

## **5.0 ENVIRONMENTAL ANALYSIS**

### **5.1 GEOLOGY, SOILS, AND SEISMICITY**

This section addresses impacts related to geologic hazards and conditions at the proposed project site. The analysis presented in this section is based on a geotechnical investigation performed for the proposed project by Pacific Soils in March 2004 and April 2006<sup>1</sup>. These reports were prepared pursuant to the standards established by the County of Los Angeles Department of Public Works. The *Geotechnical Reports* are included in their entirety in Appendix K.

#### **5.1.1 ENVIRONMENTAL SETTING**

##### **REGIONAL GEOLOGIC CONDITIONS**

The proposed project site is situated in the eastern portion of the East Ventura Basin, a former structural/sedimentary basin, which is part of the western Transverse Ranges Province of southern California. This structural basin is filled with more than 10,000 feet of both marine and nonmarine sediments that were deposited during the Tertiary (beginning about 65 million years ago) through Quaternary time (1.6 million years ago to the present), with periods of erosion and nondeposition. The East Ventura Basin is bounded on the north by the San Gabriel fault, and on the south and east by the Oat Mountain/Santa Susana and Weldon Canyon thrust faults, respectively, each of which are considered seismically active. Tectonic activity during the last 5 million years (+/-) has produced a series of large amplitude, east-west trending anticlines and synclines within the bedrock, portions of which have been exploited for oil and gas e.g., Aliso Canyon and the abandoned Wiley Canyon oil fields). The proposed project site is situated on the steeply dipping northern limb on what is referred to as the Pico Anticline.

Exposed bedrock within the southern portion of the proposed project site is represented by Pliocene age marine claystone, siltstone, and sandstone assigned to the Pico formation. In the northern two-thirds of the project site the Pico Formation is overlain by, and interfingers with, upper Pliocene-lower Pleistocene nonmarine mudstone, conglomerate, and sandstone of the Saugus formation. Much of these exposed sediments are undergoing erosion and mass wasting associated with ongoing tectonic uplift of the region. There are no documented mineral deposits within the proposed project site.

There are paleontological (i.e. fossil) sites within the proposed project site as discussed in more detail in Section 5.7, Cultural Resources, of this DEIR.

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<sup>1</sup> Pacific Soils Engineering, Inc. Preliminary Geotechnical Report for Proposed Lyons Canyon Ranch Development. March 10, 2004.

Pacific Soils Engineering, Inc. Updated Preliminary Geotechnical Report and Response to County of Los Angeles Geotechnical and Materials Engineering Division Review Sheets for Proposed Lyons Canyon Ranch Development. April 11, 2006.

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### Project Site Conditions

The project site occupies approximately 234.8 acres of undeveloped land that is traversed by a number of dirt roads that were reportedly created for various television and film productions. Site topography is represented by both primary and secondary ridgelines, Lyon Canyon (which is a major drainage that bisects the proposed development area), and a number of first- and second-order drainages that are tributary to the main canyon. In the southeastern portion of the proposed project site, a primary, east-west trending ridgeline serves as a drainage divide between the Lyon Canyon drainage basin and Towsley Canyon to the south. There are five first-order hillside drainages within this portion of the proposed project site that drain into Towsley Canyon.

Elevations within and adjacent to the proposed project site range between 1,820 feet above mean sea level (msl) along the southern primary ridgeline to about 1,310 feet msl near the mouth of Lyon Canyon next to The Old Road. Natural slope gradients vary from nearly vertical along the crests and upper flanks of the primary ridgelines, to about 3:1 (horizontal to vertical) along the flanks of the lower “spur” ridges. The surface gradient of Lyon Canyon is relatively gentle, on the order of about 0.01 foot vertical per foot horizontal.

Potential geologic and geotechnical constraints to development at the site include the following:

- ◆ Debris flows emanating from natural hillside drainages and soil erosion resulting from surface water runoff from graded pads and both cut and natural slopes;
- ◆ Collapsible alluvial-type soils within Lyon Canyon and along the bottoms of other tributary drainages and smaller canyons;
- ◆ Slope instability along steep, natural slopes;
- ◆ Seismically induced moderate to strong groundshaking; and
- ◆ Rock fall along naturally occurring, over-steepened slopes.

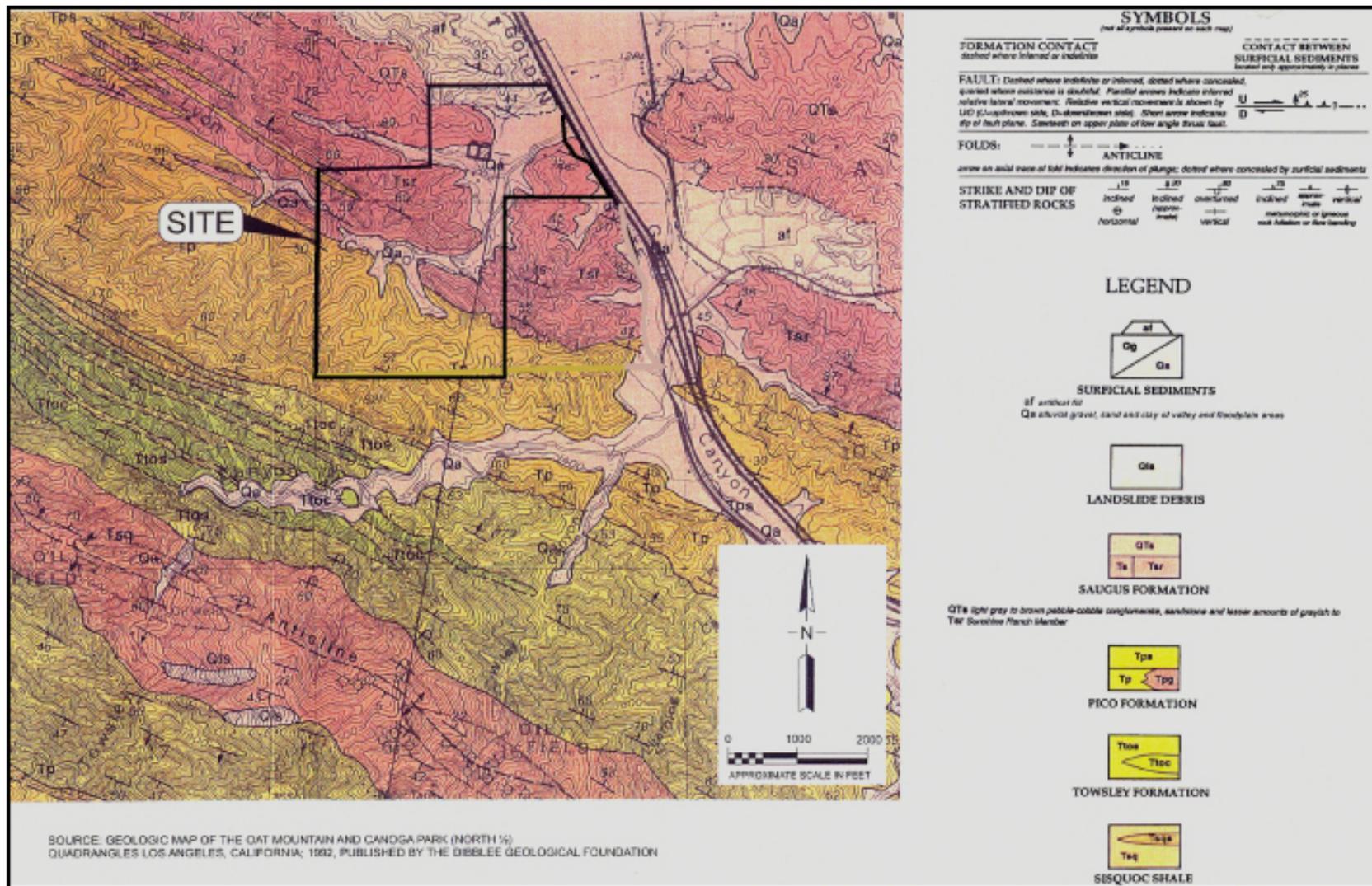
Although the proposed project site is located within a highly seismically active portion of the state, there are no documented active or potentially active faults transecting or projecting towards the proposed project site. Moreover, there are no documented landslides within the proposed project site.

### Geologic Materials

Bedrock exposed within the southern portion of the proposed project site 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).

Surficial soils within the property are represented by artificial (man-made) fill, colluvium, rock fall debris, and alluvium. Soil types at the proposed project site are illustrated in [Exhibit 5.1-1, Geologic Map](#).

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## Geologic Map

Exhibit 5.1-1

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### *Artificial fill (af)*

Artificial fill soils associated with construction of The Old Road have been identified along the eastern margin of the proposed project site, as well as at other various locations resulting from past oil exploration and grading of dirt roads. Estimated thicknesses of these compressible soils range from a few feet to as much as 10 feet or more. Artificial fill soils are depicted as “af” on Exhibit 5.1-1.

### *Colluvium*

Colluvium represents the downslope accumulation of relatively loose soil derived from erosion of the bedrock. These soil-like materials occupy many of the hillside swales and drainages where they “interfinger” (i.e., cross and overlap) with alluvial soils and vary in thickness from 2 to 7 feet. In some areas, colluvial soils form a relatively thin (several inches to about 1 ½-foot-thick) mantle atop more gentle slopes underlain by bedrock. Typically, these materials consist of yellowish brown, silty sand that is typically dry to slightly moist, loose, and porous, containing numerous roots and rootlets, and is considered moderately to highly permeable, highly compressible, and erodible. Colluvial soils derived from the Pico formation are also considered to possess expansion potential ranging from low to high. If left in place, colluvial soils are subject to collapse upon placement of structural loads (e.g., single-family homes).

According to the PSE report reviewed as part of the analysis contained in the proposed project’s Geotechnical Report, once excavated, colluvial soil materials are suitable for use as compacted fill, provided they are relatively free of large roots and other similar forms of organic materials, as well as free of any construction debris (e.g., wood, concrete, bottles, and aluminum cans.) that may be found in these deposits alongside The Old Road. Colluvial soils are not shown on Exhibit 5.1-1.

### *Alluvium (Qa)*

Alluvial soils are those deposited by the intermittent stream flow and are found in most of the larger drainages courses. Encountered in PSE’s borings and test pits, these soils consist primarily of layers and lenses of yellowish brown, fine-to-coarse-grained, silty sand with varying amounts of pebbles and cobbles that have been eroded from the surrounding bedrock. Typically, these alluvial soils are loose to medium dense, slightly moist to moist, porous, most portions of which are considered subject to collapse/settlement upon wetting and/or placement of structural loads (e.g., embankment and fill soils, single-family homes, or commercial buildings). The looser portions of the alluvium are also considered prone and seismically-induced settlement. Alluvial soils derived from the Pico formation are also considered to possess expansion potential ranging from low to high. Given that groundwater was not encountered within 50 feet of the ground surface in the alluviated portion of the site, the likelihood for liquefaction is considered remote.

Current development plans indicate that the majority of the large lot residential area (Lots 1-75), and various interior roadways are all underlain by alluvial soils. According to the PSE analysis, these soils will be completely removed during rough grading.

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Alluvial soils are shown as “Qa” on [Exhibit 5.1-1](#).

### ***Rock Fall Debris***

Rock fall debris occurs along the base of near vertical slopes along the north side of Lyon Canyon, located in the west-central portion of the proposed project site. Blocks of bedrock derived from toppling and/or wedge-type failures within the Saugus formation vary in size from several feet to perhaps as much as 10 feet in maximum dimension. Rock fall debris is not shown on [Exhibit 5.1-1](#).

### ***Saugus Formation--Sunshine Ranch Member (Tsf)***

Bedrock assigned to the Plio–Pleistocene Saugus formation–Sunshine Ranch member is widely exposed throughout the eastern and northern portion of the proposed project site. According to PSE (2004), this formation is composed of, in increasing order of abundance, thin-to thick-bedded mudstone, siltstone, and very-fine to coarse-grained sandstone with some interbedded pebble and cobble conglomerate. These sedimentary rocks are well indurated and form bold outcrops, and represent deposits associated with the distal portion of an ancient alluvial fan complex. Saugus Formation is shown as “Tsf” on [Exhibit 5.1-1](#).

### ***Pico Formation (Tp)***

The Pico formation both underlies and interfingers with the Saugus formation and is exposed within the southern portion of the proposed project site. PSE (2004) reports that this formation consists generally of laminated to thick-bedded, micaceous siltstone and claystone with lesser amounts of interbedded fine-grained sandstone. The Pico formation is considered to represent the accumulation of ancient, shallow marine deposits. It is labeled “Tp” on [Exhibit 5.1-1](#).

### **Bedrock Structure**

Regionally, the project site is situated on the steeply dipping northern limb of what is referred to as the “Pico Anticline.” This anticline represents part of an actively growing fold complex associated with ongoing deformation on the seismically active Oak Ridge/Santa Susana thrust fault, which is located approximately 1.3 miles southwest of the Lyon Canyon site, as well as other related faults to the north.

The geologic structure within the proposed project site is represented by a homocline that dips north to northeast at moderate to steep angles (45 to 90 degrees) with localized areas of overturned (southward dipping) bedding planes. Although localized bedrock shears have been identified by PSE, there are no active or potentially active faults within or projecting toward the proposed project site.

### **Groundwater**

Groundwater was encountered within alluvial soils in several of PSE’s exploratory borings within the main, easternmost portion of Lyon Canyon. Depth to groundwater in this area varied

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from about 53 to 67 feet below ground surface. These depths to groundwater correspond to what appears to be perched water within the alluvium that lies within several feet of the underlying bedrock. There is no evidence of past or present substantial groundwater use in the proposed project site, although what appeared to be a water well was observed at the site during the proposed project's Phase I Environmental Site Assessment, performed by RBF Consulting in April 2004. No evidence of springs or seeps has been observed.

