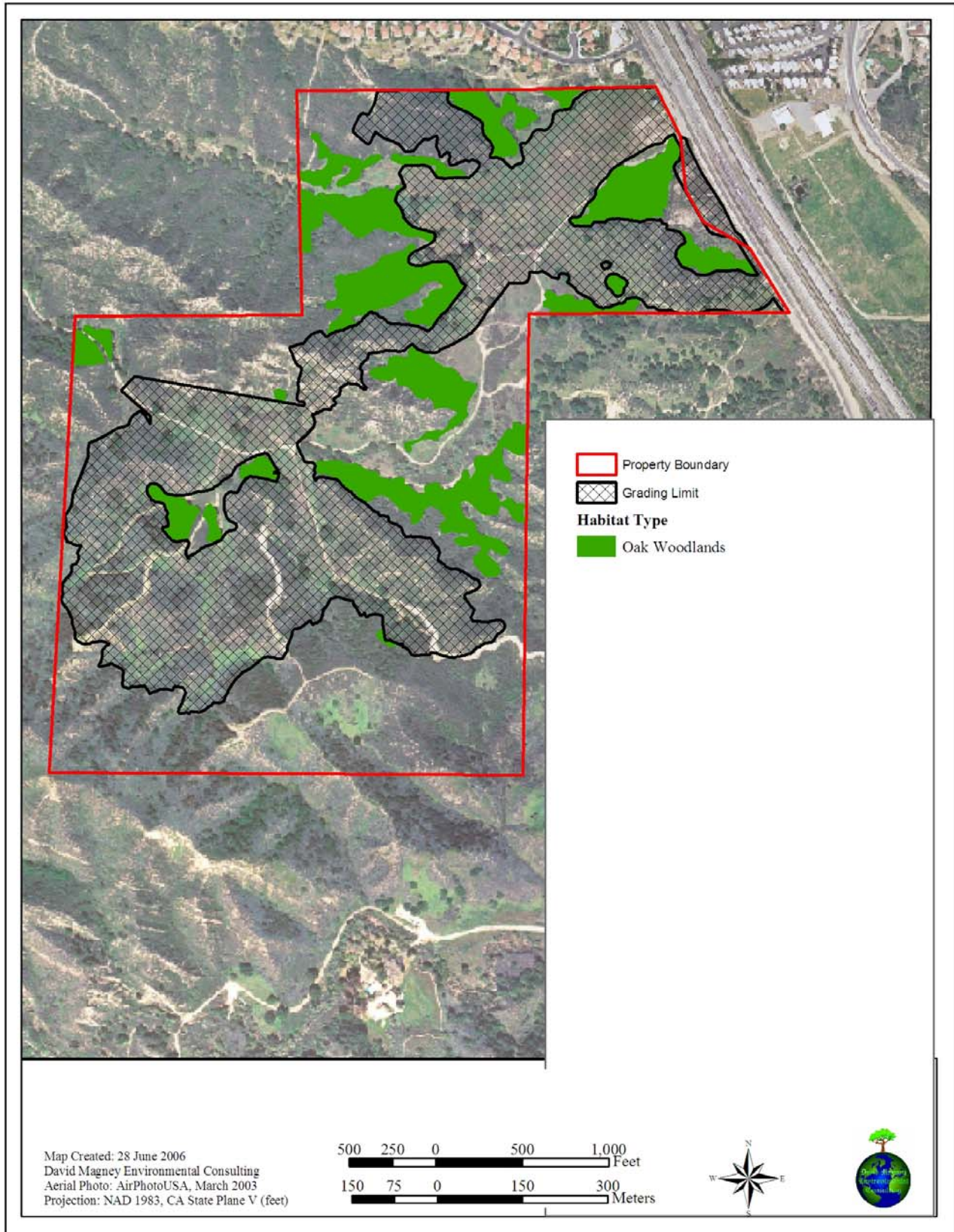
BIO26 Preserve and Protect Avoided Onsite Oak Trees. The 1,155 oak trees to be avoided by the proposed project shall be protected onsite in perpetuity by establishing onsite preserves that are permanently protected from future development and managed for conservation purposes. Management of the preserved trees shall be minimal, focused on facilitating the natural growth and condition of the protected trees and associated habitat.

AND

BIO27 Plant 15-gallon Young Oaks Onsite. To mitigate for the loss of 179, and the encroachment of 75, mature oak trees by the proposed project, young oak trees of all three species impacted shall be planted at a 2:1 ratio for non-heritage trees impacted, and at a 5:1 ratio for heritage trees impacted, per the County Oak Tree Ordinance replacement criteria. Specifically, to mitigate for impacted non-heritage oak trees, an overall mitigation ratio of two 15-gallon oaks shall be planted for each tree impacted. To mitigate for impacted heritage oak trees, an overall mitigation ratio of five 15-gallon oaks shall be planted for each tree impacted. Therefore, at a 2:1 ratio, 454 15-gallon young oak individuals (including 424 *Q. agrifolia*, 12 *Q. berberidifolia*, and 8 *Q. lobata*) would be required for mitigation for the impacts to 227 *non-heritage* oak trees (including 162 non-heritage lost and 65 non-heritage encroached) onsite. In addition, 140 15-gallon young oak individuals (including 125 *Q. agrifolia* and 15 *Q. lobata*) would be required for mitigation for the impacts to 28 *heritage* oak trees (including 17 heritage lost and 11 heritage encroached) onsite. A total of 594 15-gallon oaks will be required to mitigate for impacts to 254 oak trees, including 28 heritage trees. No sensitive habitat shall be impacted as a result of any planting activities. The planted trees shall be maintained and monitored for a period of seven (7) years after planting. Success of this mitigation measure will be achieved if 50 percent of the acorns or seedlings survive after 7 years. Implementation of **BIO1** should also mitigate for impacts to oak species and woodland onsite.

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Exhibit 5.6-23. Potential Oak Tree/Oak Woodland Mitigation Areas



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Contribute Funds to the Oak Species Forest Fund. If the success criteria for this mitigation measure are not met, the Applicant shall contribute to the Oak Species Forest Fund. The compensation rate shall be set at 50 percent of the assessed economic value of the trees lost, less the estimated economic value of the trees successfully covered under Mitigation Measures **BIO27** and **BIO28**. The economic value of the 179 oak trees to be lost is \$4,211,730. In addition, the economic value of the 75 trees to be encroached is \$2,125,400, totaling \$6,337,130 (including \$4,090,830 for 168 *Q. agrifolia* lost; \$1,865,700 for 69 *Q. agrifolia* encroached, \$30,000 for 5 *Q. berberidifolia* lost, \$7,100 for 1 *Q. berberidifolia* encroached, \$90,900 for 6 *Q. lobata* lost, and \$252,600 for *Q. lobata* encroached).

Transplant Selected Mature Oak Trees Onsite. As part of the proposed project, the applicant proposes to transplant several mature and heritage oak trees, that will be impacted from the project, to onsite open areas and landscaped areas. Even though transplanting mature oak trees is expensive and may have a low success rate, the Applicant desires to transplant selected mature oak trees to potentially help mitigate the loss of 179 and the encroachment upon 75 mature oak trees. A detailed transplantation plan shall be developed by a qualified arborist and submitted to the County for approval. Maintenance and monitoring of all transplanted oak trees shall be required for a period of ten (10) years after transplantation. No sensitive habitat shall be impacted as a result of any transplanting activities.

AND/OR

BIO28 Plant Acorns or Oak Seedlings Onsite. To mitigate for the loss of 179, and the encroachment of 75, mature oak trees by the proposed project, sprouted oak acorns seedlings of the species impacted shall be planted in appropriate ratios. To mitigate for impacted oak trees, an overall mitigation ratio of 5 seedlings planted for each tree impacted (a 5:1 replacement ratio) shall be implemented. Therefore, 1,270 container seedlings would be required for mitigation for the impacts to 254 oak trees onsite. The planted seedlings shall be maintained and monitored for a period of seven (7) years after planting. Success of this mitigation measure will be achieved if 75 percent of the acorns or seedlings survive after 7 years. Implementation of **BIO1** should also mitigate for impacts to oak species and woodland onsite.

AND

BIO29 Replace Oak Woodland Habitat Onsite. Oak woodland impacts are estimated at 8.82 (including 7.87 acres of upland Coast Live Oak Woodland impacted, 0.92 acres of Coast Live Oak Riparian Woodland impacted, and 0.03 acre of Valley Oak Woodland impacted), Oak woodland habitat will be replaced onsite at a 2:1 ratio within preserved portions of the project site, or at an offsite location. The oak woodland habitat will partially be replaced with the implementation of Mitigation Measures **BIO26 through BIO28**. Based on the 2:1 ratio, a total of 16.4 acres of oak woodland shall be created onsite, offsite, or a combination of onsite and offsite locations. The oak woodland habitat shall be monitored and maintained for a period of seven (7) years.

Onsite Oak Mitigation Implementation Plan. In addition to the mitigation measures outlined above, a full oak tree report with the health, diameter at breast height (dbh), and canopy diameter of each tree within the impact area and fuel modification zone shall be

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submitted to the County of Los Angeles prior to grading. The report shall also outline the mitigation for removal of oak trees. The mitigation shall include the following measures:

- Prior to grading, orange construction or chain-link fencing shall be installed around trees (10 feet outside the dripline of each tree or groups of trees) that should not be impacted by construction. Fencing shall be in place and inspected prior to commencement of grading. This fencing shall remain in place throughout the entire period of construction.
- The County-required 15-gallon oak tree replacement shall be implemented onsite at a 2:1 ratio for non-heritage trees impacted and at a 5:1 ratio for heritage trees impacted. Or, the preferred replacement with tree seedlings shall be planted directly onsite as sprouted seedlings in liner tubes. Such plants are better able to become established and healthy trees that are adapted to site conditions. For each oak tree removed, the mitigation shall require replacement trees of indigenous oak species in the ratio of at least 5:1 for container seedling planting.
- The landscape architect/designer for this project shall design these replacement trees into the landscape to replace the habitat of removed woodlands. The habitat shall be reviewed by a qualified botanist and shall be comparable to the removed woodland.
- Planting specifications shall consider the following:
 - Newly planted trees shall be planted above grade and maintained for seven years, including irrigation, weed control, herbivore protections, and replacement.
 - Amending the backfill soil with wood shavings, oak-leaf mold, etc. is not recommended when existing soil is high in natural organic matter with a sandy loam texture.
 - Recommendations for the need of planting amendments and drainage systems shall be based on soil tests of this project and approved by the county.
 - Any County approved work within the driplines of saved trees, including branch removal, shall be under the inspection of a qualified arborist.