### Mineral Resources

There are no economic metallic or nonmetallic ore deposits within or directly adjacent to the proposed project site. There is one abandoned oil well (Ayers 61-9786) located in the canyon bottom just south the northern debris/detention basin. According to PSE, Sun Drilling Company drilled this well in 1961 to a total depth of 9,785 feet and subsequently abandoned the well. There are no records of the abandonment procedures. The well will likely require re-abandonment before development in the immediate vicinity, per the requirements of the California Department of Conservation, Department of Oil, Gas, and Geothermal Resources (DOGGR).

## GEOLOGIC HAZARDS AND CONSTRAINTS

### General

The project site is situated within an area underlain by alluvial and colluvial soils that are subject to settlement and competent bedrock that is regarded as relatively safe from damage by ground shaking resulting from seismic activity. The site is located in an area with a low risk of damage resulting from liquefaction, subsidence, or large landslides.

The major geologic hazards and constraints identified during the project's geotechnical investigation are those associated with soil erosion and hillside debris flows, slope stability, rock-fall, and collapsible colluvial and alluvial sediments.

### Faulting and Seismicity

The proposed project site is situated within a highly seismically active area of southern California, referred to as the Ventura Basin, which is part of the Western Transverse Ranges fold-and-thrust belt. Hazards associated with earthquakes include primary hazards, such as groundshaking and surface fault rupture, and secondary hazards, such as liquefaction, seismically-induced settlement, lateral spreading, ground lurching, landslides, rock falls, tsunamis, and seiches.

### *Primary Earthquake Hazards*

In accordance with the California Geological Survey (formerly the California Division of Mines and Geology), a fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. Most faults are the result of repeated displacements over a long period of time. An inactive fault is a fault that has not experienced earthquake

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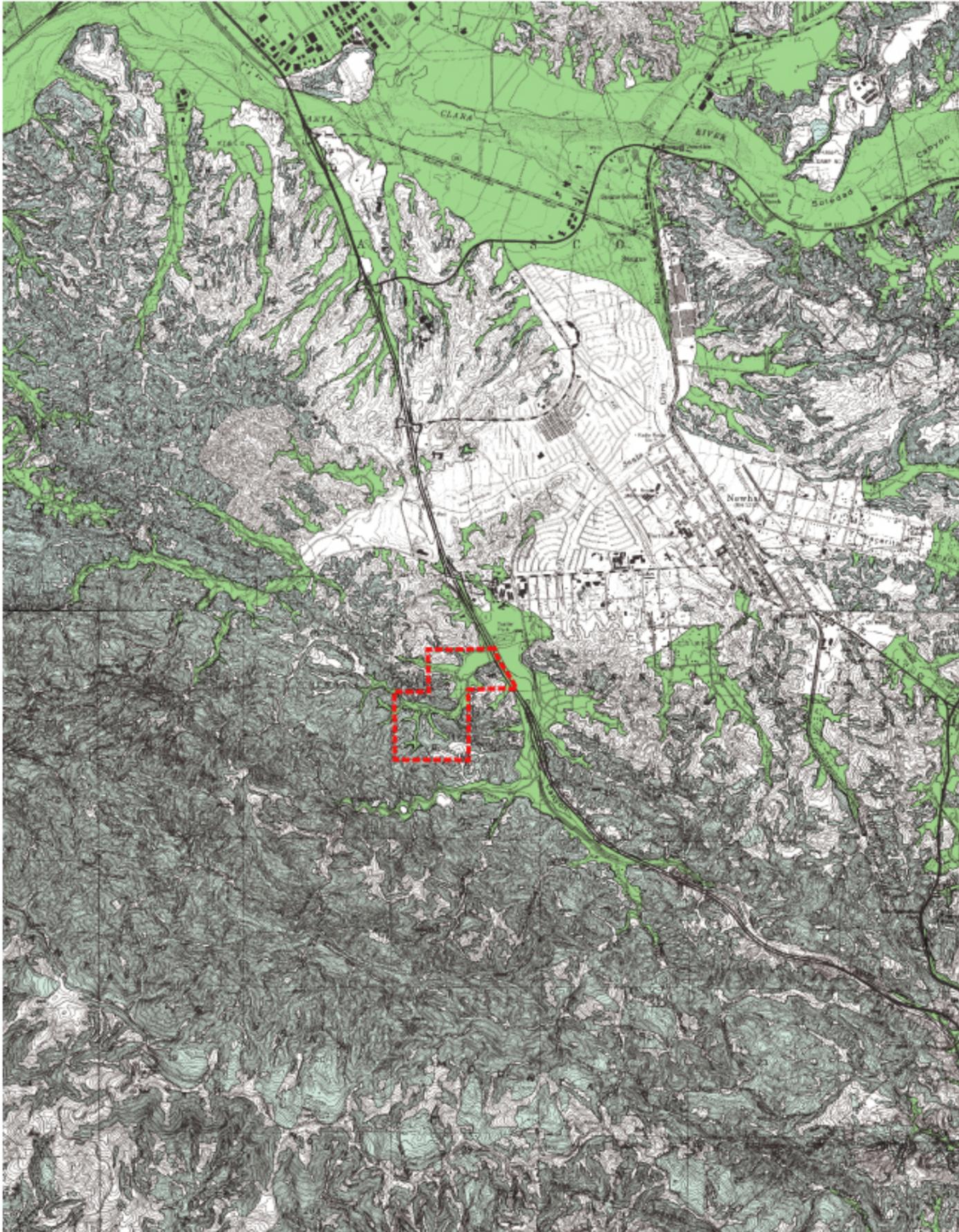
activity within the past three million years. In comparison, an active fault is one that has experienced earthquake activity in the past 11,000 years. A fault that has moved within the past two to three million years, but not proven by direct evidence to have moved within the past 11,000 years, is considered potentially active. Because there is no evidence of active faults within or projecting towards the project site, the likelihood of ground surface rupture or substantial ground deformation is considered very low.

The Modified Mercalli intensity scale was developed in 1931 and measures the intensity of an earthquake's effects in a given locality, and is perhaps much more meaningful to the layman because it is based on actual observations of earthquake effects at specific places. On the Modified Mercalli intensity scale, values range from "I" to "XII". The most commonly used adaptation covers the range of intensity from the conditions of "I: not felt except by very few, favorably situated," to "XII: damage total, lines of sight disturbed, objects thrown into the air." While an earthquake has only one magnitude, it can have many intensities, which decrease with distance from the epicenter.

The Alquist-Priolo Act of 1972 (now the Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code 2621-2624, Division 2 Chapter 7.5) regulates development near active faults so as to mitigate the hazard of surface fault rupture. Under the Act, the State Geologist is required to delineate Fault Rupture Hazard Zones along known active faults in California. The Act also requires that, prior to approval of a project, a geologic study be conducted to define and delineate any hazards from surface rupture. A geologist registered by the State of California, within or retained by the lead agency for the project, must prepare this geologic report.

A 50-foot setback from any known trace of an active fault is required. The proposed project site is not currently known to be located within an Alquist-Priolo Fault Rupture Hazard Zone, according to the California Geological Survey. However, according to Seismic Hazard Maps published by the State Geologist, the project site is within areas known to be susceptible to liquefaction, and earthquake induced landslides (please refer to Figure 5.1-2, Seismic Hazard Map). Those issues are discussed below.

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base map prepared by U.S. Geological Survey, 1952, photorevised 1980

**PURPOSE OF MAP**

This map will assist cities and counties in fulfilling their responsibilities for protecting the public safety from the effects of earthquake hazard, ground failure as required by the Seismic Hazards Mapping Act (Public Resources Code Sections 2600-2609.6).

For information regarding the scope and recommended methods to be used in conducting the required site investigations, see DMG Special Publication 111, Guidelines for Evaluating and Mitigating Seismic Hazards in California.

For a general description of the Seismic Hazards Mapping Program, the Seismic Hazards Mapping Act and regulations, and related information, please refer to the Draft User's Guide (see <http://www.consrv.ca.gov/dmg/hsmap/uguid.html>).

Production of this map was funded by the Federal Emergency Management Agency's Hazard Mitigation Program and the Department of Conservation in cooperation with the Governor's Office of Emergency Services.

**IMPORTANT - PLEASE NOTE**

1) This map may not show all areas that have the potential for liquefaction, landsliding, strong earthquake ground shaking or other earthquake and geologic hazards. Also, a single earthquake capable of causing liquefaction or triggering landslide failure will not adversely affect the entire area shown.

2) Liquefaction zones may also comprise areas susceptible to the effects of earthquake-induced landslides. This situation typically exists at or near the toe of existing landslides, downslope from local or debris flow source areas, or adjacent to steep stream banks.

3) This map does not show Alquist-Priolo earthquake fault zones, if any, that may exist in this area. Please refer to the latest official map of earthquake fault zones for city closures and other actions that are required by the Alquist-Priolo Earthquake Fault Zoning Act. For more information on this subject and links to available maps, see DMG Special Publication 47.

4) Landslide zones on this map were determined, in part, by adapting methods first developed by the U.S. Geological Survey (USGS). A new generation of landslide hazard maps being prepared by the USGS (Shuman and Harp, in preparation) uses an experimental approach designed to explore new methods to assess earthquake-induced landslide hazards. Although aspects of this new methodology may be incorporated in future seismic hazard zone maps, the experimental USGS maps should not be used as substitutes for these official earthquake-induced landslide zone maps.

5) U.S. Geological Survey base map standards provide that 90 percent of cultural features be located within 40 feet horizontal accuracy of the scale of this map. The identification and location of liquefaction and earthquake-induced landslide zones are based on available data. However, the quality of data used is varied. The zone boundaries depicted have been drawn as accurately as possible at this scale.

6) Information on this map is not sufficient to serve as a substitute for the geologic and geotechnical site investigations required under Chapters 7.5 and 7.6 of Division 2 of the Public Resources Code.

7) DISCLAIMER: The State of California and the Department of Conservation make no representations or warranties regarding the accuracy of the data from which these maps were derived. Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claims by an user or an third party an account of or arising from the use of this map.



**STATE OF CALIFORNIA  
SEISMIC HAZARD ZONES**

Delivered in compliance with  
Chapter 7.5, Division 2 of the California Public Resources Code  
(Seismic Hazards Mapping Act)

Oat Mountain/Newhall Quadrangle

**OFFICIAL MAP**

Released: February 1, 1998

*James A. Davis*  
STATE GEOLOGIST

**MAP EXPLANATION**

**Zones of Required Investigation:**

**Liquefaction**

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2603(c) would be required.

**Earthquake Induced Landslides**

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2603(c) would be required.

**Project Site**

**DATA AND METHODOLOGY USED TO DEVELOP THIS MAP ARE PRESENTED IN THE FOLLOWING:**

Seismic Hazard Evaluation of the Oat Mountain 7.5-minute quadrangle, Los Angeles County, California California Department of Conservation Division of Mines and Geology Open-File Report 99-12.

For additional information on seismic hazards in this map area, the website used for zoning, and additional references consulted, refer to DMG's World Wide Web site (<http://www.consrv.ca.gov/dmg/>).

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## Seismic Hazard Map

Exhibit 5.1-2

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## *Groundshaking*

Ground motions, on the other hand, are often measured in percentage of gravity (g, the acceleration due to gravity), where g is approximately 32 feet per second per second (9.8 meters per second per second) on the Earth.

Groundshaking accompanying earthquakes on nearby faults can be expected to be felt within the Lyons Canyon Ranch site. However, the intensity of ground shaking would depend upon the magnitude of the earthquake, the distance to the epicenter, and the geology of the area between the epicenter and the proposed project site.

A listing of active faults considered capable of producing strong ground motion at the proposed project site, their closest distances to the property, and the maximum expected earthquake along each fault are presented in Table 5.1-1, Summary of Faults and Generalized Earthquake Information – Proposed Project Site. Also presented are generalized evaluations of maximum groundshaking on-site for the maximum earthquakes, and generalized predictions of the likelihood of such events occurring.

The greatest amount of groundshaking at the proposed project site would be expected to accompany large earthquakes on the Northridge/East Oak Ridge, Santa Susana, Holser, and San Gabriel faults. Richter earthquake magnitudes (M) in the range of M6.5 to M7.0 could produce Modified Mercalli intensities in the range of VIII to XI within the project site, and maximum horizontal ground acceleration on the order of 0.93g. As stated above, ground rupture on-site is extremely unlikely because no known active faults cross the property.

**Table 5.1-1  
Summary of Faults and Generalized Earthquake Information –  
Proposed Project Site**

Fault Name	Miles (Direction from Site)	Maximum Credible Magnitude (M)	Expected Level of Ground Shaking	Earthquake Likelihood
Northridge (East Oak Ridge)	1.3 (southwest)	6.9	High	High
Santa Susana	3.4 (south)	6.6	High	High
Holser	3.6 (north)	6.5	High	Moderate
San Gabriel	4.3 (northeast)	7.0	High	Moderate
Sierra Madre	6.6 (southeast)	6.7	High	High
Santa Rosa	14 (south)	6.7	Moderate	Moderate
San Andreas (Mojave)	22 (northeast)	7.1	Moderate	High
Newport–Inglewood	25 (southeast)	6.9	Low	Moderate
Garlock (west)	37 (northeast)	7.1	Low	Moderate

## **Secondary Earthquake Hazards**

### *Liquefaction*

Seismic groundshaking of relatively loose, granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. Liquefaction is caused by a

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sudden temporary increase in pore water pressure due to seismic densification or other displacement of submerged granular soils. Liquefaction more often occurs in earthquake-prone areas underlain by young (Holocene age) alluvium where the groundwater table is higher than 50 feet below the ground surface. Holocene age alluvium is present within all of the major canyons at the proposed project site. However, groundwater levels are deeper than 50 feet within the main canyon where the most alluvial soils are located. *Exhibit 5.1-2* above illustrates the areas within the subject site that could be subject to liquefaction. Those areas are primarily characterized by canyon bottoms, and riparian areas.

### *Lateral Spreading*

Lateral spreading is the lateral displacement of surficial blocks of sediment as a result of liquefaction in a subsurface layer. Because the liquefaction potential within the proposed project site is unlikely, the likelihood of lateral spreading is considered remote.

### *Ground Lurching*

Lurching is a phenomenon where loose to poorly consolidated deposits move laterally as a response to strong groundshaking during an earthquake. Lurching is typically associated with soil deposits on or adjacent to steep slopes. Lurching can also affect areas that are underlain by steep contacts of dissimilar bearing materials at depth, such as compacted fill caps that have been placed over a transition from bedrock to Holocene age alluvium. Lurching that occurred in the Santa Monica and Santa Susana mountains during the 1994 Northridge earthquake usually was attributable to the outer 2 to 8 feet of loose fill soils, which were spilled over the edge of graded pads cut onto bedrock. Graded and compacted housing pads did not experience lurching during this very damaging earthquake.

Certain soils have been observed to move in a wave-like manner in response to intense seismic ground shaking, forming ridges or cracks on the ground surface. Areas underlain by thick accumulations of colluvium and alluvium appear to be more susceptible to ground lurching than bedrock. Under strong seismic ground motion conditions, lurching can be expected within loose, cohesionless solids, or in clay-rich soils with high moisture content. Generally, only lightly loaded structures such as pavement, fences, pipelines, and walkways are damaged by ground lurching; more heavily loaded structures appear to resist such deformation. Ground lurching may occur where deposits of loose alluvium exist on the proposed project site. If alluvial soils prove to be loose (i.e. poorly consolidated), ground lurching could occur in areas underlain by these materials. Lurching can also affect areas that are underlain by steep contacts of dissimilar bearing materials at depth, such as compacted fill caps that have been placed over a transition from bedrock to Holocene age alluvium.

### *Seismically Induced Ground Settlement*

Strong groundshaking can cause settlement by allowing sediment particles to become more tightly packed, thereby reducing pore space. Unconsolidated, loosely packed alluvial deposits are especially susceptible to this phenomenon. Poorly compacted artificial fills may also

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experience seismically induced settlement. Unconsolidated soils, such as near-surface alluvial soils, are subject to seismically induced ground settlement.

### *Seismically Induced Landsliding and Rock Fall*

There are no existing landslides within or directly adjacent to the proposed project site. However, *Exhibit 5.1-2* above illustrates the areas within the subject site that could be subject to seismically induced landslides. Those areas are primarily characterized by steep slopes (25% and above). PSE performed seismic stability analysis in accordance with County of Los Angeles guidelines of selected proposed cut slopes and natural slopes within the proposed project site. Their results indicate that the vast majority of the natural slopes, and all cut slopes, meet or exceed the minimum required factor of safety (FS) against seismically induced landsliding.

Evidence of rock falls is present along the base of steep, near vertical slopes bordering the north side of the proposed project site. Although it is unknown whether or not these rock slope failures are the result of strong groundshaking or intermittent stream flows undercutting along the base of the slope, it is not unreasonable to attribute this phenomenon, at least in part, to seismically induced groundshaking.

### *Tsunamis*

A tsunami is a seismic sea wave caused by sea bottom deformations that are associated with earthquakes or large landslides on the ocean floor. The hazard from tsunamis is nil, given the large distance to the proposed project site from the Pacific Ocean.

### *Seiching*

Seiching is the oscillation of an enclosed body of water due to groundshaking, usually following an earthquake. Lakes and water towers are typical bodies of water affected by seiching. Given the large distance to the ocean (and associated bays, harbors, or estuaries) and the fact that there are no large open bodies of water or reservoirs upgradient of the proposed project site, the potential for seiching is considered nil.

### *Landslides*

No landslides are known to exist within the proposed project site. Neither geologic mapping by nor field reconnaissance performed by PSE disclosed the presence of landslides within or near the subject property. Aerial photographic analyses performed as part of the proposed project's Geotechnical Investigation also did not disclose any existing landslides or significant soil slumps within the proposed project site. Given the steeply dipping nature of the on-site bedrock, the potential for landsliding on slopes in the bedrock is considered low.

### *Expansive Soils*

Based on laboratory testing by PSE, alluvial and colluvial soils derived from the Saugus formation-Sunshine Ranch member possess expansion potential ranging from very low to low.

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On the other hand, soils derived from the Pico formation are anticipated to possess expansion potential ranging from low to high, and claystone and mudstone bedrock within the Saugus and Pico formations may possess expansion potential in the medium to high range. The effects of expansive soils on foundation systems can cause significant cracking, differential heave, and other adverse impacts.

### *Soil Erosion and Debris Flows*

On-site soils are considered susceptible to erosion from both wind and stormwater. Other forms of soil erosion are debris flows, which typically form as a result of significant saturation from rainfall or concentrated surface water runoff within steeper, first-order hillside drainages underlain by any combination of soil, colluvium, and/or highly weathered bedrock. These types of flows can involve slow movement of a highly viscous soil-like mass to rapid down-slope movement of a fluid-like flow.

### *Slope Stability*

Given the steeply dipping (45 to 90 degrees), self-buttressing nature of the bedrock, the vast majority of natural slopes within the proposed project site are expected to be grossly and superficially stable.

Slope stability calculations by PSE have shown that proposed fill slopes within the proposed project site possess Factors of Safety in excess of the minimum 1.5 determined by the County of Los Angeles Department of Public Works.

Bedrock exposed along the near vertical natural slopes adjacent to the north side of Lyon Canyon is considered subject to block-and/or toppling-type failures. Intermittent stream erosion undermining portions of these slopes, the buildup of water within naturally occurring joints and fractures due to infiltration of surface water runoff, combined with seismically induced strong groundshaking are the most likely mechanisms that promote these types of slope failure.

## **5.1.2 SIGNIFICANCE THRESHOLD CRITERIA**

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to geology, soils, and seismicity. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- (a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;

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- ii. Strong seismic ground shaking;
  - iii. Seismic-related ground failure, including liquefaction; or
  - iv. Landslides;
- (b) Result in substantial wind or water soil erosion or the loss of topsoil, either on or off site;
  - (c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
  - (d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property;
  - (e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater;
  - (f) Change in topography or ground surface relief features;
  - (g) Earth movement (cut and/or fill) of 10,000 cubic yards or more;
  - (h) Development and/or grading on a slope greater than 10% natural grade; or
  - (i) The destruction, covering, or modification of any unique geologic or physical feature.

All of the thresholds listed above are addressed in the following analysis, with the exception of item (e), because the proposed project does not include the use of septic tanks or alternative wastewater disposal systems.

### 5.1.3 IMPACTS AND MITIGATION MEASURES

The level of geotechnical and landform information contained in the proposed project's Geotechnical Investigation is adequate to analyze the potential project effects on earth resources and landforms, and to determine appropriate mitigation measures for the proposed development. There are a number of short- and long-term impacts related to the current physical and geological setting that can be generally expected from grading and development activities associated with the proposed development.

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## SURFACE FAULT RUPTURE

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS FROM SUFACE FAULT RUPTURE.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** No known active or potentially active faults exist within, or project onto, the proposed project site. As such, there would be no potential for surface fault rupture of an active or potentially active fault. No impact is anticipated in this regard.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

## SEISMIC GROUNDSHAKING

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS FROM SEISMIC GROUNDSHAKING.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** Groundshaking accompanying earthquakes on nearby faults is anticipated to be felt within the Lyons Canyon Ranch project site. However, the intensity of groundshaking would depend upon the magnitude of the earthquake, the distance to the epicenter, and the geology of the area between the epicenter and the proposed project site. The greatest amount of groundshaking at the proposed project site would be expected to accompany large earthquakes on the Northridge/East Oak Ridge, Santa Susana, Holser, and San Gabriel faults. Earthquake magnitudes in the range of M6.5 to M7.0 could produce Modified Mercalli intensities in the range of VIII to XI within the project site, and maximum horizontal ground acceleration on the order of 0.93g.

The proposed project site would experience groundshaking as a result of an earthquake along any of the active or potentially active faults in the region, as is the case in all of southern California. As a result, the proposed structures would be required to be designed, engineered, and constructed to meet all applicable local and State seismic safety requirements, including those of the Uniform Building Code. Given compliance with applicable seismic safety requirements, impacts on the proposed development from seismic groundshaking would be less than significant.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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### GROUND FAILURE

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS FROM GROUND FAILURE, INCLUDING SETTLEMENT, COLLAPSE, GROUND LURCHING, LIQUEFACTION, OR LATERAL SPREADING.***

***Level of Significance Before Mitigation:*** Significant Impact.

#### ***Impact Analysis:***

##### *Soil Settlement and Collapse*

Most alluvial soils within modern drainages, as well as all topsoil and colluvium, are susceptible to collapse upon placement of structural loads, such as from placement of fill/embankment soils or construction of single-family and multi-family homes and commercial structures. The impact on structures built atop these alluvial soils from either soil collapse or settlement could be significant unless mitigated. PSE has recommended complete removal and replacement of the soils that are prone to settlement and collapse with engineered fill. All alluvial and colluvial soils beneath the site would be removed and replaced with compacted fill. With implementation of recommended mitigation, areas of the proposed project site proposed for development with structures that are currently characterized by settlement- or collapse-prone soils would be made suitable for support of structures, and impacts would be less than significant.

##### *Ground Lurching*

Although the current grading plan shows a number of development areas where the pad would overlie a transition between Holocene age alluvium and bedrock, all alluvial soils in these areas are planned for complete removal and replacement with compacted/engineered fill. Therefore, the likelihood of lurching impacting the developed areas within the project site is considered low. With removal of Holocene age alluvium from alluvium-bedrock transition areas, included as mitigation, impacts related to ground lurching would be less than significant.

##### *Liquefaction*

Because groundwater levels are deeper than 50 feet within the main canyon and all, if not most, of the alluvial soils that could be susceptible to liquefaction will be removed and replaced with compacted fill, liquefaction is not expected to pose a threat to people or structures at the project site. Removal of liquefiable soil materials from areas proposed for development, included as mitigation, would reduce potential liquefaction impacts to less than significant.

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### Lateral Spreading

Because the liquefaction potential within the proposed project site is unlikely with removal of liquefiable soil materials from development areas, the likelihood of lateral spreading is remote. Impacts related to lateral spreading would be less than significant.

### **Mitigation Measures:**

#### Soil Settlement and Collapse

GEO1 All on-site soils that are prone to settlement and collapse in areas proposed for development of structures shall be removed and replaced with engineered fill.

#### Ground Lurching

GEO2 If identified during on-site grading by a registered Geotechnical Engineer and/or Geologist, Holocene-age alluvium shall be removed and replaced with engineered fill in areas proposed for development where alluvium directly overlies bedrock, to preclude the possibility of ground lurching.

#### Liquefaction

GEO3 All liquefaction-prone soils identified during on-site grading by a registered Geotechnical Engineer and/or Geologist, shall be removed from areas proposed for development and replaced with engineered fill.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### LANDSLIDES AND SLOPE STABILITY

◆ **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS FROM LANDSLIDES OR OTHER SLOPE FAILURES.**

**Level of Significance Before Mitigation:** Significant Impact.

### **Impact Analysis:**

#### Seismically-Induced Landslide and Rock Fall

Although one location on-site does not meet the required factor of safety for seismically-induced landsliding, no development is proposed at or near this location. All other natural slopes and proposed cut slopes meet or exceed the minimum factor of safety for landslides. Impacts from seismically-induced landsliding would be less than significant.

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Evidence of rock falls is present along the base of steep, near vertical slopes bordering the north side of the proposed project site; therefore, the rock fall hazard at this location would be considered a potentially significant impact. However, appropriate setbacks along the base of these over-steepened slopes, or laying the slope back to a shallower angle, would serve to effectively eliminate the rock fall hazard in this area. Mitigation requiring inclusion of setbacks or grading of slopes to a shallower angle in this area, as deemed appropriate, would reduce impacts to less than significant.

### *Deep Landslides and Slope Failures*

No landslides are known to exist within the proposed project site. Given the steeply dipping nature of the on-site bedrock, and the fact that planned cut slopes are designed no steeper than 27 degrees (2:1: horizontal to vertical) the potential for landsliding on slopes in the bedrock is considered low.

Conventional cut-and-fill grading would be used to create the proposed development. Current grading plans indicate the construction of 2:1 (horizontal to vertical) cut slopes up to 125 feet high within the Pico formation, and up to approximately 75 feet high in the Saugus formation. Numerous 2:1 fill slopes, as high as about 90 feet, are also planned.

Given the steeply dipping (45 to 90 degrees), self-buttressing nature of the bedrock, the vast majority of natural slopes within the proposed project site and all manufactured 2:1 cut slopes are expected to be grossly and surficially stable. Given the distance of proposed development from such areas, landslides are not expected to pose a risk to people or structures at the proposed project site, and impacts would be less than significant in this regard.