AND

BIO30 Landscape Irrigation Out of Oak Driplines. Landscaping requiring irrigation shall not be planted within the dripline of oaks due to the susceptibility of native oaks to root rot caused by excessive unseasonable irrigation. The design and installation of landscape irrigation systems outside the dripline of the oaks shall be such that the area within the dripline is not wetted during operation of the system. In addition, surface runoff from impermeable surfaces shall be directed away from oaks; where natural topography has been altered, provisions shall be made for drainage away from trunks of oaks so that water shall not pond or collect within the dripline of any oak. If any existing oak tree are damaged or impacted by the affects of irrigation of mitigation plantings, additional plantings shall be implemented as replacement.

Implementing Mitigation Measure **BIO1 and BIO2** will also mitigate for this impact.

Level of Significance After Mitigation: Significant. The temporal loss of habitat function cannot be mitigated until all planted Coast Live Oak, Valley Oak, and Scrub Oak trees reach maturity.

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Cumulative Impacts:

Oak trees and oak woodlands throughout southern California have been decreasing in area and numbers since European colonization. Urban expansion in the Santa Clarita Valley region of Los Angeles County has significantly reduced oak trees and oak woodlands in the last 10 years, and currently proposed and permitted projects will further reduce them in the near future.

The loss of 168 Coast Live Oak trees onsite, the encroachment of 69 Coast Live Oak trees onsite, and the loss of approximately 8.79 acres of Coast Live Oak (Upland and Riparian) Woodland onsite, as a result of the proposed Lyons Canyon Ranch project, will contribute to this regional cumulative loss, and is considered a *cumulatively significant and unavoidable* impact.

The loss of 6 Valley Oak trees onsite, the encroachment of 5 Valley Oak trees onsite, and the loss of approximately 0.03 acre of Valley Oak Woodland onsite, as a result of the proposed project, will contribute to this regional cumulative loss, and is considered a *cumulatively significant and unavoidable* impact.

The loss of 5 Scrub Oaks onsite and the encroachment of 1 Scrub Oak onsite, as a result of the proposed project, will also contribute to this regional cumulative loss, and is considered a *cumulatively significant and unavoidable* impact.

Proposed mitigation will reduce these cumulative losses onsite somewhat; however, a temporal loss of these habitats will occur for at least 10 decades until the planted trees reach full maturity.

LOSS OF WETLAND HABITATS AND PLANT COMMUNITIES

The Lyons Canyon Ranch project will result in impacts to riparian habitats, including waters and wetlands regulated by federal and state agencies. Several wetland and/or riparian plant communities will be directly and indirectly affected by the proposed project. Since wetlands and waters of the United States will be affected, a permit from the U.S. Army Corps of Engineers (Corps) will be required. CDFG regulated wetland habitats are also present, and would be impacted. A Streambed Alteration Agreement will be required to alter wetland habitats under CDFG jurisdiction.

Under US Army Corps of Engineers standards, a total of 9.10 acres of “Waters of the United States” and “Wetlands” are found on the project site, of which 2.96 acres would be impacted by the proposed project. A total of 15.51 acres of CDFG riparian habitat and stream courses occur onsite, of which 5.74 acres would be impacted by the proposed project. A detailed breakdown of on-site wetlands and riparian habitat under jurisdiction of the Corps and CDFG are calculated in Table 5.6-16, Summary of All Jurisdictional Waters, Wetland, and Riparian Areas at Lyons Canyon Ranch.

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Table 5.6-16. Summary of All Jurisdictional Waters, Wetland, and Riparian Areas at Lyons Canyon Ranch

Agency/Status	Stream Lengths (linear feet)	Total Area (acres)	Proposed Project Impacts (acres)
Corps Jurisdictional Waters of the U.S., excluding wetlands	28,723.8	4.35	2.11
Corps Jurisdictional Wetlands	6,216.0	4.75	0.85
Total Corps Jurisdiction (Waters and Wetlands)	34,939.8	9.10	2.96
CDFG Riparian Habitats	14,474.5	12.44 ²¹	4.38
CDFG stream courses (without riparian vegetation)	19,343.4	3.07	1.36
Total CDFG Jurisdictional Area²²	33,814.9	15.51	5.74

Direct impacts to wetland and riparian habitats are regulated by the Corps and/or CDFG pursuant to Section 404 of the Clean Water Act and Section 1600 *et seq.* of the California Fish and Game Code, respectively. The loss of, or damage to, riparian trees and shrubs that contribute to a sensitive habitat type is considered a *significant direct and cumulative impact*, directly and indirectly negatively affecting wildlife inhabiting it.

Corps and CDFG regulatory requirements are described below.

Corps Jurisdictional Waters and Wetlands

State and federal regulations have been established to protect wetland and water quality resources. Section 404 of the Clean Water Act regulates certain activities within waters of the U.S., including wetlands. The State Water Resources Control Board, through regional water quality control boards (Los Angeles RWQCB), regulates discharges into waters of the U.S. and the State, pursuant to Section 401 of the Clean Water Act. Waters of the U.S., including stream channels and wetlands, fall under the jurisdiction of the Corps under Section 404 of the Clean Water Act. (Refer to DMEC 2004a.)

The Corps, under Section 404 of the Clean Water Act, defines a wetland as possessing the following three general diagnostic environmental characteristics during the growing season: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The Corps requires that one or more indicators, for each of the three wetland criteria, be met in order for an area in question to be considered a jurisdictional wetland. This requirement for the presence of all three environmental conditions does not apply in Atypical Situations and in problem areas; therefore, all three wetland parameters need not be met for most portions of Lyons Canyon Ranch since most of the property is in an Atypical Situation (DMEC 2004a).

²¹ The area of riparian habitat was calculated from the delineation of habitat by the field surveys and aerial photograph interpretation of pre-burned vegetation.

²² Includes all areas under CDFG jurisdiction, including areas lacking riparian vegetation.

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The function of Riverine (aquatic) habitats is largely dependent upon the natural channel morphology and bordering native plant communities, both of which will be temporarily altered by the project. Thus, the completion of the proposed project will have negative effects on the overall ecosystem function of the aquatic habitat of the Lyon Canyon Creek portion of the project site.

The Riverine habitat onsite is classified as Riverine Intermittent Streambed. This habitat is jurisdictional waters of the U.S., but is not determined to be a *wetland* under Corps jurisdiction, since it has positive indicators for the presence of only two of the three wetland criteria: (1) wetland hydrology, including drift lines, sediment deposits, and drainage patterns; and (2) sand and Riverwash hydric soils. The Riverine habitat located in the immediate active creek bottom is not dominated by hydrophytic vegetation. This habitat lacks vegetation in general, except for a few scattered emergent forbs.

A total of 9.1 acres of Corps jurisdictional waters of the U.S., including wetlands, have been verified (Corps pers. comm.) as occurring on the project site, which includes the adjacent Taylor-Prentice property immediately to the southeast (DMEC 2004a). Of the 9.1 acres, 4.75 acres are Corps jurisdictional *wetlands*.

The proposed project will result in impacts to approximately 0.85 acre of Corps jurisdictional wetlands, and approximately 7,820.93 linear feet (2.11 acres) of Corps jurisdictional waters (not including wetlands), or Riverine habitat. (DMEC 2004a.).

CDFG Jurisdictional Riparian Habitats

The California Fish and Game Code protects and regulates activities associated with wildlife and wildlife habitats. Wetlands, such as habitats occurring in freshwater stream channels, are considered sensitive and declining by several regulatory agencies, including CDFG and USFWS. Stream channels and banks are specifically addressed by the CDFG Streambed Alteration Agreement, pursuant to Section 1600 *et seq.* of the California Fish and Game Code.

CDFG jurisdictional wetlands and riparian habitat onsite totals 15.51 acres, of which 12.44 acres consists of riparian vegetation. The remaining 3.07 acres consists of unvegetated ephemeral drainages, usually on the steep slopes of the project site. The construction activities to be conducted in Lyon Canyon Creek and tributaries will substantially adversely affect existing biological resources of the project site and will result in the loss of, or disturbance to, a total of approximately 5.74 acres of CDFG jurisdictional wetlands and riparian habitat.

All impacts should be minimized to the maximum extent possible, such as keeping the area of impact as small as possible. Impacts resulting from project construction activities within the sensitive riparian zone should also be compensated for by implementing specific mitigation measures (restoration). A Streambed Alteration Agreement will need to be obtained from CDFG to modify existing wetland riparian habitats under CDFG jurisdiction.

Loss of Sensitive Wetland Plant Communities

The riparian vegetation onsite provides functional habitat for a number of plant and wildlife species. For example, riparian habitat is used for nesting and foraging sources for several species of birds, as well as cover and foraging habitat for small and large mammals, some of which may use the site as a movement corridor where the site vegetation provides cover from predators.

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Four riparian habitats exist onsite, all of which are sensitive wetland habitats, and they include: Coast Live Oak Riparian Woodland (discussed earlier), Cismontane Alkali Marsh, Southern Riparian Scrub, and Southern Mixed Riparian Forest. The acreage and Alliance names for these sensitive habitat types are presented below in Table 5.6-17, Impacts to Sensitive Riparian Plant Communities.