Bedrock exposed along the steep natural slopes adjacent to the north side of Lyon Canyon is considered subject to block-and/or toppling-type failures. The buildup of water within joints and fractures, as well as the removal of natural support from stream erosion can exacerbate any existing instability of bedrock in these areas. Establishing adequate structural setbacks for homes and commercial sites, and maintaining surface drainage away from the toe of these steep slopes should provide appropriate mitigation against landslides or other slope failures. With implementation of applicable setback and drainage recommendations, impacts related to block-and/or toppling-type slope failures would be less than significant.

Where cut slopes are planned, they would be excavated primarily within dense, steeply-dipping bedrock materials at inclinations not exceeding 2:1 (horizontal to vertical) under the observation and by a qualified geotechnical firm. Fill slopes would be constructed with engineered fill at inclinations no steeper than 2:1. Cut and fill slopes are expected to be grossly and surficially stable and thereby would ensure that any impacts related to stability of graded slopes would be less than significant. Slope stability would be further protected by adherence to construction guidelines set forth in the latest issue of the Unified Building Code.

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## *Mitigation Measures:*

### Seismically Induced Landslide and Rock Fall

GEO4 Setbacks from over-steepened slopes or grading of slopes to a shallower angle, as recommended in the project's *Geotechnical Report*, shall be required to minimize rock fall hazards to development along the northern boundary of the proposed project site.

### Deep Landslides and Slope Failures

GEO5 Adequate structural setbacks for homes and commercial sites shall be required, and surface drainage shall be directed away from the toe of affected steep slopes, in order to prevent landslides or other slope failures in on-site areas susceptible to block-and/or toppling-type failures.

*Level of Significance After Mitigation:* Less Than Significant Impact.

## SOIL EROSION

- ◆ ***RESULT IN SUBSTANTIAL WIND OR WATER SOIL EROSION OR THE LOSS OF TOPSOIL, EITHER ON- OR OFF-SITE.***

*Level of Significance Before Mitigation:* Significant Impact.

*Impact Analysis:* Increased on-site soil erosion would result from implementation of the proposed project due to the following:

- ◆ Grading of individual hillside lots within lots 1-71, and lots 87-93, as well as the would disturb the natural soil conditions and expose the contact between bedrock and the overlying highly erodible soils;
- ◆ Loss of vegetative cover;
- ◆ Construction of cut slopes for individual lots and roadways that will expose weathered bedrock and overlying soils to accelerated erosion;
- ◆ Increased surface water runoff resulting from construction of impermeable surfaces, such as roadways, driveways, and extensive hardscape on individual lots; and
- ◆ Channelization of surface water runoff collected from roadways and natural drainages.

The near-surface alluvial soils and highly weathered bedrock materials at the proposed project site are moderately to highly erodible. Adverse surface drainage across individual residential lots, on the face of manufactured slopes, or from concentrated discharge from slope drains into natural drainage channels, could promote accelerated soil erosion which could lead to surficial instability of slopes and increased sedimentation.

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Colluvial soils at the proposed project site are also considered highly erodible. Adverse surface water runoff from residential lots that lie above colluvial-filled hillside drainages could promote soil slumping and resultant debris flows and increased sedimentation. Erosion and sedimentation impacts are considered potentially significant. However, mitigation measures, such as installation of catchment basins, protective berms and barriers, and/or reinforced walls, would be implemented to reduce these impacts to less than significant.

Also refer to Section 5.2, Hydrology and Water Quality, for a discussion of erosion and sedimentation impacts relative to stormwater quality.

### **Mitigation Measures:**

- GEO6 As soon as grading is completed for each lot, establish a protective vegetative cover in all disturbed areas via planting and/or seeding, then place a temporary protective cover, such as jute netting, mulch, hay, or other nonerodible form of ground cover, until a vegetative cover is established.
- GEO7 Divert surface drainage from cut and fill slopes via brow ditches; collect surface drainage in ditches with relatively shallow gradients; and provide a means to inhibit sediment runoff into natural drainages until a protective vegetative cover effectively mitigates further soil erosion. Place energy-dissipating devices in drainages subject to increased runoff.
- GEO8 When grading, attempt to minimize the area of disturbance.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### **EXPANSIVE SOILS**

- ◆ ***ON-SITE EXPANSIVE SOILS COULD POSE A RISK TO PEOPLE AND STRUCTURES ASSOCIATED WITH PROPOSED DEVELOPMENT.***

*Level of Significance Before Mitigation:* Significant Impact.

**Impact Analysis:** Some of the soils on-site have a medium to high potential for expansion, which could cause significant cracking, differential heave, and other adverse impacts on structure foundations. However, mitigation measures designed to address the effects of expansive soils would reduce potentially significant impacts to less than significant.

### **Mitigation Measures:**

- GEO9 Incorporate foundation designs recommended by the applicant's geotechnical engineer and/or the County of Los Angeles, where applicable, to preclude any adverse effects on proposed structures in areas characterized by expansive soils,

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including but not limited to post-tensioned slabs, mat-slabs, or other foundation systems for residential structures.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### GRADING

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN A CHANGE IN TOPOGRAPHY OR GROUND SURFACE RELIEF FEATURES, EARTH MOVEMENT OF 10,000 CUBIC YARDS OR MORE, AND DEVELOPMENT AND/OR GRADING ON SLOPES GREATER THAN 10 PERCENT NATURAL GRADE.***

*Level of Significance Before Mitigation:* Significant Impact.

**Impact Analysis:** Grading activities associated with the residential development and where grading of pads, slopes and interior roads are planned would create moderate to significant changes to the current topography. The project proposes the grading of approximately 3.8 million cubic yards of earth, which would be balanced on the site. Additionally, the project would grade and development on slopes greater than 25 percent natural slope. The greatest changes to existing topography would occur from construction of the residential lots and roadways within the southern portion of the site. Only through avoidance of topographic features could grading-related impacts to topography be reduced to a less than significant level.

In accordance with the County of Los Angeles's Hillside Design Guidelines, the proposed project has been designed to avoid development on primary and secondary ridgelines at the project site, and is required to incorporate specific design features for development on hillsides at the project site. Although compliance with the conditions of the County's Conditional Use Permit (if approved) would reduce impacts on topographic features and onsite hillsides, the project would permanently alter the topography of the site, would place development on slopes greater than 25 percent natural grade, and would involve substantial grading on-site. As such, these impacts would be significant and unavoidable.

**Mitigation Measures:** No mitigation measures are recommended that could feasibly reduce the significant impacts referenced.

*Level of Significance After Mitigation:* Significant Unavoidable Impact.

### UNIQUE GEOLOGIC OR PHYSICAL FEATURES

- ◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD RESULT IN THE DESTRUCTION, COVERING, OR MODIFICATION OF UNIQUE GEOLOGIC OR PHYSICAL FEATURES AT THE PROJECT SITE.***

*Level of Significance Before Mitigation:* Significant Impact.

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**Impact Analysis:** The proposed project would move approximately 3.8 million cubic yards of earth, which would be balanced on-site, including cutting and filling of hillside areas and canyon bottoms. Although the project would preserve on-site primary and secondary ridgelines, grading for proposed development would permanently alter on-site natural drainages and slope areas, which would be considered an adverse impact. Because no mitigation exists that could reduce this impact to on-site geologic and physical features, this is considered a significant unavoidable impact.

**Mitigation Measures:** No mitigation measures are recommended that could feasibly reduce the significant impacts referenced.

**Level of Significance After Mitigation:** Significant Unavoidable Impact.

### PALEONTOLOGICAL RESOURCES

- ◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD RESULT IN THE DESTRUCTION, COVERING, OR MODIFICATION OF SIGNIFICANT FOSSIL BEDS AT THE PROJECT SITE.***

**Level of Significance Before Mitigation:** Significant Impact.

**Impact Analysis:** The proposed project would move approximately 3.8 million cubic yards of earth, which would be balanced onsite, including cutting and filling of hillside areas and canyon bottoms. Loss of onsite fossil beds, consisting of marine vertebrate and macroinvertebrate fossils would destroy portions of the fossil record from the Pliocene epoch in the Saugus and Pico Formations. The scientific value of these fossil beds would be lost.

#### **Mitigation Measures:**

- |       |  |
|-------|--|
| GEO10 | Fossil beds impacted by the proposed project should be excavated by a qualified paleontologist to gather and record which species of vertebrate and macroinvertebrate fauna existed onsite during the Pliocene. The fossil record should be preserved in an appropriate museum, such as the Natural History Museum of Los Angeles County, and the results published for the benefit of the scientific community and general public. (Same as Mitigation Measure CR6) |
|-------|--|

**Level of Significance After Mitigation:** Less Than Significant Impact.

### 5.1.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT, IN CONJUNCTION WITH OTHER CUMULATIVE PROJECTS IN THE SANTA***

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***CLARITA VALLEY, WOULD NOT RESULT IN CUMULATIVELY  
CONSIDERABLE GEOLOGY, SOILS, AND SEISMICITY IMPACTS.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** Although the proposed project would result in significant unavoidable impacts related to geology, soils, and seismicity, these impacts are site-specific and each development site is subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the locality and/or region. Because the development of each cumulative project site would have to be consistent with the requirements of the Los Angeles County Department of Public Works for project sites in unincorporated Los Angeles County, and the Uniform Building Code, as they pertain to protection against known geologic hazards, impacts of cumulative development would be less than significant, given known geologic considerations.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance After Mitigation:*** Not applicable.

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## **5.2 HYDROLOGY AND WATER QUALITY**

This section of the EIR evaluates the impacts of the proposed project on hydrology/drainage and water quality. The discussion of hydrology and water quality impacts presented in this section is based on the assumptions, calculations, and analysis contained in the project's *Hydrology and Water Quality Technical Report*, performed by Diamond West Engineering (August 2005).<sup>1</sup> The *Hydrology and Water Quality Technical Report* is included in its entirety as Appendix I. The assessments and technical analysis presented herein are in compliance with the Clean Water Act, of 1972, as amended, the Statewide General NPDES Permit, the Water Quality Control Plan (Basin Plan) as adopted by the Regional Water Quality Control Board – LA Region, and the local drainage policies and requirements for the County of Los Angeles adopted by the Los Angeles Regional Water Quality Control Board, and the California Environmental Quality Act (CEQA) of 1970, as amended. The hydrology analysis and drainage assessments have been prepared at a preliminary engineering level based upon the details of the available information. For a discussion of potential impacts and mitigation measures related to wetlands and other on-site water bodies, refer to Section 5.6, Biological Resources, in this EIR.

### **5.2.1 ENVIRONMENTAL SETTING**

The purpose of this existing conditions evaluation is to establish a baseline for comparison of the pre-project and the post-project conditions. Baseline conditions investigated include: land use, hydrology with a burned and a debris producing condition, floodplain mapping, and surface water quality. On-site as well as upstream off-site areas are considered in the analysis.

#### **EXISTING WATERSHED CONDITIONS**

##### **Existing Land Use**

The site is currently vacant and covered with approximately 1856 oak trees and scattered vegetation. The property is bounded by vacant land uses on the west and south. To the east are The Old Road and Interstate 5. Across Interstate 5 is residential development. To the north is a small business park and residential development. The entire watershed upstream of the project is open space.

##### **Existing Facilities**

There are currently several drainage improvements along the site's easterly boundary that convey runoff eastwards under The Old Road and Interstate 5 to the South Fork of the Santa Clara River. The majority of the runoff exits at a double 8-foot by 8-foot box culvert at the northeast corner of the site. This culvert is currently about 75% filled with sediment and debris. Thus its discharge capacity is significantly reduced. Any subsequent existing discharge capacity determinations will be based on the facility being free of any debris. Numerous storm drain pipes convey flow from southeast portions of the site eastwards. Refer to Table 5.2-1, Watershed Area – Existing Conditions, for a list of all existing facilities.

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<sup>1</sup> Diamond West Engineering. *Lyons Canyon Ranch, Hydrology and Water Quality Technical Appendix*. August 2005.

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### Watershed Description

A regional drainage master plan which includes analysis of the project site has not been prepared. However, per a field inspection and the 1996 Thomas Guide, the proposed project watershed is ultimately tributary to the South Fork of the Santa Clara River. The majority of on-site flow generally drains from southwest to northeast via Lyon Canyon Creek, which is a blue line stream identified on a United States Geological Survey topographic map for the project site (named Oat Mountain Quadrangle). Southeast portions of the project site flow eastwards into the South Fork of the Santa Clara River. Refer to Exhibit 5.2-1, Hydrology Map – Existing Conditions, for current drainage patterns.

The maximum elevation differential of the local tributary watershed is approximately 541 feet from an elevation of 1,654 feet at the southwest end of the site to 1,296 at the northeast end of the site. Slopes are mostly steep, and range from 10 percent to 38 percent in the project area.

The project area has been divided into 27 existing watersheds, which are illustrated in Exhibit 5.2-1. The majority of the site is undeveloped. Table 5.2-1 summarizes the watershed acreages.

The project site has mainly natural cover throughout, and thus the percentage impervious factor (i.e., percentage of non-permeable ground surface) was one percent for a majority of the area per County standards.