Table 5.6-17. Impacts to Sensitive Riparian Plant Communities

Vegetation Type	Sensitive ?	Existing Area (Acres)	Grading Impact (Acres)	Fuel Mod Impact (Acres)	Total Impacts (Acres)	Percent Impact	Significant?	Area Preserved (Acres)
Coast Live Oak Riparian Woodland (<i>Quercus agrifolia</i> Alliance)	Yes	1.65	0.92	(0.46)	0.92	56	Yes	0.73
Southern Mixed Riparian Forest (<i>Salix lasiolepis</i> Alliance and <i>Salix laevigata</i> Alliance)	Yes	0.81	0.00	0.09	0.09	11	Yes	0.72
Southern Riparian Scrub (<i>Baccharis salicifolia</i> - <i>Sambucus mexicana</i> Alliance)	Yes	9.15	3.56	0.19	3.75	41	Yes	5.40
Cismontane Alkali Marsh (<i>Distichlis spicata</i> Alliance)	Yes	0.34	0.26	0.08	0.34	100	Yes	0.00
Totals:	-	11.95	4.74²³	0.36²⁴	5.10	43%	Yes	6.85

A total of 11.95 acres of riparian habitat is mapped as existing onsite. Approximately 1.65 acres of **Coast Live Oak Riparian Woodland** (*Quercus agrifolia* Alliance) exists onsite. Of that, 0.92 acre (56%) will be directly impacted as a result of the proposed project (no indirect impacts from fuel modification are expected), and 0.73 acre will be preserved. Approximately 9.15 acres of **Southern Riparian Scrub** (*Baccharis salicifolia*-*Sambucus mexicana* Alliance) exists onsite. Of this, 3.75 acres (41%) of will be impacted as a result of the Lyons Canyon Ranch project (including the loss of 3.56 acres resulting from direct grading impacts and the loss of an additional 0.19 acre resulting from indirect fuel modification impacts), and 5.40 acres will be preserved. Approximately 0.34 acre of **Cismontane Alkali Marsh** (*Distichlis spicata* Alliance) exists onsite. Of this, 0.34 acre (100%) will be impacted as a result of the proposed project (including the loss of 0.26 acre resulting from direct grading impacts and the loss of an additional 0.08 acre resulting from indirect fuel modification impacts), and 0.0 acre will be preserved. These three habitats are not only sensitive plant communities tracked by CDFG's CNDDDB RareFind3 (CDFG 2005), the riparian habitats are also considered jurisdictional wetlands by regulatory agencies. No existing **Southern Mixed Riparian Forest** (*Salix lasiolepis* Alliance and *Salix laevigata* Alliance) will be impacted as a result of the proposed project.

Wetlands such as freshwater stream channels are considered sensitive and declining by several regulatory agencies, including CDFG and the U.S. Fish and Wildlife Service (USFWS). Stream

²³ This area includes only the jurisdictional area dominated by wetland/riparian vegetation, and excludes jurisdictional areas not dominated by riparian vegetation.

²⁴ This total does not include the fuel modification area for Coast Live Oak Riparian Woodland since no oaks will be impacted within the fuel modification zone.

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channels and banks are specifically addressed by the California Fish and Game Code Section 1600 *et seq.* (Streambed Alteration Agreement). Waters of the U.S., including stream channels and wetlands, may fall under the jurisdiction of Corps under Section 404 of the Clean Water Act.

Of the 11.95 acres of sensitive riparian habitat onsite, direct impacts to 4.74 acres of that jurisdictional wetland and riparian habitat will result from the development of the proposed project, and indirect additional impacts to 0.36 acre of that jurisdictional wetland and riparian habitat will result from the subsequent fuel modification. A Streambed Alteration Agreement will be required from CDFG, and a permit will be required from the Corps to alter or fill those wetlands under CDFG or Corps jurisdiction. The completion of the proposed project will have negative effects on the overall ecosystem function of Lyon canyon Creek, its tributaries, and the associated riparian wetlands. Mitigation measures will be implemented to compensate for permanently lost wetlands and a temporary loss of ecosystem functions. The Applicant will implement measures to avoid and minimize unnecessary impacts to waters of the U.S., and to biological resources. Furthermore, the Applicant will implement a long-term monitoring program to ensure that any mitigation efforts are successful.

Level of Significance Before Mitigation: Significant.

Recommended Mitigation Measure:

Impacts to 5.10 acres of wetland and riparian habitats shall be minimized to the maximum extent possible. Compensation for direct permanent impacts to wetlands shall be replaced at a 2:1 ratio in area, in-kind (10.20 acres of mitigation area required), or resulting in an increase in wetland functions onsite by at least ten (10) percent. Exhibit 5.6-22, Potential Habitat Mitigation Areas, shows the locations of remaining wetland habitat patches available for implementing the mitigation measures required for impacts to wetland and riparian habitats. The following measures should be implemented:

BIO31 Implement Best Management Practices (BMPs) During Construction In/Near Wetlands to Minimize Impacts. Impacts to riparian habitat shall be minimized to the maximum extent possible by implementing the following BMPs:

- Construction equipment shall only cut back or cut down riparian habitat that is absolutely necessary for construction equipment access;
- All construction activities, within the banks of Lyon Creek and tributaries, should be conducted during seasons of no, or minimal, channel flows (summer/early fall);
- A path through the creek channel shall be selected that minimizes impacts to the existing riparian vegetation;
- A fence shall be placed around any (mature) trees, which are less efficiently replaced by mitigation/restoration efforts;
- All active wildlife nests existing within the project site riparian vegetation shall be protected and avoided by construction equipment; and
- A biological monitor shall be present during all construction activities within or adjacent to the drainages of Lyon Canyon that are not to be impacted.

BIO32 Protect Existing Wetlands Onsite. 6.85 acres of existing wetlands, not to be impacted by the proposed project, shall be protected in perpetuity through a prohibition from any development. The wetland preserve area(s) shall be clearly marked with signs,

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and a public education program shall be developed for future residences of the project site and visitors.

BIO33 Enhance Existing Disturbed Wetlands Onsite. Existing wetlands not impacted by the proposed project currently are degraded by past activities on the project site (e.g. road crossings, fill, culverts, berms, dumping, invasion by exotic plants). A 1/3 credit shall be allowed for every acre of existing protected wetland habitat that is enhanced onsite and shall be credited towards the 10.20 acres required for mitigation. Therefore, 1/3 of the protected 10.20 acres equals 3.37 acres to be enhanced. Enhancement activities shall include: removing all foreign materials from wetland areas; eradicating and controlling invasive exotic plant species; and planting native riparian plant species in disturbed areas. Nearly all the wetland areas onsite are currently in a degraded condition, to varying degrees, and are available for habitat enhancement. Approximately 10.20 acres is required for mitigation based on the 2:1 ratio. The 10.20 acres of required mitigation area minus the 3.37 acres of enhanced wetlands habitat equals 6.83 acres of mitigation that is still required to be created. Since the County will not permit riparian mitigation within the detention basins onsite, the applicant shall be required to implement one of the following measures: (1) make a payment to an in-lieu fee mitigation program; (2) contribute to a mitigation bank; or (3) create offsite mitigation for 6.83 acres of remaining required mitigation after enhancement of 3.37 acres onsite (totaling the required 10.20 acres based on the 2:1 mitigation ratio).

BIO34 Prepare Disturbed Wetland Areas for Replanting. After efforts to minimize the impacts to the riparian vegetation are implemented, appropriate areas of the project site shall be restored, and lost habitat mitigated. This shall be accomplished by implementing the following mitigation measures:

- Regrading portions of the drainages to accommodate onsite revegetation and to accomplish natural sinuosity of the creek channel;
- Replacing and planting selected portions of the site with indigenous riparian plant species;
- Maintaining and irrigating the restored area;
- Removing invasive exotic plants, such as *Centaurea melitensis* (Tocalote), and replacing them with native species to increase species diversity and habitat function; and
- Monitoring the site for at least five (5) years after restoration plantings have been completed.

BIO35 Design and Implement a Wetlands Restoration Plan. Prior to implementation of any restoration, a detailed program shall be developed by the project applicant and shall be approved by the Corps and CDFG as part of the 404 and 1600 *et seq.* permitting process. The program shall contain the following items:

- *Responsibilities and qualifications of the personnel to implement and supervise the plan.* The responsibilities of the landowner, technical specialists, and maintenance personnel that shall supervise and implement the restoration plan shall be specified.
- *Site selection.* The site for the mitigation shall be determined in coordination with the project applicant and resource agencies. The site shall either be located on the proposed development site in a dedicated open space area or dedicated open space area shall be purchased off-site. Appropriate sites shall have suitable hydrology and soils for establishment of riparian species.
- *Site preparation and planting implementation.* The site preparation shall include: protection of existing native species; trash and weed removal; native species salvage and reuse (i.e., duff); soil treatments (i.e., imprinting, decompacting); temporary irrigation installation; erosion control measures (i.e., rice or willow wattles); seed mix application; container plantings.

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- *Schedule.* A schedule shall be developed which includes planting to occur in late fall and early winter between October and January.
- *Maintenance plan/guidelines.* The maintenance plan shall include: weed control; herbivore control; trash removal; irrigation system maintenance; maintenance training; and replacement planting.
- *Monitoring plan.* The monitoring plan shall include 1) qualitative monitoring (i.e. photographs and general observations), 2) quantitative monitoring (i.e. randomly placed transects), 3) performance criteria as approved by the resource agencies, 4) monthly reports for the first year and bimonthly thereafter, and 5) annual reports for five years that shall be submitted to the resource agencies on an annual basis. The site shall be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the project applicant may request to be released from the monitoring requirements from USACE and CDFG.
- *Long-term preservation.* Long-term preservation of the site through an appropriate recordable legal instrument shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.
- *Earth-moving equipment.* Earth-moving equipment shall avoid maneuvering in areas outside the identified limits of grading in order to avoid disturbing open space areas that will remain undeveloped. Prior to grading, the open space limits shall be marked by the construction supervisor and the project biologist. These limits shall be identified on the grading plan. No earth-moving equipment shall be allowed within the open space area.
- If work must be conducted when surface water flows are present, specific actions should be taken to avoid increasing water turbidity downstream. Surface water flows should be diverted around all construction activities, and no equipment should be allowed to actively work in flowing water without sedimentation and turbidity control measures in place. In order to minimize impacts to aquatic habitat and aquatic wildlife due to alteration of the Riverine habitat onsite, construction shall be conducted during times of no active channel flows. However, if construction must be conducted while active flows are present within the Riverine system, these measures should be implemented to minimize impacts:
 - Equipment contact with the active channel should be minimized to a maximum extent;
 - Flows should be diverted from the work area, and sedimentation barriers should be installed and maintained;
 - Arising groundwater should be allowed to settle behind a downstream diversion berm prior to discharge to the primary flow channel;
 - Turbidity levels should be monitored and minimized (kept below a 20 percent increase over background turbidity);
 - Employ BMPs for avoiding fuel leaks in or near active flows; and
 - All foreign materials and litter should be removed from the channel.

Implementing Mitigation Measure **BIO2** will also mitigate for this impact.

Adoption and successful implementation of the mitigation measures recommended above would reduce significant adverse impacts to wetlands and wetland functions to a level of *less than significant*.

Level of Significance After Mitigation: Since no areas exist onsite to create 6.83 additional acres of wetlands (the creation of wetlands within the detention basins onsite will not be permitted), the level of significance after mitigation would be *significant and unavoidable*.

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Cumulative Impacts: Since no areas exist onsite to create 6.83 additional acres of wetland , impacts to wetland habitats would be considered a *cumulatively significant and unavoidable impact*.

IMPACTS ON WATER QUALITY

There is potential for the project to contribute to cumulative impacts on water quality degradation in the Santa Clara River via the South Fork tributary.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of the mitigation measures presented in the Hydrology and Water Quality section of this EIR (Mitigation Measure Numbers **HWQ1 through HWQ14**) will mitigate impacts to water quality onsite.

Cumulative Impacts: Less Than Significant

LOSS OF WILDLIFE FORAGING AND COVER HABITATS

The wildlife habitats observed onsite include those sensitive habitats discussed, including Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak-California Black Walnut Woodland, and Southern Riparian Scrub. These habitats observed at Lyons Canyon Ranch are used for nesting and foraging habitat for several species of birds, and cover and foraging habitat for small and large mammals. Several wildlife species use the habitats onsite as a movement corridor where the site vegetation provides cover from predators, and food and water resources. The function of the wetland habitat onsite is improved by the presence of natural upland vegetation and habitats creating cumulative high species richness for the Lyon Canyon area.

When functional wildlife habitat, consisting of ample foraging and cover resources, is degraded or negatively impacted, a temporary reduction in various food sources for aquatic, semi-aquatic, and terrestrial wildlife species typically follows. For example, stream channel disturbances - such as changes in channel morphology, fill of channel materials, surface water quality degradation (increased siltation, turbidity levels, and sedimentation), and removal of mature native vegetation within the water column of Riverine habitats - may result in short-term reductions of aquatic invertebrates, which are a valuable food source for many wildlife species. Furthermore, damaging or clearing plants contributing to a functional wildlife habitat will result in a shortage of cover, nesting, and breeding resources vital for several wildlife species' survival. Therefore, impacts to foraging and cover habitats, contributing to the function of a region's ecosystem, should be minimized and avoided as much as possible.

A total of approximately 118.74 acres of natural vegetation (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts) will be impacted onsite, including sensitive plant communities and wetlands. Collectively, impacts to these wildlife habitats, including impacts that break their connectivity and increase habitat fragmentation, are considered a significant impact.

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Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of the project will result in the loss of approximately 118.74 acres of natural vegetation of the project site, which serves as foraging, cover and nesting habitat for many species in the vicinity of the property. Implementing Mitigation Measures **BIO24 through BIO35** (for restoring natural habitats, including sensitive habitats) will minimize impacts to areas occupied by the foraging and cover habitats required by wildlife species of the project site. Implementing Mitigation Measures **BIO1, BIO2, and BIO4** will also help mitigate for this impact.

Level of Significance After Mitigation: Significant and Unavoidable

Cumulative Impacts:

The wildlife habitats observed onsite include those sensitive habitats discussed, including Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak-California Black Walnut Woodland, and Southern Riparian Scrub. These habitats observed at Lyons Canyon Ranch are used for nesting and foraging habitat for several species of birds, and cover and foraging habitat for small and large mammals. Several wildlife species use the habitats onsite as a movement corridor where the site vegetation provides cover from predators and food and water resources. The function of the wetland habitat onsite is improved by the presence of natural upland vegetation and habitats creating cumulative high species richness for the Lyon Canyon area.

A total of approximately 118.74 acres of natural vegetation (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts) will be impacted onsite, including sensitive plant communities and wetlands. Collectively, impacts to these wildlife habitats, including impacts that break their connectivity and increase habitat fragmentation, are considered a *cumulatively significant and unavoidable* impact.

Impacts of Fuel Modification

The County of Los Angeles Fire Department (LAFD) Fuel Modification Program's objective is to create the defensible space necessary for effective fire protection in newly constructed and/or remodeled homes within the Department's Very High Fire Hazard Severity Zones. Fuel modification zones are strategically placed as a buffer to open space, or areas of natural vegetation and generally would occur surrounding the perimeter of a subdivision, commercial development, or isolated development of a single-family dwelling. (LAFD 1998.)

The fuel modification plan identifies specific zones within a property, which are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation has been modified and/or partially or totally replaced with drought-tolerant, low-fuel-volume plants. (LAFD 1998.)

The Fuel Modification Unit provides guidelines and reviews the landscape and irrigation plans submitted by the property owner for approval before construction of a structure. The fuel

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modification plans vary in complexity and reflect the fire history, the amount and type of vegetation, the arrangement of the fuels, topography, local weather patterns, and construction, design and placement of structures. (LAFD 1998.)

The size and type of the fuel modification zone(s) will be determined by the Fire Department upon review of a preliminary fuel modification plan. Fuel modification distances are designed for typical fire weather scenarios and are not intended to be a blanket requirement for all fuel modification plans. The fuel modification plan shall identify one or more of the following zones: A-Setback Zone; B-Irrigated Zone; C-Thinning Zone; and D-Interface Thinning Zone based upon preliminary plan review by the Forestry Division of the Fire Department. The actual width of zone(s) will depend on the ability to provide desirable clearance distances. The following summarizes the four zones, including their purpose and general requirements (Exhibit 5.6-24, Example of Los Angeles Fire Department Fuel Modification Unit Requirements):

- Zone A- Setback Zone
 - Purpose:
 - Provides defensible space for fire suppression forces.
 - Offers protection from intense flames and sparks or embers carried by strong winds common to a wildfire by reducing the probability of ignition through increased moisture content of existing vegetation and removal of fine fuels.
 - General Requirements:
 - Zone in closest proximity to the structure.
 - Minimum of 20 feet beyond the edge of combustible structures, attached accessory structures, or appendages and projections.
 - For purposes of the fuel modification plan, all combustible accessory structures, appendages, or projections within 20 feet of the combustible structure will be considered as attached.
 - Most vegetation in this zone is limited to ground covers, green lawns, and a limited number of selected ornamental plants.
- Zone B – Irrigation Zone
 - Purpose:
 - Provide defensible space for fire suppression forces.
 - Augment irrigation and planting required by the County Department of Public Works and City Public Works Departments relating to remanufactured slopes and landscape ordinances.
 - General Requirements:
 - May have isolated detached accessory structures such as patio covers, decks, carports, trellises, and other similar accessory structures provided they meet building code requirements.
 - Some native or existing vegetation may remain if spaced according to planting guidelines and maintained free of dead wood, and individual plants are thinned to a percentage as specified during the preliminary review to reduce the fuel load.
 - A large percentage of existing vegetation may be removed and replaced with appropriate irrigated fire resistant and drought tolerant plant material.
- Zone C-Thinning Zone
 - Purpose:

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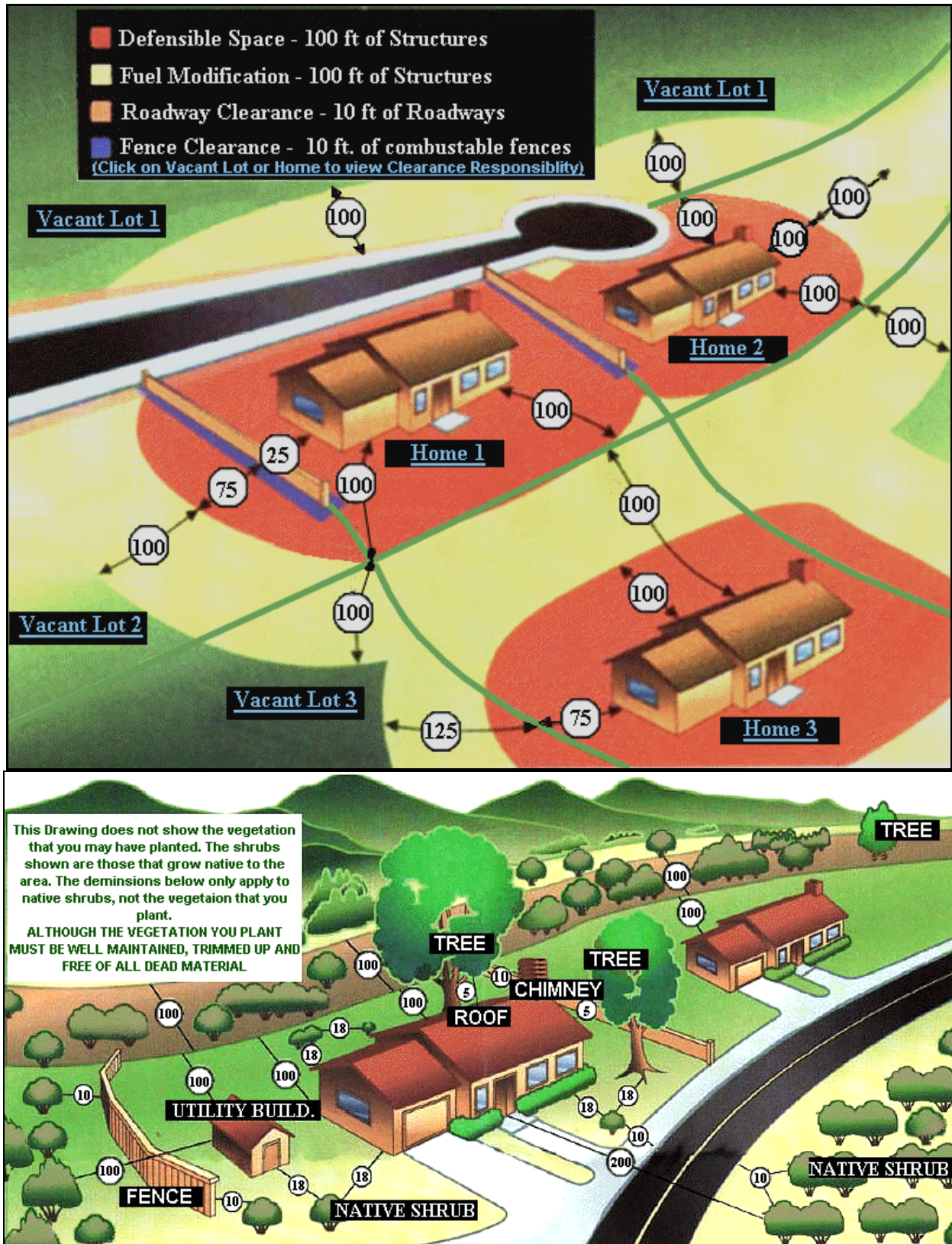
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- Designed to slow the rate of spread, reduce flame lengths, and intensities of the fire prior to reaching the irrigated area.
- Designed to eliminate the spread of fire from one plant to another via ladder fuels and eliminate horizontal continuity by property spacing remaining vegetation and limiting large masses of unbroken vegetation.
- Reduce the fuel load of a wildland area adjacent to a structure, thereby, reducing the radiant and convective heat of wildland fires.
- General Requirements:
 - Predominantly existing vegetation with removal of the majority of undesirable plant species including trees and tree-form shrubs.
 - Reduce fuel loading by reducing the fuel in each remaining shrub or tree without substantial decrease in the canopy cover or removal of soil holding root systems.
 - Some replacement planting with ornamental or less flammable native species to meet minimum slope coverage requirements of city or county public works landscape or hillside ordinances.
 - Natural vegetation is thinned by reduced amounts as the zone moves away from the development.
- Zone D- Interface Thinning Zone
 - Purpose:
 - Designed to slow the rate of spread, reduce flame lengths, and intensities of the fire prior to reaching the irrigated area.
 - Designed to eliminate the spread of fire from one plant to another via ladder fuels and eliminate horizontal continuity by properly spacing remaining vegetation and limiting large masses of unbroken vegetation.
 - Reduce the fuel load of a wildland area adjacent to a structure, thereby, reducing the radiant and convective heat of wildland fires.
 - General Requirements:
 - Area serving as the initial interface between wildland area and fuel modification zones.
 - Consists of native vegetation individually thinned to reduce foliage mass or fuel loading. This does not necessarily require removing plants, but thinning those that exist.
 - Proper thinning and spacing of remaining trees and tree-form native shrubs, reducing fuel load without overly exposing the soil to the threat of erosion.
 - Natural vegetation is thinned by reduced amounts as the zone moves away from the development. (LAFD 1998.)