**Table 5.2-1**  
**Watershed Area – Existing Conditions**

Concentration Point	Watershed	Area (acres)
Double 8-foot by 8-foot Box Culvert	1A	37.8
	3A	41.0
	5A	40.6
	7A	30.4
	10B	17.8
	12A	34.8
	14A	28.3
	16A	23.8
	18A	30.8
	20A	32.0
	22A	13.3
	23C	46.5
	27C	21.3
	28D	35.9
	30D	33.1
	33A	23.9
	36E	48.0
	38F	56.8
	40F	41.5
	42A	40.1
	44A	41.5
	45G	29.7
	47G	33.8

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Concentration Point	Watershed	Area (acres)
	49G	28.4
	53G	27.4
	55A	37.4
	58H	18.4
48-inch Pipe	62K	36.5
30-inch Pipe	64L	38.0

## HYDROLOGY

Previous conceptual on-site hydrology analysis was completed by Diamond West Engineering, Inc.<sup>2</sup> and RBF Consulting. The analysis presented in the current project's Hydrology and Water Quality Technical Report included the review of the original Diamond West Engineering and RBF report's hydrologic analysis and the preparation of another independent analysis. The purpose of this additional analysis is based on the change of the project design. Additionally, the hydrologic parameters used in the analysis are presented in the Addendum to the 1991 Hydrology and Sedimentation Manual (June 2002).

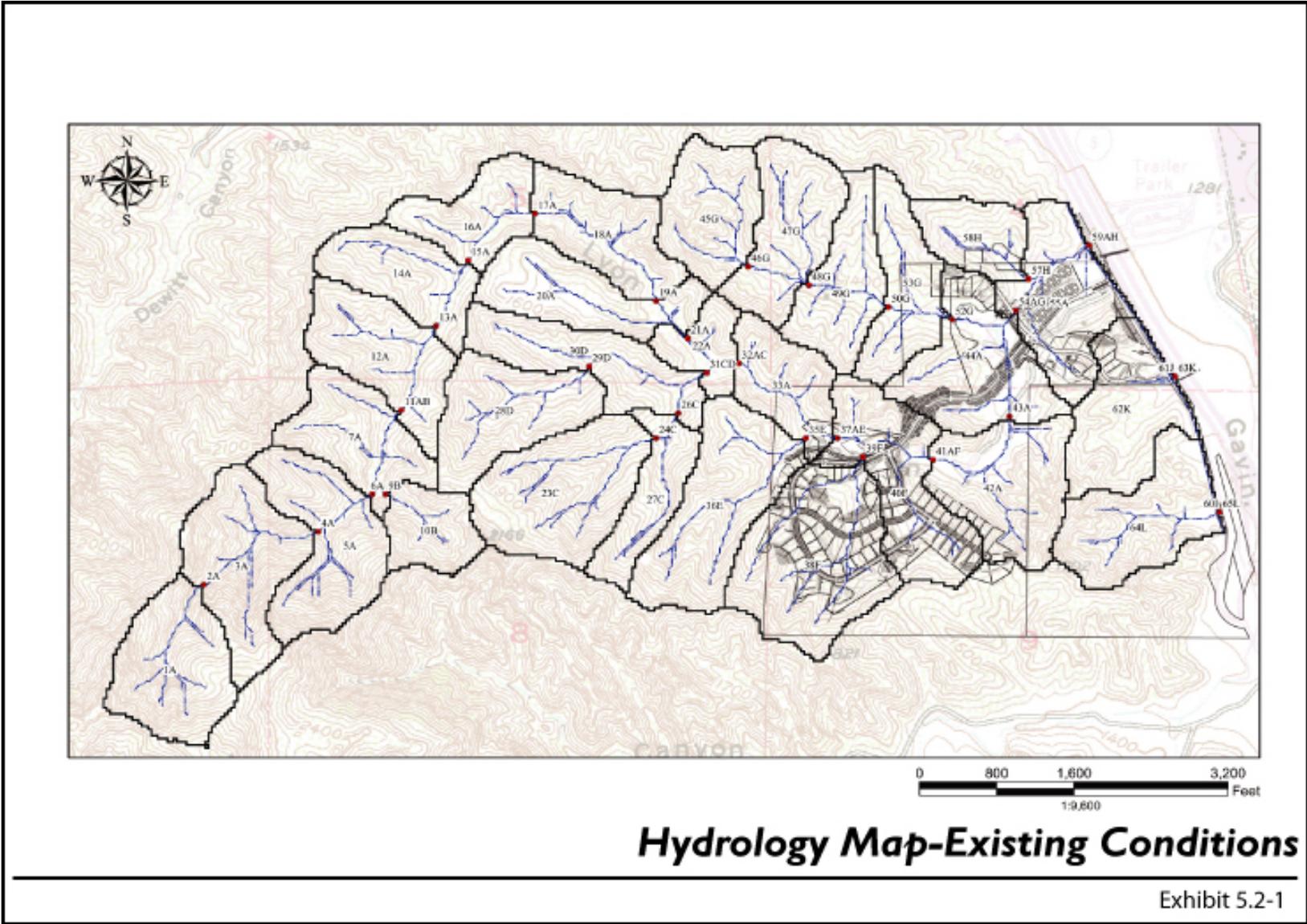
Hydrologic calculations to evaluate surface water runoff associated with the 50-year, 24-hour design storm frequency were performed for the off-site and on-site drainage areas. These calculations were performed using the Modified Rational (MODRAT) Method as defined in the program named WMS. The watershed area boundaries were delineated utilizing the existing USGS topographic mapping and site mapping, and were verified with a site visit and the previous reports. As indicated previously, Exhibit 5.2-1 shows the hydrology map for the existing conditions at the project site.

Hydrologic properties such as slope, length, soil type, vegetation and land use were characterized for each watershed area. Table 5.2-2, Existing Watershed Characteristics, contains a summary of the existing watershed area characteristics.

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<sup>2</sup> Diamond West Engineering, Inc. *County of Los Angeles, Tentative Tract No. 53653, Lyons Canyon Ranch, Drainage Concept / SUSMP Study*. June 2004.

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**Table 5.2-2  
Existing Watershed Characteristics**

Watershed Area ID	Length (ft)	Slope (ft/ft)	Soil Type	Percent Impervious	Land Use (Acres)		Total Area (Acres)
					Other	Open Space	
1A	2,082	0.3564	93	0.01		37.8	37.8
3A	2,523	0.3107	93	0.01		41.0	41.0
5A	2,129	0.3711	93	0.01		40.6	40.6
7A	1,941	0.2112	91	0.01		30.4	30.4
10B	1,277	0.2653	91	0.01		17.8	17.8
12A	1,723	0.1833	91	0.01		34.8	34.8
14A	1,942	0.1767	91	0.01		28.3	28.3
16A	1,834	0.1172	91	0.01		23.8	23.8
18A	2,189	0.1019	91	0.01		30.8	30.8
20A	2,490	0.1000	91	0.01		32.0	32.0
22A	1,200	0.1325	91	0.01		13.3	13.3
23C	2,332	0.2310	91	0.01		46.5	46.5
27C	2,255	0.2310	91	0.01		21.3	21.3
28D	2,335	0.2188	91	0.01		35.9	35.9
30D	2,925	0.1180	91	0.01		33.1	33.1
33A	1,994	0.1023	91	0.01		23.9	23.9
36E	2,808	0.1901	91	0.01		48.0	48.0
38F	2,514	0.1714	91	0.01		56.8	56.8
40F	2,103	0.1155	91	0.01		41.5	41.5
42A	2,043	0.1581	91	0.01		40.1	40.1
44A	2,090	0.1345	97	0.01		41.6	41.6
45G	1,748	0.1744	97	0.01		29.7	29.7
47G	1,814	0.1868	97	0.03	2.0	31.8	33.8
49G	1,680	0.1660	97	0.05	3.0	25.4	28.4
53G	2,085	0.1506	97	0.07	3.0	24.4	27.4
55A	2,283	0.0720	97	0.08	2.4	35.0	37.4
58H	1,566	0.1705	97	0.23	10.0	8.4	18.4

**Rational Method**

The Rational Method and Modified Rational Method are computation procedures for developing a peak runoff rate (discharge) for storms of a specific recurrence interval. Rational Method equations are based on the assumption that the peak flow rate is directly proportional to the drainage area, rainfall intensity, time of concentration, land use and soil type. The design discharges were computed by generating a hydrologic "link-node" model, which divides the area into drainage subareas. These subareas are tributary to concentration points, or hydrologic "node" points, determined by the existing terrain and street layout.

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### Burned Flow Rates

Based on on-site vegetation, climatic conditions, and the fact that a brush fire in 2003 burned the site, it was determined that the project site has a significant risk for fire, and thus a burned flow rate calculation was performed. When a watershed burns, the perviousness of the soil (i.e., the ability of water to be absorbed into soil) decreases because of a loss of vegetation and physical changes in the soil (*Los Angeles County Hydrology Manual Section 3-C-2.3*). The calculations were performed using the current *Los Angeles County Hydrology Manual* and its Appendices. The burned runoff coefficients versus rainfall intensities were input into the MODRAT program as new soil types. These new soil types represent the burned conditions, and are presented in Appendix A of Appendix I, *Hydrology and Water Quality Technical Report* along with all other burned condition calculations.

### Burned and Bulked Flow Rates

Once the difference in imperviousness and soil characteristics due to the burned condition have been factored in flow calculations, the bulking effect must be considered. The bulking effect is the rise in flow rate due to the inclusion of sediment in the burned condition. The methodology for calculating the bulked flow rates from the burned flow rates is found in the *Los Angeles County Sedimentation Manual, Section 3-C-1*. The bulking factors were found using Appendix P-5 of the Manual, and are listed below in Table 5.2-3, Bulking Factors – Existing Conditions.

**Table 5.2-3**  
**Bulking Factors – Existing Conditions**

Concentration Point	Bulking Factor BF <sub>(A)</sub>
Double 8-foot by 8-foot Box Culvert	1.46
48-inch Pipe	1.62
30-inch Pipe	1.62

### Surface Water Hydrology – Existing Conditions

The project site comprises approximately 232 acres of vacant land. In addition to the project site, the tributary watershed considered in this analysis includes an additional 738 acres of undeveloped land upstream of the site. Thus, the total area that contributes runoff to the South Fork of the Santa Clara River is approximately 970 acres.

To establish the baseline hydrologic conditions for the project area, the 50-year and 10-year, 24-hour frequency storms were analyzed with burned and bulked conditions. The hydrology map for the existing condition rational method model is shown in Exhibit 5-2-1. Appendix A of Appendix I, *Hydrology and Water Quality Technical Report* contains the results of the Modified Rational Method analyses. Results of the existing condition hydrologic analysis are summarized below in Table 5.2-4, Hydrology Summary – Existing Conditions.

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**Table 5.2-4  
Hydrology Summary – Existing Conditions**

Description	Effective Total Area (acres)	50-year (Burned and Bulked) Flowrate (cfs)	10-year (Burned and Bulked) Flowrate (cfs)
Double 8-foot by 8-foot Box Culvert	894.0	1,923	1,373
48-inch Pipe	36.5	183	131
30-inch Pipe	38.0	190	136

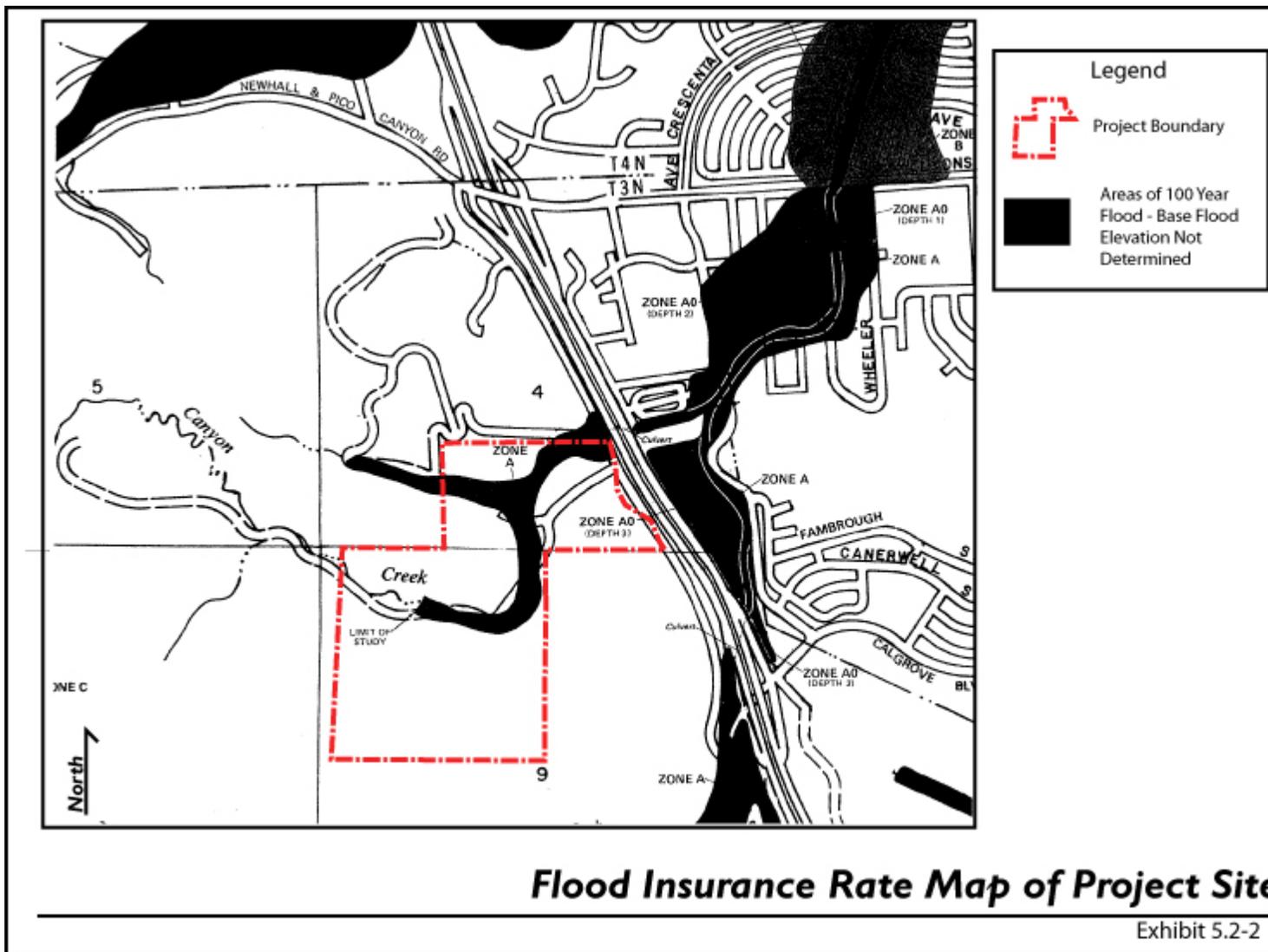
**FLOODPLAIN MAPPING**

The County of Los Angeles participates in the National Flood Insurance Program (NFIP). Communities participating in the NFIP must adopt and enforce minimum floodplain management standards, including identification of flood hazards and flooding risks. Participation in the NFIP allows communities to purchase low-cost insurance protection against losses from flooding.