Exhibit 5.6-25, 26, and 27, Impacts of Grading and Fuel Modification to Lyons Canyon Ranch (1) Vegetation, (2) Special-Status Species, and (3) SEAs, respectively, show the effects of the proposed project and its associated fire clearance on the habitats and sensitive biological resources existing onsite. Since the exact location of each house is not yet known, the impact of the fuel modification zone was estimated by drawing a zone of approximately 175 feet from the proposed development envelope. This analysis excludes the impacts from the actual grading limits; however, those grading limits impacts are discussed above in the first paragraphs of this Project Related Impacts Section. In addition to the loss 98.86 acres of natural vegetation and habitats resulting from the grading envelope, approximately 19.88 acres of natural vegetation will be indirectly impacted by fuel modification and vegetation clearing onsite.

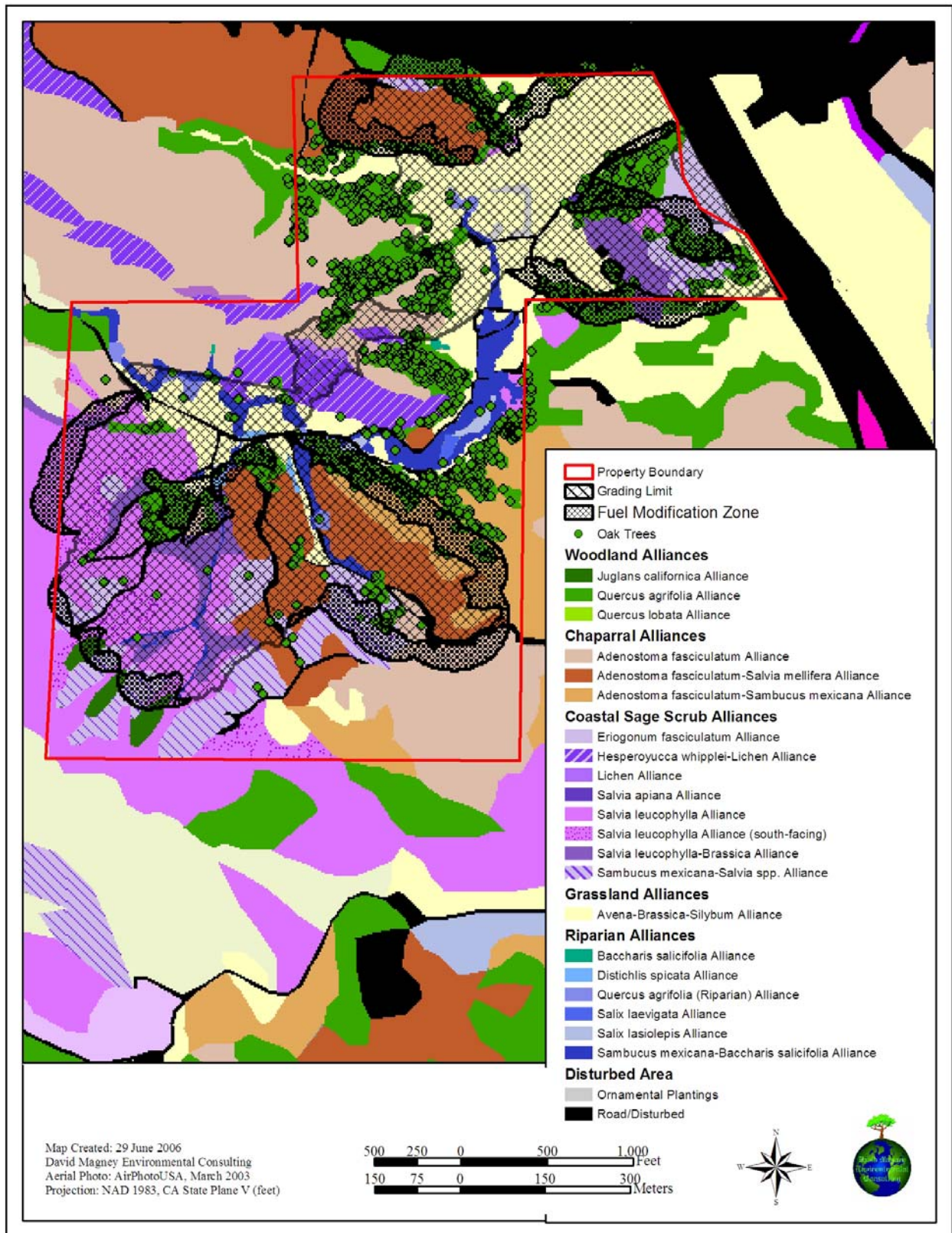
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**Exhibit 5.6-24. Example of Los Angeles Fire Department
Fuel Modification Unit Requirements**



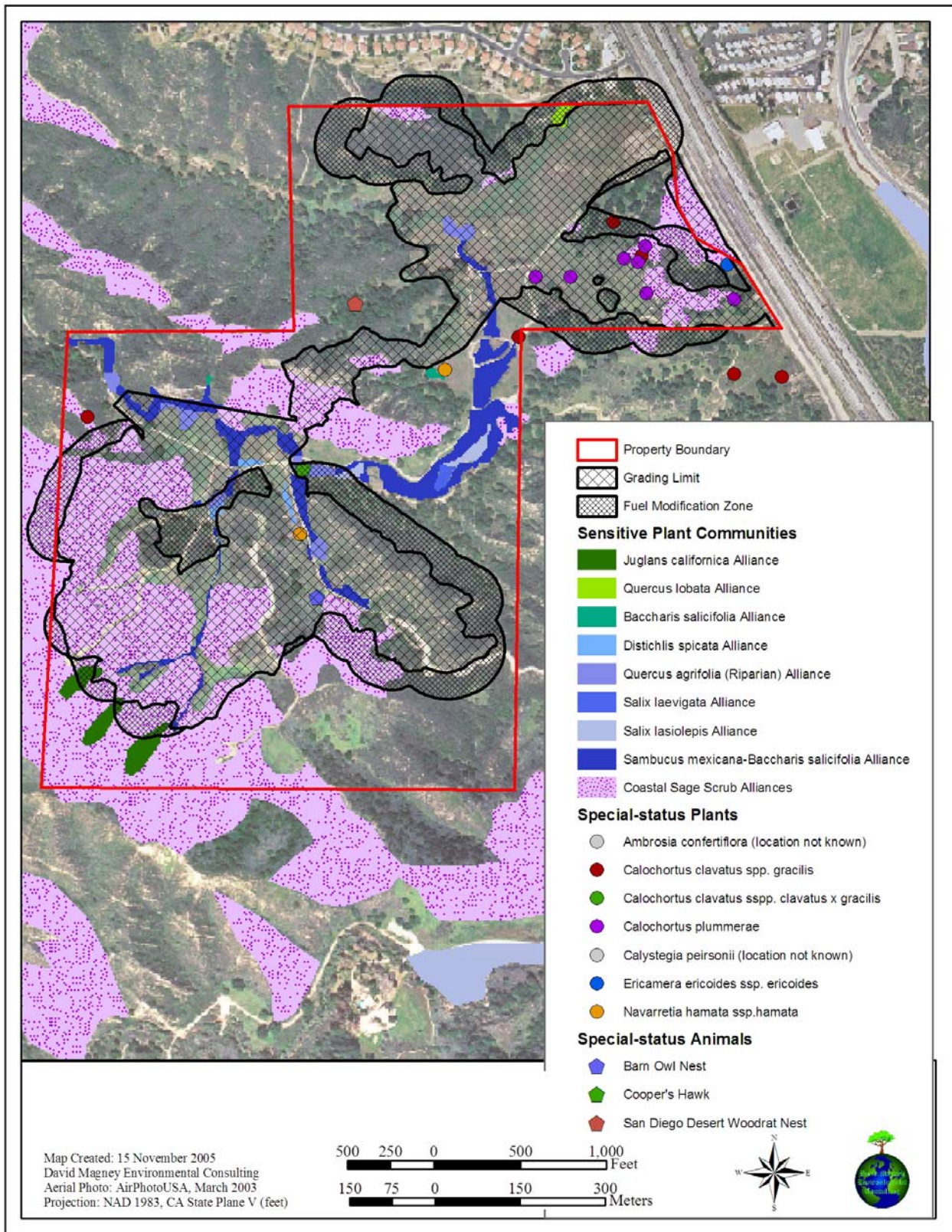
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Exhibit 5.6-25. Impacts of Grading and Fuel Modification to Lyons Canyon Ranch Vegetation