The published Flood Insurance Rate Map (FIRMs) for the project site is included on Community Panel No. 065043-0460-B, effective date December 2, 1980. The main watercourse flowing northeasterly through the site is located directly in Zone A. The off-site downstream outlet of the double 8-foot by 8-foot box culvert is also located in an area designated as Zone A. See Exhibit 5.2-2, FIRM – Flood Insurance Rate Map, for the location of the floodplain.

Zone A is defined as: “Areas of 100 year flood. Base flood elevations and flood hazards factors not determined.”

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### STORMWATER QUALITY

Stormwater quality is a significant concern in California. The project's major downstream watercourse, Reach 8 of the Santa Clara River, is listed on the 303(d) list of the Los Angeles Regional Water Quality Control Board. This 303(d) listing raises a significant concern for certain pollutant runoff from the site. There currently are no stormwater quality systems on-site.

This section discusses typical pollutants found in stormwater runoff and discusses the types of contaminants that may be found in existing stormwater runoff from the project site.

#### Significant Pollutants From 303(d) Listing

Under Section 303(d) of the 1972 Clean Water Act, areas are required to declare a list of water quality-limited segments. Watercourses on this list do not meet water quality standards, even after installing the minimum level of pollutant control technology on point sources, and must develop action plans, known as Total Maximum Daily Loads (TMDL), to improve water quality. A TMDL is a written plan that describes how an impaired waterbody will meet water quality standards. It contains:

1. a measurable feature to describe attainment of the water quality standard(s);
2. a description of the required actions to remove the impairment;
3. an allocation of responsibility among dischargers to act in the form of actions on water quality conditions for which each discharger is responsible.

The project site is tributary to the South Fork of the Santa Clara River, which is tributary to Reach 8 of the Santa Clara River (West Pier Highway 99 to Bouquet Canyon Road Bridge). Because Reach 8 of the Santa Clara River is on the 303(d) list of the Los Angeles Regional Water Quality Control Board, the project site is within a watershed that does not meet water quality standards for certain pollutants. The Los Angeles Regional Water Quality Control Board indicates that the current pollutants in this watershed include chloride and coliform, both coming from point and non-point sources. One specific, notable source of chloride is "non-contained" water softening systems, discharges from which are conveyed to the local sanitary sewer system and contain high levels of chloride. The RWQCB adopted a Chloride TMDL and a Nitrate/Nitrite TMDL for the Upper Santa Clara River (including Reach 8) in March 2004<sup>3</sup>.

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<sup>3</sup> US Environmental Protection Agency website  
[http://oaspub.epa.gov/pls/tmdl/enviro.control?p\\_list\\_id=CA403%2E2690R%20SN%20CLARA%20R%20R8&p\\_cycle=2002](http://oaspub.epa.gov/pls/tmdl/enviro.control?p_list_id=CA403%2E2690R%20SN%20CLARA%20R%20R8&p_cycle=2002)

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### Non-Point Source Pollutants

A net effect of urbanization can be to increase pollutant export. However, an important consideration in evaluating stormwater quality from a project is to assess if it impairs the beneficial use of the receiving waters. Non-point source pollutants have been characterized by the following major categories, discussed below, in order to assist in determining the pertinent data and their use. Receiving waters can assimilate a limited quantity of various constituent elements, however there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable effect on water quality. Background of these standard water quality categories provides an understanding of typical urbanization impacts.

#### *Sediment*

Sediment is made up of tiny soil particles that are washed or blown into surface waters. It is the major pollutant by volume in surface water. Suspended soil particles can cause the water to look cloudy or turbid. The fine sediment particles also act as a vehicle to transport other pollutants including nutrients, trace metals, and hydrocarbons. Construction sites are typically the largest source of sediment for urban areas under development. Another major source of sediment is streambank erosion, which may be accelerated by increases in peak rates and volumes of runoff due to urbanization.

#### *Nutrients*

Nutrients are a major concern for surface water quality. Phosphorous and nitrogen are of special concern because they can cause algal blooms and excessive vegetative growth. Of the two, phosphorus is usually the limiting nutrient that controls the growth of algae in lakes. The orthophosphorous form of phosphorus is readily available for plant growth. The ammonium form of nitrogen can also have severe effects on surface water quality. The ammonium is converted to nitrate and nitrite forms of nitrogen in a process called nitrification. This process consumes large amounts of oxygen, which can impair the dissolved oxygen levels in water. The nitrate form of nitrogen is very soluble and is found naturally at low levels in water. When nitrogen fertilizer is applied to lawns or other areas in excess of plant needs, nitrates can leach below the root zone, eventually reaching ground water. Orthophosphate from auto emissions also contributes phosphorus in areas with heavy automobile traffic. As a general rule of thumb, nutrient export is greatest from development sites with the most impervious area. Other problems resulting from excess nutrients are surface algal scums; water discolorations; odors; toxic releases; and overgrowth of plants. Common measures for nutrients are total nitrogen, organic nitrogen, total Kjeldahl nitrogen (TKN), nitrate, ammonia, total phosphate, and total organic carbon (TOC).

#### *Trace Metals*

Trace metals are primarily a concern because of their toxic effects on aquatic life and their potential to contaminate drinking water supplies. The most common trace metals found in urban runoff are lead, zinc, and copper. Fallout from automobile emissions is also a major source of

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lead in urban areas. A large fraction of the trace metals in urban runoff are attached to sediment and this effectively reduces the level that is immediately available for biological uptake and subsequent bioaccumulation. Metals associated with the sediment settle out rapidly and accumulate in the soils. Also, urban runoff events typically occur over a shorter duration, thereby reducing the amount of exposure, which could be toxic to the aquatic environment. The toxicity of trace metals in runoff varies with the hardness of the receiving water. As total hardness of the water increases, the threshold concentration levels for adverse effects increases.

### *Oxygen-Demanding Substances*

Aquatic life is dependent on the dissolved oxygen (DO) in the water, and when organic matter is consumed by microorganisms, DO is consumed in the process. A rainfall event can deposit large quantities of oxygen-demanding substance in lakes and streams. The biochemical oxygen demand of typical urban runoff is on the same order of magnitude as the effluent from an effective secondary wastewater treatment plant. A problem resulting from low DO occurs when the rate of oxygen-demanding material exceeds the rate of replenishment. Oxygen demand is estimated by direct measure of DO, and indirect measures such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), oils and greases, and total organic carbon (TOC).

### *Bacteria*

Bacteria levels in undiluted urban runoff exceed public health standards for water contact recreation almost without exception. Studies have found that total coliform counts exceeded EPA water quality criteria at almost every site, and almost every time it has rained. The coliform bacteria that are detected may not be a health risk on their own, but are often associated with human pathogens.

### *Oil and Grease*

Oil and grease contain a wide variety of hydrocarbons, some of which could be toxic to aquatic life in low concentrations. These materials initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed by it. The major source of hydrocarbons in urban runoff is through leakage of crankcase oil and other lubricating agents from automobiles. Hydrocarbon levels are highest in the runoff from parking lots, roads, and service stations. Residential land uses generate less hydrocarbons export, although illegal disposal of waste oil into stormwater flows can be a local problem.

### *Other Toxic Chemicals*

Priority pollutants are generally related to hazardous wastes or toxic chemicals and sometimes can be detected in stormwater. Priority pollutant scans have been conducted in previous studies of urban runoff, which evaluated the presence of over 120 toxic chemicals and compounds. The scans rarely revealed toxins that exceeded the current safety criteria. The urban runoff scans were primarily conducted in suburban areas not expected to have many sources of toxic

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pollutants (with the possible exception of illegally disposed or applied household hazardous wastes). Measures of priority pollutants in stormwater include phthalate (plasticizer compound); phenols and creosols (wood preservatives); pesticides and herbicides; oils and greases; and metals.

### PHYSICAL CHARACTERISTICS OF SURFACE WATER QUALITY

Standard parameters that assess the quality of stormwater provide a method of measuring impairment. A background of these typical characteristics assists in understanding water quality requirements. The quantity of a material in the environment and its characteristics determine the degree of availability as a pollutant in surface runoff. In an urban environment, the quantity of certain pollutants in a given area is a function of the intensity of the land use. For instance, a high volume of automobile traffic makes a number of potential pollutants (such as lead and hydrocarbons) more available. The availability of a material, such as a fertilizer, is a function of the quantity and the manner in which it is applied. Applying fertilizer in quantities that exceed plant needs leaves the excess nutrients available for loss to surface or ground water.

The physical properties and chemical constituents of water traditionally have served as the primary means for monitoring and evaluating water quality. Evaluating the condition of water through a water quality standard refers to its physical, chemical, or biological characteristics. Water quality parameters for stormwater comprise a long list and are classified in many ways. In many cases, the concentration of an urban pollutant, rather than the annual load of that pollutant, is needed to assess a water quality problem. Some of the physical, chemical or biological characteristics that evaluate the quality of the surface runoff are described below.

#### *Dissolved Oxygen*

Dissolved oxygen in the water has a pronounced effect on the aquatic organisms and the chemical reactions that occur. It is one of the most important biological water quality characteristics in the aquatic environment. The dissolved oxygen concentration of a water body is determined by the solubility of oxygen, which is inversely related to water temperature, pressure, and biological activity. Dissolved oxygen is a transient property that can fluctuate rapidly in time and space. Dissolved oxygen represents the status of the water system at a particular point and time of sampling. The decomposition of organic debris in water is a slow process and the resulting changes in oxygen status respond slowly also. The oxygen demand is an indication of the pollutant load and includes measurements of biochemical oxygen demand or chemical oxygen demand.

#### *Biochemical Oxygen Demand (BOD)*

The biochemical oxygen demand (BOD) is an index of the oxygen-demanding properties of the biodegradable material in the water. Samples are taken from the field and incubated in the laboratory at 20 degrees Celsius, after which the residual dissolved oxygen is measured. The BOD value commonly referenced is the standard 5-day values. These values are useful in assessing stream pollution loads and for comparison purposes.

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### *Chemical Oxygen Demand*

The chemical oxygen demand (COD) is a measure of the pollutant loading in terms of complete chemical oxidation using strong oxidizing agents. It can be determined quickly because it does not rely on bacteriological actions as with BOD. COD does not necessarily provide a good index of oxygen demanding properties in natural waters.

### *Total Dissolved Solids (TDS)*

TDS concentration is determined by evaporation of a filtered sample to obtain residue whose weight is divided by the sample volume. The TDS of natural waters varies widely. There are several reasons why TDS is an important indicator of water quality. Dissolved solids affect the ionic bonding strength related to other pollutants such as metals in the water. TDS are also a major determinant of aquatic habitat. TDS affects saturation concentration of dissolved oxygen and influences the ability of a water body to assimilate wastes. Eutrophication rates depend on total dissolved solids.

### *pH*

The pH of water is the negative log, base 10, of the hydrogen ion ( $H^+$ ) activity. A pH of 7 is neutral; a pH greater than 7 indicates alkaline water; a pH less than 7 represents acidic water. In natural water, carbon dioxide reactions are some of the most important in establishing pH. The pH at any one time is an indication of the balance of chemical equilibrium in water and affects the availability of certain chemicals or nutrients in water for uptake by plants. The pH of water directly affects fish and other aquatic life and generally toxic limits are pH values less than 4.8 and greater than 9.2.

### *Alkalinity*

Alkalinity is the opposite of acidity, representing the capacity of water to neutralize acid. Alkalinity is also linked to pH and is caused by the presence of carbonate, bicarbonate, and hydroxide, which are formed when carbon dioxide is dissolved. A high alkalinity is associated with a high pH and excessive solids. Most streams have alkalinities less than 200 mg/l and ranges of alkalinity of 100-200mg/l seem to support well-diversified aquatic life.

### *Specific Conductance*

The specific conductivity of water, or its ability to conduct an electric current, is related to the total dissolved ionic solids. Long term monitoring a project waters can develop a relationship between specific conductivity and TDS. Its measurement is quick and inexpensive and can be used to approximate TDS. Specific conductivities in excess of 2000 ohms/cm indicate a TDS level too high for most freshwater fish.

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### *Turbidity*

The clarity of water is an important indicator of water quality that relates to the ability of photosynthetic light to penetrate. Turbidity is an indicator of the property of water that causes light to become scattered or absorbed. Suspended clays and other organic particles cause turbidity. It can be used as an indicator of certain water quality constituents such as predicting the sediment concentrations.