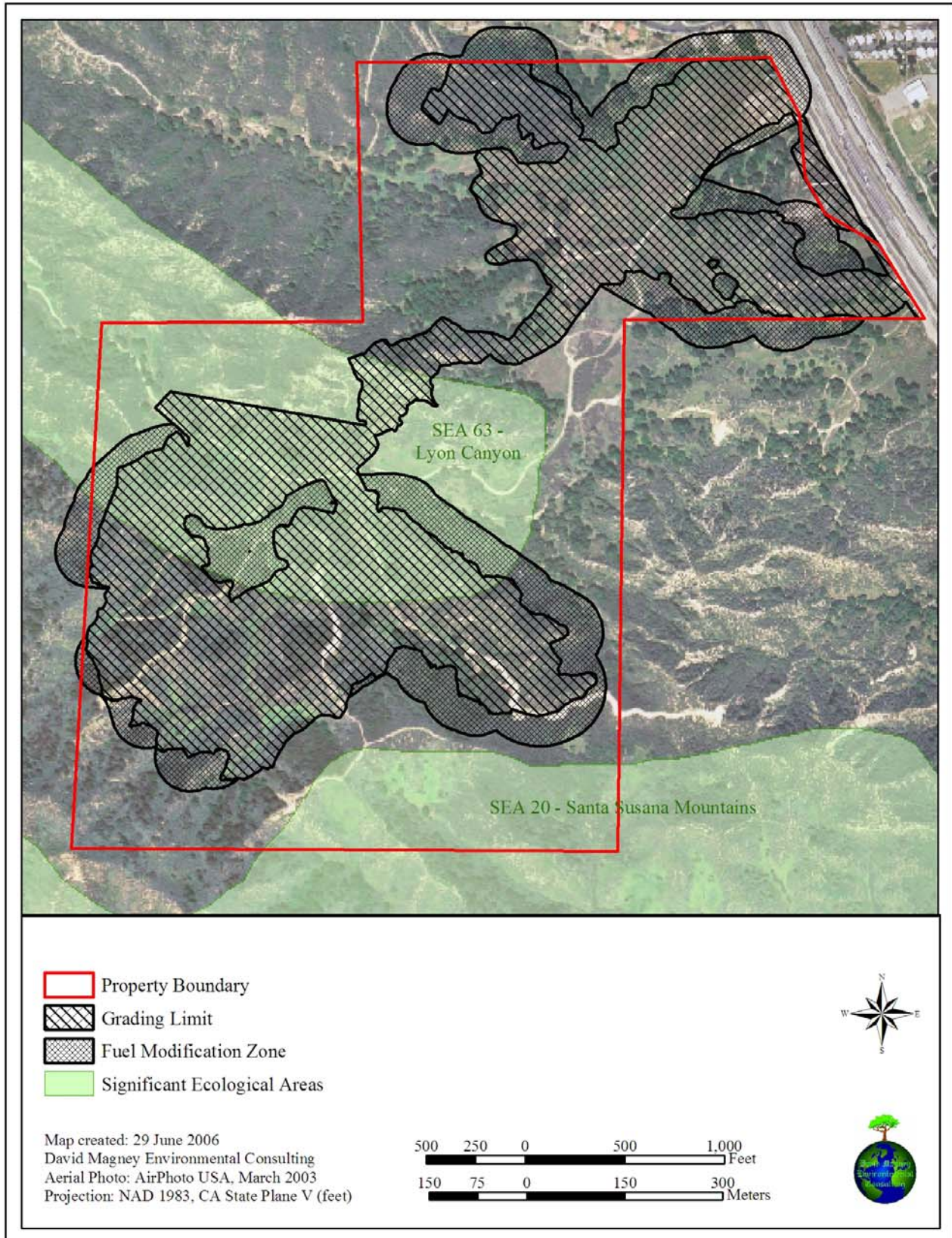
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Exhibit 5.6-26. Impacts of Grading and Fuel Modification to Lyons Canyon Ranch Special-Status Species



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Exhibit 5.6-27. Impacts of Grading and Fuel Modification to Lyons Canyon Ranch SEAs



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Table 5.6-18, Impact Area of Fuel Modification to Lyons Canyon Ranch Vegetation Alliances, lists the impacts of the fuel modification zone to each alliance observed onsite. These numbers represent additional impacts to natural vegetation onsite. Table 5.6-18 shows that in addition to the loss of 98.86 acres of natural vegetation onsite resulting from the proposed project, an additional 19.88 acres (not including protected oak woodlands) to 30.70 acres (including protected oak woodlands) of natural vegetation will be lost or significantly degraded onsite as a result of required fuel modification around structures constructed onsite. Table 5.6-18 also shows that an additional 2.62 acres (not including protected oak woodlands) to 5.44 acres (including protected oak woodlands) of vegetation clearing will occur outside of the Lyons Canyon Ranch property.

The effect of brush clearance on plant and animal species and ecological cycles, as a result of the creation of fuel modification zones, is significant since the habitat is altered significantly to the extent that wildlife species and sensitive plant species requiring such habitats are unable to utilize such areas for foraging, hunting, and shelter resources. The modified habitats are thinned to the extent that no habitat functions remain and ecological cycles are not completed or are significantly reduced, depending on the species. Ultimately, the habitat function is completely lost within the first 100 feet of fuel modification due to the severe clearing of natural vegetation, and habitat function is significantly reduced (to approximately 50%) within the second 100 feet of fuel modification.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Impacts from fuel modification should be mitigated by the implementation of the mitigation measures listed above under Impacts to Natural Vegetation, Including Sensitive Habitats (including **BIO24 through BIO35**). Implementing Mitigation Measures **BIO2 and BIO7** will also mitigate for this impact.

Level of Significance After Mitigation: Significant

Cumulative Impacts:

In addition to the proposed project resulting in the loss of 98.86 acres of natural vegetation, fuel modification, required by the County of Los Angeles Fire Department Fuel Modification Unit, will also result in the loss of, or significant degradation to, an additional 36.14 acres of natural vegetation. More specifically, the implementation of the required 200-foot-wide structure protection zone around each building constructed at the project site will result in the additional loss of at least 36.14 acres of natural vegetation. The 36.14 acres is the portion of the fuel modification zone that extends beyond the project grading limits, which will contribute additionally to the cumulative loss of natural vegetation in the region. Currently proposed and permitted projects in the region will further reduce the total area of natural vegetation in the near future. This will contribute to the cumulative loss of natural vegetation and is considered *cumulatively significant and unavoidable*.

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Table 5.6-18. Impact Area of Fuel Modification to Vegetation Alliances within Lyons Canyon Ranch and Areas Outside Lyons Canyon Ranch

Vegetation Type	Alliance	Area Within Property (Acres)	Area Outside Property (Acres)	Total
Riparian				
Coast Live Oak Riparian Woodland	<i>Quercus agrifolia</i> Alliance	(0.46)	0.00	(0.46)
Southern Mixed Riparian Forest	<i>Salix lasiolepis</i> Alliance; <i>Salix laevigata</i> Alliance	0.09	0.00	0.09
Southern Riparian Scrub	<i>Baccharis salicifolia</i> Alliance and <i>Baccharis salicifolia-Sambucus mexicana</i> Alliance	0.19	0.00	0.19
Cismontane Alkali Marsh	<i>Distichlis spicata</i> Alliance	0.08	0.00	0.08
Upland				
Coast Live Oak Upland Woodland	<i>Quercus agrifolia</i> Alliance	(10.15)	(2.82)	(12.97)
Valley Oak Woodland	<i>Quercus lobata</i> Alliance	(0.21)	0.00	(0.21)
Southern California Black Walnut Woodland	<i>Juglans californica</i> Alliance	0.42	0.00	0.42
Chaparral	<i>Adenostoma fasciculatum</i> Alliance	2.30	0.00	2.30
	<i>Adenostoma fasciculatum-Salvia mellifera</i> Alliance	3.45	0.10	3.55
	<i>Adenostoma fasciculatum-Sambucus</i> Alliance	3.34	0.00	3.34
Coastal Sage Scrub	<i>Eriogonum fasciculatum</i> Alliance	0.84	0.00	0.84
	<i>Salvia apiana</i> Alliance	0.03	0.00	0.03
	<i>Salvia leucophylla</i> Alliance	1.60	1.69	3.29
	<i>Salvia leucophylla</i> Alliance (south-facing)	0.54	0.00	0.54
	<i>Salvia leucophylla-Brassica</i> Alliance	0.68	0.43	1.11
	<i>Sambucus mexicana-Salvia</i> spp. Alliance	3.64	0.00	3.64
Grassland	<i>Avena-Brassica-Silybum</i> Alliance	2.68	0.40	3.08
Total Area of Natural Vegetation (not including oak woodlands) Impacted by Fuel Modification²⁵:		19.88	2.62	22.50
Total Area of Natural Vegetation (including oak woodlands) Impacted by Fuel Modification²⁶:		30.70	5.44	36.14
Urban				
Disturbed	Road/Disturbed	1.09	0.05	1.13
	Urban Developed	0.00	1.93	1.93
	Paved Road	0.00	1.03	1.03
Total:		31.79	8.45	40.23

²⁵ These totals *do not include* oak woodlands (the numbers in parentheses are not included in these totals), since no oak trees will be removed and no oaks are expected to be impacted within the Fuel Modification Zones; however, most other vegetation will be cleared beneath oaks in these areas. Oaks will only be directly impacted within the proposed grading envelope.

²⁶ These totals *include* oak woodlands (the numbers in parentheses are included in these totals) to show the total area of natural vegetation, including the vegetation growing below oak woodlands they are provided to show the total amount of vegetation clearing that may occur beneath the protected oak trees within the fuel modification zone that will be impacted by fuel modification.

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Impacts from Landscaping

The proposed project will include landscaping adjacent to the natural vegetation. The landscaping may include ornamental species that are known to be particularly invasive. Subsequent homeowners may also plant invasive plant species in their yards. Seeds or propagules from invasive planted species may escape to natural areas and degrade the native vegetation, particularly along downstream riparian areas. These impacts would be considered *adverse* and *potentially significant* considering the two SEAs on the project site.

Level of Significance Before Mitigation: Potentially Significant

Recommended Mitigation Measure:

Implementation of Mitigation Measures **BIO7, BIO8 and BIO9** will mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts: Less Than Significant

Impacts to SEA Integrity

Santa Susana Mountains SEA 20 is approximately 18,410.5 acres total. Approximately 17.54 acres of SEA 20 exist onsite. SEA 20 includes the southernmost portion of the Lyons Canyon Ranch property. Of the 17.54 acres onsite, approximately 0.06 acre will be directly impacted by the proposed project grading.

Lyon Canyon SEA 63 is approximately 174.45 acres total. Approximately 58.48 acres of SEA 63 exist onsite. SEA 63 includes the middle portion of the creek with the eastern end of the SEA in the center of the Lyons Canyon Ranch, extending westward beyond the project site. This SEA focuses on Chamise Chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek. Of the 58.48 acres onsite, a total of approximately 26.35 acres (45%) of natural vegetation would be directly impacted by the proposed project. Refer to Exhibit 5.6-27, Impacts of Grading and Fuel Modification to Lyons Canyon Ranch SEAs, to observe the direct and indirect impacts to SEAs onsite. SEA 63 was designated for its Chamise chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek. Table 5.6-19, Impacts to Chaparral, Riparian, and Oak Woodland Habitats within SEA 63, lists all direct and indirect impacts to the vegetation alliances for which SEA 63 was designated.

The road is not necessarily incompatible, since wildlife movement will be facilitated by the installation of a large culvert under the road. The proposed project avoids impacts to approximately half of SEA 63; however, the primary access road would traverse the SEA. The drainage course will not be kept in a natural condition. Regardless, encroaching upon the SEA significantly reduces some of the wildlife functions and integrity of the SEA. The proposed project proposes to grade portions of Lyon Canyon Creek and adjacent lowland habitats within the bounds of SEA 63 in the area to the east of the middle portion of the SEA.

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Table 5.6-19. Impacts to Chaparral, Riparian, and Oak Woodland Habitats within SEA 63

Vegetation Type	Alliance	Grading Impacts (Acres)	Fuel Mod Impacts (Acres)
Chaparral	<i>Adenostoma fasciculatum</i> Alliance; <i>Adenostoma fasciculatum-Salvia mellifera</i> Alliance; and <i>Adenostoma fasciculatum-Sambucus</i> Alliance	7.34	1.54
Coast Live Oak Upland Woodland	<i>Quercus agrifolia</i> Alliance	1.59	(3.54)
Coast Live Oak Riparian Woodland	<i>Quercus agrifolia</i> Alliance	0.58	(0.46)
Southern Mixed Riparian Forest	<i>Salix lasiolepis</i> Alliance	0.00	0.09
Southern Riparian Scrub	<i>Baccharis salicifolia</i> Alliance and <i>Baccharis salicifolia-Sambucus mexicana</i> Alliance	2.27	0.17
Cismontane Alkali Marsh	<i>Distichlis spicata</i> Alliance	0.26	0.08
Total Area of Natural Vegetation Impacted by Grading & Fuel Modification:		12.04	1.88²⁷ or 5.88²⁸

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of all the above mitigation measures presented in the Impacts to Biological Life History subsection - including plants, special-status plants, wildlife, special-status wildlife, natural plant communities, and sensitive habitats – should partially mitigate for impacts to components of the SEA integrity onsite. However, an unavoidable loss of a portion of SEA 63 will result.

Level of Significance After Mitigation: Significant and Unavoidable

Cumulative Impacts:

Ed Davis Park in Towsley Canyon (otherwise known as Towsley Canyon Park) is a subset of the Santa Clarita Woodlands Park, and is an open space reserve located immediately to the south of Lyons Canyon Ranch. Other than Ed Davis Park, Lyon Canyon includes the majority of the remaining open space, including SEAs.

The Lyon Canyon SEA does not coincide with the canyon’s watershed boundary; however, it is a relatively narrow canyon that contains both an oak woodland community and a substantial Chamise Chaparral community. The oak woodland, found in the southern portion of the Lyon Canyon SEA, contains both *Quercus agrifolia* (Coast Live Oak) and *Quercus lobata* (Valley Oak) trees. The northern portion of the SEA contains the Chamise Chaparral community consisting of *Rhus ovata* (Sugarbush), *Ceanothus crassifolius* (Snowball Ceanothus), *Salvia mellifera*, *Baccharis salicifolia*, and *Adenostoma fasciculatum*, which is the dominant shrub.

²⁷ This total *does not include* oak woodlands, since no impacts to oaks are expected within Fuel Modification Zones; however, most other vegetation will be cleared beneath oaks in these areas.

²⁸ This total *does include* oak woodlands to show the total area of natural vegetation, including the vegetation growing below oak woodlands, that will be impacted at least partially by Fuel Modification Zones.

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The uses surrounding the project site are I-5 on the east, Ed Davis Park in Towsley Canyon to the south, vacant land to the west, residential uses on Sagecrest Circle and the Stevenson Ranch development, opposite of Sagecrest Circle, to the north. Due to the I-5 and the Stevenson Ranch development, there is no vegetation bordering the project site to the east or to the north, respectively. South of the project site lies Ed Davis Park in Towsley Canyon, which contains habitat similar to that found onsite, including the following: riparian scrub/woodland, California Annual Grassland, Coastal Sage Scrub, chaparral (primarily Chamise Chaparral), and Coast Live Oak Woodland. The undeveloped land to the west of the project site contains similar general vegetation types, with fewer oaks than encountered on the project site, and less riparian habitat, concentrated in narrow corridors.

Wildlife within the Santa Clarita Valley-Santa Susana Mountains is extremely diverse with a special abundance in undeveloped high quality habitats. The river channels and open upland areas are ideal habitat for movement and foraging by wildlife species. The nearby Angeles National Forest also offers habitat and movement corridors for larger species. Native mammal diversity is extensive and abundant. Bird diversity within the region is related to habitat opportunities for resident, migrant, and seasonal species that occupy the area. Amphibians and reptiles are also abundant and relatively diverse within certain segments of the region.

The surrounding area has some communities with little to no representation in the project site, including Bigcone Spruce-Canyon Oak Forest, Coast Live Oak Riparian Woodland, California Juniper Woodland, Pinyon-Juniper Woodland, Southern Sycamore-Alder Woodland, Southern Willow Scrub, vernal pools, and Riversidian Alluvial Fan Sage Scrub, most of which are more than a half mile from the project site. This increase in habitat diversity probably reflects an increase in community diversity of the surrounding area, versus the project area. The land to the north and east is developed and provides little to no habitat.

The surrounding area allows for species with large home ranges, such as Mountain Lion and Black Bear. There are more streams with less concrete in the surrounding area to the west and south, so the occurrence of special-status aquatic wildlife is more probable. Several special-status plant and wildlife species occupy habitat within the surrounding area.

The potential for effects on the natural resources and integrity of SEAs 20 and 63 are limited. The limiting factors include:

- 1) The size of SEA 63 within the project site and the neighboring property to the west. Because no development is currently proposed for the property to the west of the Lyons Canyon Ranch property, no cumulative impact potential currently exists. This parcel may develop in the future; however, the current General Plan land use and zoning designations permit only low-density residential development.
- 2) The Taylor-Prentice property immediately southeast of the project site, adjacent to SEA 20, has similarly no development application before the County of Los Angeles. The majority of land within SEA 20 is held in trust for the public by land conservancies or other legal jurisdictions. This parcel may be developed sometime in the future; however, the current General Plan land use and zoning designations permit only low-density residential development.

The potential impact to the SEAs is considered a *cumulatively less-than-significant impact* because no other projects are proposed that would degrade them.

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Impacts to Natural Open Areas

The project site provides habitat similar to that in the undeveloped land to the west and south (Ed Davis Park in Towsley Canyon), including Riparian Scrub/Woodland, California Annual Grassland, Coastal Sage Scrub, Chaparral, and Coast Live Oak Woodland. The steep slopes and ridges combined with the canyon lowlands provide a diversity of habitats locally.

The project site contains more oaks and more riparian habitat, than the area surrounding it; however, the surrounding area has several communities with little to no representation in the project site Southern Sycamore-Alder Woodland, Southern Willow Scrub, and Riversidian Alluvial Fan Sage Scrub. This increase in habitat diversity probably reflects an increase in community diversity of the surrounding area, versus the project area.

The surrounding area provides relatively significant suitable connective habitats for species with large home ranges, such as Mountain Lion and Black Bear. There are more streams with less concrete in the surrounding area to the west and south, so the occurrence of special-status wildlife is more probable.

The 235-acre project site is currently natural open space, consisting of approximately 226.79 acres of natural vegetation and 8.71 acres of roads and disturbed areas. Of the 226.79 acres of natural vegetation onsite, approximately 118.74 acres of those habitats (including the loss of 98.86 acres resulting from direct grading impacts and the loss of an additional 19.88 acres resulting from indirect fuel modification impacts), including sensitive plant communities, will be impacted onsite (52%), and approximately 108.05 acres of natural habitats will be preserved onsite.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of all the above mitigation measures presented in the Impacts to Biological Life History subsection - including plants, special-status plants, wildlife, special-status wildlife, natural plant communities, and sensitive habitats – should partially mitigate for impacts to natural open space. However, an unavoidable loss of natural open space will result.

BIO36 Open Area Protection and Management Plan. In addition to Biological Life History mitigation measures presented above, an open area protection and management plan, for all preserve areas designated onsite, shall be prepared to ensure the implementation by HOA of the mitigation and to aid in the protection of the remaining preserved open areas after the development onsite.

Level of Significance after Mitigation: Significant and Unavoidable

Cumulative Impacts:

The Cumulative Projects List (Table 4.1) identifies related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. Information integral to the identification process was obtained from the City of Santa Clarita and County of Los Angeles. The resulting related projects include primarily only those determined to be at least indirectly capable of interacting with the proposed project.

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The total of future projects is approximately 10,180 acres of residential and approximately 802 acres of commercial; therefore, approximately 10,982 acres of natural habitats will be impacted by future developments. The loss of 118.74 acres of natural vegetation resulting from the Lyons Canyon Ranch development and subsequent fuel modification is relatively insignificant compared to the total of all future projects. However, the loss of 118.74 acres of natural vegetation and wildlife habitats ultimately contributes to the cumulative impacts to natural open areas, and is considered a *cumulatively significant and unavoidable impact*.

Impacts to Wildlife Travel Routes and Wildlife Corridors

Wildlife species routinely move between habitats and habitat areas to forage, mate, nest, and migrate seasonally. Interference in wildlife movement between habitats and core habitat areas decreases the ability of wildlife to survive locally or regionally, depending on the species' habitat requirements. Wildlife species such as the Mountain Lion require extremely large habitat areas to support a viable population. Blocking a species' ability to move within core habitats or between habitats may lead to local extirpation and extinction, even if a species is not threatened with extinction as a species globally. Creating barriers to wildlife movement can effectively eliminate adjacent, but otherwise suitable, habitat from the wildlife species range. In addition, these wildlife species would have an increased potential to interface with humans and their pets.