### *Nitrogen (N)*

Sources of nitrogen in stormwater are from the additions of organic matter to water bodies or chemical additions. Ammonia and nitrate are important nutrients for the growth of algae and other plants. Excessive nitrogen can lead to eutrophication since nitrification consumes dissolved oxygen in the water. Nitrogen occurs in many forms. Organic Nitrogen breaks down into ammonia, which eventually becomes oxidized to nitrate-nitrogen, a form available for plants. High concentrations of nitrate-nitrogen (N/N) in water can stimulate growth of algae and other aquatic plants, but if phosphorus (P) is present, only about 0.30 milligrams per liter (mg/l) of nitrate-nitrogen is needed for algal blooms. Some fish life can be affected when nitrate-nitrogen exceeds 4.2 mg/l. There are a number of ways to measure the various forms of aquatic nitrogen. Typical measurements of nitrogen include Kjeldahl nitrogen (organic nitrogen plus ammonia); ammonia; nitrite plus nitrate; nitrite; and nitrogen in plants. The principal water quality criteria for nitrogen focus on nitrate and ammonia.

### *Phosphorus (P)*

Phosphorus is an important component of organic matter. In many water bodies, phosphorus is the limiting nutrient that prevents additional biological activity from occurring. The origin of this constituent in urban stormwater discharge is generally from fertilizers and other industrial products. Orthophosphate is soluble and is considered to be the only biologically available form of phosphorus. Since phosphorus strongly associates with solid particles and is a significant part of organic material, sediments influence concentration in water and are an important component of the phosphorus cycle in streams. The primary methods of measurement include detecting orthophosphate and total phosphorus.

### **Existing Stormwater Quality**

The project site is currently vacant with oak trees and some grassland vegetation. Because the major downstream watercourse for the site is on the 303(d) list, the site is included in a watershed that does not meet water quality standards for chloride and coliform. Currently there are no on-site stormwater quality mitigation systems.

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### 5.2.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to hydrology, drainage, and flooding. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site;
- ◆ Modify a wash, channel creek or river;
- ◆ Change the rate of flow, currents, or the course and direction of surface water;
- ◆ Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems;
- ◆ Place within 100-year flood hazard area structures, which would impede or redirect flood flows;
- ◆ Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;
- ◆ Be inundated by seiche, tsunami, or mudflow;
- ◆ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- ◆ Cause a significant environmentally harmful increase in the flow velocity or erosive volume of stormwater runoff; and/or
- ◆ Cause a significant and environmentally harmful increase in erosion of the project site or surrounding areas.

The purpose of the technical evaluation presented in the project's *Hydrology and Water Quality Technical Report* is to determine the impact the proposed development has on surface water drainage and stormwater quality within the County of Los Angeles and the watershed tributary to the South Fork of the Santa Clara River (via Lyon Canyon Creek). Standard practice dictates that should the analysis determine that the proposed project would significantly impact surface water drainage or stormwater quality, appropriate mitigation would be identified to minimize the project impacts to a level less than significant.

The Clean Water Act amendments of 1987 established a framework for regulating stormwater discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal stormwater program requirements are to:

1. Effectively prohibit non-stormwater discharges, and
2. Reduce the discharge of pollutants from the stormwater conveyance system to the "Maximum Extent Practicable".

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For the purposes of this analysis, impacts to stormwater quality would be considered significant if the project did not address stormwater pollution to the maximum extent practicable. Currently, however, there are no definitive water quality standards for individual pollutants. Therefore, impacts to stormwater quality would be considered significant if the project failed to meet the discharge requirements of the Los Angeles Regional Water Quality Control Board and the County of Los Angeles.

Such requirements for residential/institutional developments include the following:

1. Post-development peak storm discharge rates shall not exceed the estimated pre-development rate for developments where increased peak stormwater discharge rate would result in increased potential for downstream erosion.
2. Conserve natural areas by using cluster development, limiting clearing and grading of native vegetation, maximize trees and other vegetation, promote natural vegetation, and preserve riparian area and wetlands.
3. Minimize stormwater pollutants of concern by incorporating Best Management Practices (BMPs) or combinations of BMPs best suited to maximize the reduction of pollutant loadings (including Total Maximum Daily Load (TMDL) standards developed for the Santa Clara River by the Regional Water Quality Control Board) in runoff to the maximum extent practicable.
4. Protect slopes and channels to decrease the potential for erosion and the subsequent impacts to stormwater runoff.
5. Provide storm drain system stenciling and signage.
6. Properly design outdoor material storage areas.
7. Properly design trash storage areas.
8. Provide proof of ongoing BMP maintenance.
9. Comply with SUSMP standards for design of structural or treatment control BMPs.
10. Properly design loading/unloading dock areas.
11. Properly design repair/maintenance bays.
12. Properly design vehicle/equipment wash areas.
13. Design parking areas to reduce impervious land coverage in order to encourage the infiltration and treatment of runoff before it enters the storm drain system.

### 5.2.3 IMPACTS AND MITIGATION MEASURES

The following is an analysis of the proposed project conditions, which is compared to the existing conditions analysis, to determine impacts associated with development of the property. As mentioned previously, on-site and upstream off-site areas are considered in the analysis presented in the project's *Hydrology and Water Quality Technical Report*. Proposed conditions investigated include land use, assumed roadway drainage, hydrology with a burned and debris-producing condition (due to the high potential for brush fires on-site), floodplain mapping, and

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surface water quality.

## DRAINAGE

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD ALTER THE DRAINAGE PATTERN OF THE PROJECT SITE.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** Almost all on-site flows from the project site, once developed, would ultimately be conveyed northeast through the double 8-foot by 8-foot box culvert that runs from west to east under The Old Road and Interstate 5. Other storm drain pipes would convey flow from southeast edges of the site eastwards into the South Fork of the Santa Clara River.

The entire project site is ultimately tributary to the South Fork of the Santa Clara River, and all runoff from the project site is eventually routed east into this fork, which flows northeast and joins the main reach of the Santa Clara River.

The proposed storm drain system consists of detention basins, debris basins, desilting inlets, culverts, catch basins, and storm drain piping. Table 5.2-5, Watershed Area – Proposed Conditions, provides an area summary for the proposed hydrology.

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**Table 5.2-5  
Watershed Area – Proposed Conditions**

Concentration Point	Watershed	Area (acres)
Double 8-foot by 8-foot Box Culvert	1A	37.8
	3A	41.0
	5A	40.6
	7A	30.4
	10B	17.8
	12A	34.8
	14A	28.3
	16A	23.8
	18A	30.8
	20A	32.0
	22A	13.3
	23C	46.5
	27C	21.3
	28D	35.9
	30D	33.1
	33A	23.6
	Double 8-foot by 8-foot Box Culvert	36E
40A		12.3
43F		6.7
46G		1.8
49H		4.6
52I		9.2
54H		5.4
61J		7.2
64K		1.9
67L		14.4
70M		1.9
73N		3.4
76O		8.9
79P		9.1
91J		6.3
98A		1.5
102A		54.1
103Q		4.6
107A		21.8
108R		29.7
110R	33.8	
112R	28.4	
114R	27.3	
119S	4.8	
122T	6.2	
127U	1.2	
133A	29.3	
138V	7.4	
139W	6.0	

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**Table 5.2-5 (continued)  
Watershed Area – Proposed Conditions**

Concentration Point	Watershed	Area (acres)
48-inch Pipe	146Y	3.5
	151Z	6.0
	156B	26.6
30-inch Pipe	144X	38.0

Hydrologic properties such as slope, assumed drainage patterns, soil type, vegetation and land use were characterized for each subarea of the project site. The watershed subareas were utilized to develop a “link-node” model, which allows transformation of a physical process into a mathematical simulation, or model. Table 5.2-6, Proposed Watershed Characteristics, contains a summary of the sub-watershed characteristics.

**Table 5.2-6  
Proposed Watershed Characteristics**

Watershed Area ID	Length (ft)	Slope (ft/ft)	Soil Type	Percent Impervious	Land Use (Acres)				Total Area (Acres)	
					Open Space Or Park	Residential		Commercial		Paved Street
						Single Family	Multi Family Or Senior Home			
1A	2,082	0.3564	93	0.01	37.8				37.8	
3A	2,523	0.3107	93	0.01	41.0				41.0	
5A	2,129	0.3711	93	0.01	40.6				40.6	
7A	1,941	0.2112	91	0.01	30.4				30.4	
10B	1,277	0.2653	91	0.01	17.8				17.8	
12A	1,723	0.1833	91	0.01	34.8				34.8	
14A	1,942	0.1767	91	0.01	28.3				28.3	
16A	1,834	0.1172	91	0.01	23.8				23.8	
18A	2,189	0.1019	91	0.01	30.8				30.8	
20A	2,490	0.1000	91	0.01	32.0				32.0	
22A	1,200	0.1325	91	0.01	13.3				13.3	
23C	2,332	0.2310	91	0.01	46.5				46.5	
27C	2,255	0.2310	91	0.01	21.3				21.3	
28D	2,335	0.2188	91	0.01	35.9				35.9	
30D	2,925	0.1180	91	0.01	33.1				33.1	
33A	1,994	0.1023	91	0.01	23.9				23.9	
36E	2,392	0.1911	91	0.02	46.5				46.5	
40A	1,150	0.1256	91	0.03	12.3				12.3	

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**Table 5.2-6 (continued)  
Proposed Watershed Characteristics**

Watershed Area ID	Length (ft)	Slope (ft/ft)	Soil Type	Percent Impervious	Land Use (Acres)					Total Area (Acres)
					Open Space Or Park	Residential		Commercial	Paved Street	
						Single Family	Multi Family Or Senior Home			
43F	940	0.0693	91	0.03	6.7					6.7
46G	355	0.1335	91	0.42		1.8				1.8
49H	625	0.0136	91	0.42		4.6				4.6
52I	1,120	0.3332	91	0.03	9.2					9.2
54H	790	0.0148	91	0.42		5.4				5.4
61J	1,100	0.1953	91	0.42		7.2				7.2
64K	352	0.2334	91	0.42	1.9					1.9
67L	893	0.0825	91	0.42		14.4				14.4
70M	400	0.3870	91	0.03	1.9					1.9
73N	450	0.2188	91	0.03	3.4					3.4
76O	860	0.3725	91	0.03	8.9					8.9
79P	840	0.4072	91	0.03	9.1					9.1
91J	880	0.0468	91	0.42		6.3				6.3
98A	625	0.1941	91	0.03	1.5					1.5
102A	2360	0.1011	97	0.03	54.1					54.1
103Q	772	0.1075	91	0.50	2.6	2.0				4.6
107A	1,655	0.1018	97	0.03	21.8					21.8
108R	1,748	0.1744	97	0.01	29.7					29.7
110R	1,814	0.1868	97	0.03	31.8	2.0				33.8
112R	1,680	0.1660	97	0.05	25.4	3.0				28.4
114R	2,085	0.1506	97	0.07	24.3	3.0				27.3
119S	877	0.1421	97	0.42		4.8				4.8
122T	570	0.1056	97	0.42		6.2				6.2
127U	723	0.2122	97	0.65	0.5				0.7	1.2
133A	2,215	0.0657	97	0.23	17.3	10.0		2.0		29.3
138V	830	0.0145	20	0.68			7.4			7.4
139W	650	0.0379	20	0.03	6.0					6.0
146Y	466	0.2905	97	0.03	3.5					3.5
151Z	796	0.0930	97	0.42		6.0				6.0
156B	1,601	0.1641	97	0.03	26.6					26.6

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“Percentage impervious” factors (or percent of impervious surface proposed) for the project site range from approximately one percent for open space and park, 42 percent for single-family housing, 68 percent for senior housing, and 84 percent for paved streets. For watershed areas comprised of less than approximately 50 percent paved streets, the streets were assumed to have the same imperviousness as the surrounding area. For areas that included significant portions of two or more land uses, the weighted average imperviousness was calculated.

Although the hydrology shows that the proposed project does not increase flows at the double 8-foot by 8-foot box culvert, it is still an area of significant concern. It was determined through hydraulic analysis that the box culvert cannot handle the existing 50-year storm burned and bulked flow rate even when it is free of sediment buildup. Therefore adjacent property may be flooded during such a storm event.

The proposed project would alter drainage patterns due to on-site grading, new storm drain, and increases in the amount of impervious area relative to existing drainage patterns. This could result in increased local erosion and runoff. The difference between existing and proposed condition drainage areas can be seen by comparing Exhibit 5.2-1 and Exhibit 5.2-3, Hydrology Map – Proposed Conditions, respectively.

With the construction of about 60 acres of proposed residential development on the project site, drainage boundaries would be altered due to grading. This would increase the overall imperviousness for the project site from one percent impervious in the existing condition to approximately 12 percent in the developed condition, as well as increase the overall imperviousness for the entire watershed from one percent impervious in the existing condition to approximately six percent in the developed condition.

Drainage impacts are considered potentially significant if not mitigated. However, providing the mitigation listed below would reduce the impacts to a less than significant level.

### **Mitigation Measures:**

- HWQ1      Debris/detention basins are planned on the westerly side of the intersection of “A” Street and “F” Street and the northerly side of the intersection of “A” Street and “D” Street. In addition to the debris basins, additional detention basins will be placed in series above each debris basin to prevent the debris basins from becoming jurisdictional dams under the California Division of Safety of Dams. The result of these basins will not only retain the debris that would usually accumulate at the existing double 8-foot by 8-foot box culvert but they will significantly retard the design storm water runoff from the project area. Table 5.2-7, Proposed Debris/Detention Basin Characteristics, contains a summary of the basin dimensions. In addition to these drainage improvements the following items will also be required:
- a) The development area adjacent to the double 8-foot by 8-foot culvert shall be raised to reduce the flooding potential. The final elevation shall be determined

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by FEMA during their review of a Conditional Letter of Map Revision request.