Development of the proposed project and subsequent fuel modification would result in the loss of approximately 118.74 acres of native habitat that provide valuable nesting, foraging, roosting, and denning opportunities for a wide variety of wildlife species. Implementation of the proposed project would further fragment existing wildlife habitat and wildlife travel routes on and in the vicinity of the project site, with preserved portions of the project site left with minimal or no habitat connection to core habitat areas. In addition, the proposed project would result in a reduction of open space habitats that support the regionally valuable wildlife corridor of East and Rice Canyons. Increased light and noise pollution and the concomitant increase in human activity after completion of the proposed development would likely further degrade the quality of this linkage in the vicinity of the proposed project.

Removing or altering habitats on the project site would result in the loss of small mammals, reptiles, amphibians, and other animals of low mobility that live within the project's direct impact area. More mobile wildlife species now using the project site would be forced to move into remaining areas of open space, consequently increasing competition for available resources in those areas. This would result in the loss of individuals that cannot successfully compete.

Since wildlife routes (movement paths within habitats) exist onsite, and since wildlife corridors (linking two separate core habitats) currently do not exist within the property boundaries, the following subsections discuss separately as the loss of wildlife travel routes onsite and the interference with wildlife corridors within Lyons Canyon.

LOSS OF WILDLIFE TRAVEL ROUTES ONSITE

Most wildlife travel routes existing onsite represent local movement paths between onsite habitats. A loss of a large number of localized paths is expected due to the proposed project; however, habitat to be retained onsite will still be accessible to wildlife from adjacent habitats. The paths shown on Exhibit 5.6-28, Impacts to Wildlife Travel Routes on Lyons Canyon Ranch, illustrate the impacts to the paths as a result of the proposed project.

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Exhibit 5.6-28 includes known and observed paths as well as theoretical paths based on where wildlife typically move/travel. The actual number of paths impacted onsite can only be estimated. Wildlife will be able to use the remaining habitats within the periphery of the developed portion of the project site after construction; however, wildlife movement will be limited within the fuel modification zone since significant vegetation will be removed or thinned from that zone (up to 200 feet from all structures). Wildlife may be reluctant to use the fuel modification zones since much of the vegetation will be removed in these areas, with very little cover and/or shelter resources. This means that wildlife may only use the outside edge of the fuel modification zone, adjacent to intact natural vegetation.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of the following mitigation measures (presented above) would partially mitigate local impacts to wildlife travel routes onsite:

BIO1 (Seasonal survey, gather and grow in preserved habitat, and maintain/monitor), and

BIO2 (for implementing conditions of approval related to preserve maintenance), and

BIO13 through BIO16 (for impacts to special-status wildlife species), and

BIO21 through BIO23 (for indirect impacts to special-status wildlife species), as well as

N1 through N9 (for impacts from noise, provided in the Noise section of this EIR), and

BIO24 through BIO35 (for restoring natural vegetation, including sensitive habitats).

In addition, lighting and enlarging proposed culverts resulting from the project development will help to mitigate for impacts to wildlife movement. No additional mitigation measures are required.

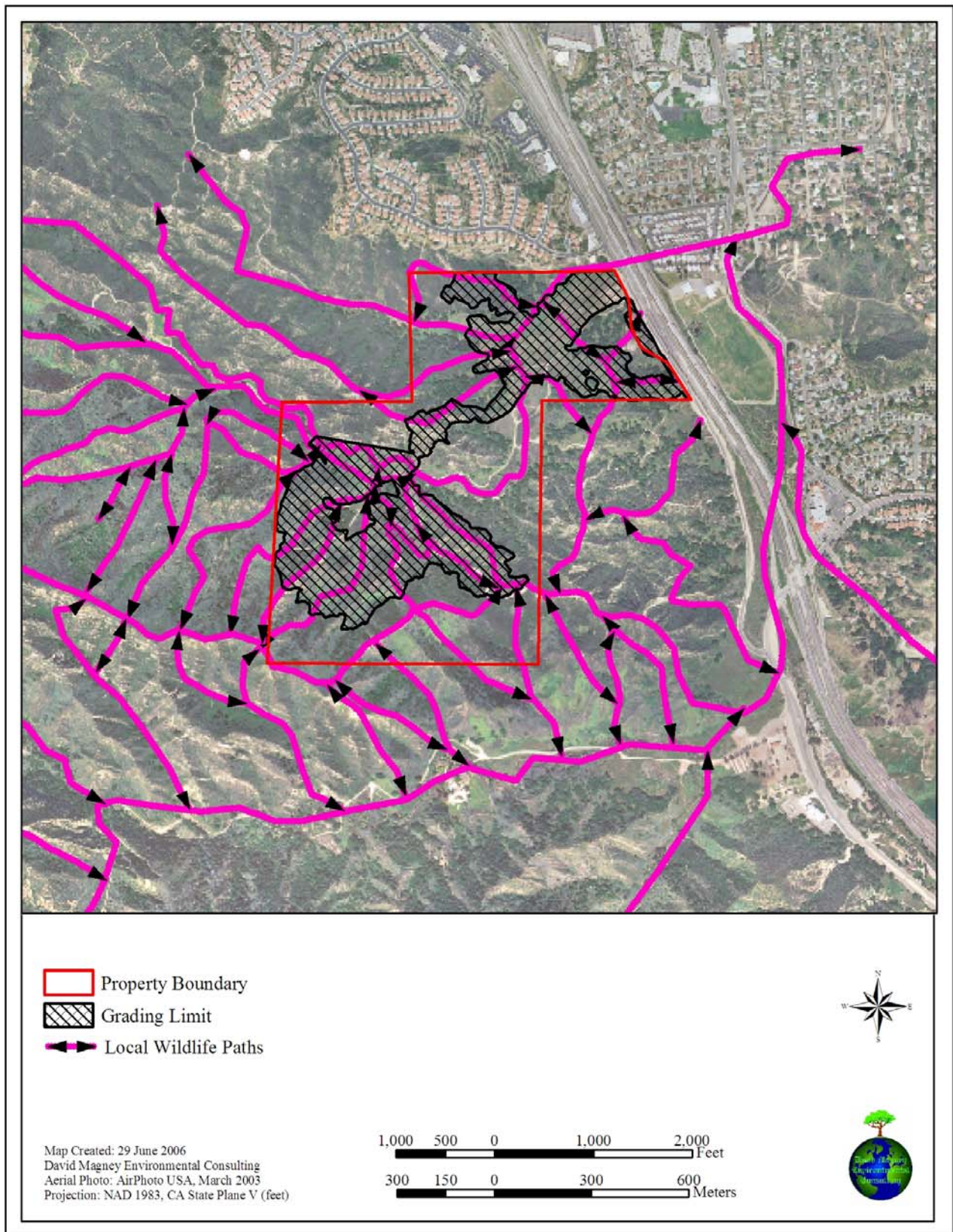
Level of Significance After Mitigation: Significant

Cumulative Impacts:

Most wildlife travel routes existing onsite represent local movement paths between onsite habitats. A loss of a large number of localized paths is expected due to the proposed project; however, habitat to be retained onsite will still be accessible to wildlife from adjacent habitats. The paths shown on Exhibit 5.6-28, Impacts to Wildlife Travel Routes on Lyons Canyon Ranch, illustrate the impacts to the paths as a result of the proposed project. Exhibit 5.6-28 includes known and observed paths as well as theoretical paths based on where wildlife typically move/travel. The actual number of paths impacted onsite can only be estimated. Wildlife will be able to use the remaining habitats within the periphery of the developed portion of the project site after construction; however, wildlife movement will be limited within the fuel modification zone since significant vegetation will be removed or thinned from that zone (up to 200 feet from all structures). Wildlife may be reluctant to use the fuel modification zones since much of the vegetation will be removed in these areas, with very little cover and/or shelter resources. This means that wildlife will most likely use only the outside edge of the fuel modification zone, adjacent to intact natural vegetation. Therefore, the project will contribute to the cumulative impacts to wildlife paths with in Lyons Canyon Ranch, and is considered a *cumulatively significant and unavoidable* impact.

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Exhibit 5.6-28. Impacts to Wildlife Travel Routes on Lyons Canyon Ranch



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INTERFERENCE WITH WILDLIFE CORRIDORS WITHIN LYON CANYON

The proposed project is composed of two general development areas, which are connected by a road through the ridge on the north side of Lyon Canyon Creek. This road and development potentially creates an effective barrier to terrestrial wildlife movement to the east side of the project site and would interfere with movement within Lyon Canyon (Exhibit 5.6-28).

Lyon Canyon is currently the northernmost route of access from the Santa Susana Mountains to the I-5 over-crossing of Calgrove Boulevard. Although 57% of the project site would be preserved, portions of the remaining habitat will be isolated as relatively small islands surrounded by development. Connected areas will be reduced in value due to edge effects of the new adjacent land use. The impact associated with those adjacent land uses will vary depending on each species' habitat requirements. This loss of habitat would not represent a significant impact to the most common wildlife species that use the project site habitats. The use of these areas by special-status wildlife species would likely result in a significant adverse impact to wildlife by preventing or restricting movement onsite.

Established wildlife corridors occur in the region outside of the project site, where neither the east-west nor the north-south known wildlife corridors cross the project site. Regardless, it is possible the proposed project would result in significant impacts to existing offsite wildlife movement corridors and onsite travel paths, especially within Lyon Canyon.

Level of Significance Before Mitigation: Significant

Recommended Mitigation Measure:

Implementation of the following mitigation measures (presented above) would mitigate impacts to wildlife corridors within Lyon Canyon:

BIO1 (Seasonal survey, gather and grow in preserved habitat, and maintain and monitor),
and

BIO2 (for implementing conditions of approval related to preserve maintenance), and

BIO13 through BIO16 (for impacts to special-status wildlife species), and

BIO21 through BIO23 (for indirect impacts to special-status wildlife species), as well as

N1 through N9 (for impacts from noise, provided in the Noise section of this EIR), and

BIO24 through BIO35 (for restoring natural vegetation, including sensitive habitats).

In addition, the proposed dim lighting and enlarged culverts to be implemented with the project development will help to mitigate for impacts to wildlife movement. A culvert/tunnel will be constructed over Lyon Canyon Creek to accommodate animal movement through the remaining habitats onsite and beyond. No additional mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impacts: Less Than Significant