- b) In addition, the County of Los Angeles shall require the developers to obtain a drainage acceptance letter from the property owner immediately downstream of the double 8-foot by 8-foot culvert (mobile home park) prior to issuance of grading permits.
- c) The proposed debris/detention basin shall be cleared/maintained as necessary by the Los Angeles County Department of Public Works Flood Control Division, as appropriate.

**Table 5.2-7  
Proposed Debris/Detention Basin Characteristics**

basin id	model node	max. storage elev. (feet)	storage capacity (ac-ft) <sup>4</sup> .	max. storage height (feet) <sup>4</sup> .	outlet culvert				50-yr, 24-hr water surface (feet) <sup>3</sup> .
					size <sup>3</sup> .	type	invert in (ft.)	invert out (ft.)	
1 (DB)	39A	1,415.0	41.4	24.5	5'-0" <sup>1</sup> .	std. 3097	1,392.0 / 1,396.5	1,390.5	1,402.5
2 (DT)	38A	1,415.0	44.9	17.0	2 - 48"	CMP	1,398.5	1,398.0	1,411.9
3 (DT)	37AE	1,415.0	13.1	10.0	4 - 60"	CMP	1,405.5	1,405.0	1,414.0
4 (DT)	106AQ	1,355.5	47.1	17.5	2 - 48"	CMP	1,338.5	1,338.0	1,349.4
5 (DT)	-	1,355.5	47.1	16.5	1 - 48"	CMP	1,339.5	1,339.0	-
6 (DB)	117AR	1,355.5	47.0	24.5	5'-0" <sup>2</sup> .	std. 3097	1332.5 / 1,337.0	1,331.0	1,343.1
7 (DT)	116R	1,355.5	48.1	17.5	1 - 48"	CMP	1,338.5	1,338.0	1,341.9
8 (DT)	115R	1,355.5	45.3	15.5	1 - 48"	CMP	1,340.5	1,340.0	1,348.3

1. total structure height ≈19.0 feet.

2. total structure height ≈10.5 feet.

3. subject to change based on final design

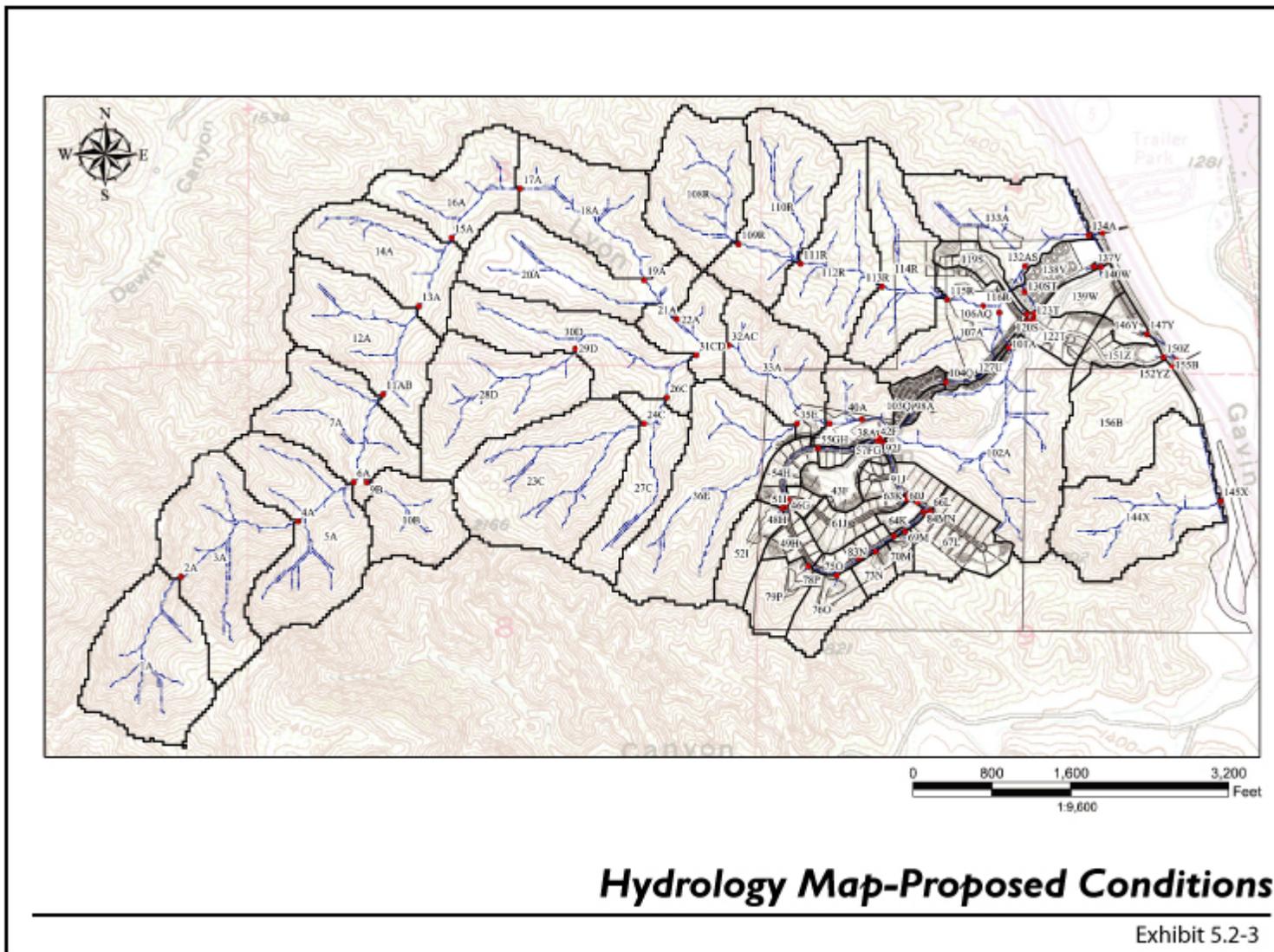
4. to remain a non-jurisdictional dam the volume and height should be below 50 ac-ft and 25 ft respectively.

**HWQ2** Storm drains, culverts, channels, and outlets shall be designed per County of Los Angeles and Federal Emergency Management Agency (FEMA) Design Standards.

**HWQ3** Erosion protection (or energy dissipating structures) shall be placed at outlets to natural drainage channels in order to minimize the potential for erosion, subject to approval by the Los Angeles County Department of Public Works Flood Control Division, as appropriate.

**Level of Significance After Mitigation:** Less Than Significant Impact.

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## HYDROLOGY

### ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD INCREASE STORMWATER FLOW RATES.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** Project hydrology (based on assumed flow paths, grading plan, lot location and proposed storm drain locations) was completed by Diamond West Engineering to determine the local impacts that the proposed development would have on runoff. Hydrologic calculations to evaluate surface runoff associated with a 50-year and 10-year design storm frequency from the local drainage areas were performed using the Modified Rational Method.

The watershed sub-area boundaries were delineated based on the Diamond West Engineering report. Topographic mapping and on-site grading, as shown on the tentative tract map, were then used to refine the proposed drainage patterns used in the analysis presented in the project's *Hydrology and Water Quality Technical Report*. The proposed conditions hydrology map is illustrated in Exhibit 5.2-3.

The proposed project includes approximately 232 acres of currently vacant land, with over 60 percent dedicated to open space and parks. In addition to the project site, the watershed considered in this analysis also includes 738 acres undeveloped land upstream of the site. Thus, the total area that would contribute runoff to the South Fork of the Santa Clara River is approximately 970 acres.

### **Rational Method**

Hydrologic calculations to evaluate surface runoff were performed using the Modified Rational Method (MODRAT) Hydrology Program found in the program WMS. Refer to the project's *Hydrology and Water Quality Technical Report* for a detailed explanation of the methodology.

### **Burned Flow Rates**

It was determined that the proposed project has a significant risk for fire, given vegetation types, climatic conditions, and the 2003 on-site brush fire, and thus a burned flow rate calculation was performed.

### **Burned and Bulked Flow Rates**

For reasons previously stated, the bulking effect of sediments in stormwater flows were considered for this site. The methodology for calculating the bulked flow rates from the burned flow rates is found in the *Los Angeles County Sedimentation Manual, Section 3-C-1*. The bulking factors used can be found in Appendix P-5 of the Manual, and are listed in Table 5.2-8, Bulking Factors – Proposed Conditions.

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**Table 5.2-8  
Bulking Factors – Proposed Conditions**

Concentration Point	Bulking Factor <small>(For Total Area)</small> BF <sub>(A)</sub>	Bulking Factor <small>(For Total Undeveloped Area)</small> BF <sub>(Au)</sub>
At inlet to Double 8-foot by 8-foot Box Culvert	1.463	1.465
48-inch Pipe	1.62	1.62
30-inch Pipe	1.62	1.62

Areas where proposed debris basins and desilting inlets contained sediment flow were assumed to be contributors of bulk sediment. Residential, commercial, and paved street areas were also assumed to be non-contributors of bulk sediment. The bulk sediments from upstream off-site undeveloped areas would be collected at the proposed debris basins and desilting inlets.

**Hydraulic Analysis of Double 8-foot by 8-foot Box Culvert & Proposed Lateral Confluence**

The project proposes a “lateral” storm drain pipe that would be located beneath “A” Street and would cross under The Old Road and outlet at the south side of the double 8-foot by 8-foot box culvert on the east side of The Old Road. This outlet point would represent the confluence of flows from the lateral pipeline and the double box culvert. The proposed lateral confluence at this point should not have an impact on the floodplain upstream of the double box culvert, since the proposed upstream basins are reducing the volume of stormwater that would normally flow through the culvert from the west side of The Old Road. The proposed lateral confluence conveys runoff from Subareas 138V and 139W.

**Surface Water Hydrology – Proposed Conditions**

Appendix B of Appendix I, *Hydrology and Water Quality Technical Report* includes the results from the 50-year and 10-year burned and bulked flows. Results of the proposed condition hydrologic analysis are summarized in Table 5.2-9, Hydrology Summary – Proposed Conditions.

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**Table 5.2-9  
Hydrology Summary – Proposed Conditions**

Description	Effective Total Area (acres)	50-year (Burned) Flowrate (cfs)	10-year (Burned) Flowrate (cfs)
At Inlet to Double 8-foot by 8-foot Box Culvert	890.0	404	288
48-inch Pipe	36.1	121	86
30-inch Pipe	38.0	117	84

The proposed project would result in an increase in impervious areas on-site, as mentioned previously. Drainage patterns were assumed for the hydrologic analysis contained in the project's *Hydrology and Water Quality Technical Report*, based on information collected from the current proposed site grading and lot layout. On-site grading and new storm drains would alter drainage patterns.

As discussed previously, the existing double 8-foot by 8-foot box culvert would not be able to fully convey the 50-year post-development burned and bulked flow to off-site drainage facilities. Thus, hydrology/drainage impacts are considered potentially significant if not mitigated.

Table 5.2-10, Flow Rate Comparison, compares the overall existing and proposed flow rates for the various exit points along the eastern boundaries of the project site.

**Table 5.2-10  
Flow Rate Comparison**

Concentration Point	50-year (Burned and Bulked) Flow Rate (cfs)	
	Existing Condition	Proposed Condition
Double 8-foot by 8-foot Box Culvert	1923	404
48-inch Pipe	183	121
30-inch Pipe	190	117

The overall flows would decrease for all areas. This is mainly attributed to the proposed debris/detention basins. With implementation of mitigation measures listed below, impacts would be reduced to a less than significant level.

**Mitigation Measures:** Refer to mitigation measures HWQ1 through HWQ3. No additional mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.

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### FLOODPLAIN

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD PLACE STRUCTURES IN A DESIGNATED FLOOD HAZARD ZONE.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** The main watercourse flowing northeasterly through the project site is located directly in an area designated as Zone A. The off-site downstream outlet of the double 8-foot by 8-foot box culvert is also directly in Zone A. Zone A is defined as: “Areas of 100 year flood. Base flood elevations and flood hazards factors not determined.”

According to the preliminary hydraulic analysis, the existing condition design water surface at the box culvert could possibly flood The Old Road (elevation 1,310 feet), the proposed senior residences, the proposed fire station lot, and the existing business center parking lot (elevation 1,314.8 feet) to the north for a 50-year burned and bulked storm runoff. Therefore, impacts to the floodplain mapping are considered potentially significant if not mitigated.

Construction of the debris/detention basins and their associated culverts along the main watercourse as part of the proposed project would change the existing Zone A flood limits so that all proposed habitable structures will be outside of the Zone A flood limits. Thus, for these culverts and any other construction within the Zone A flood limits, a Conditional Letter of Map Revision must be approved by the Federal Emergency Management Agency (FEMA) prior to issuance of grading permits. To ensure compliance with FEMA flood hazard policies, all proposed structures are currently proposed at pad elevations at least 1 foot above or entirely outside the limits of on-site flooding.

#### **Mitigation Measures:**

Refer to mitigation measure HWQ1 regarding drainage facilities. Additionally, the mitigation measure listed below would serve to further address floodplain impacts.

HWQ4      Any construction in the FEMA Zone A shall require a Conditional Letter of Map Revision prior to issuance of grading permits. The developer shall obtain a Letter of Map Revision prior to occupancy of any building within the Zone A designation.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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### WATER QUALITY

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD INCREASE POLLUTANT LOADS IN THE LOCAL STORM DRAIN SYSTEM AND RECEIVING WATER BODIES.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** The site's major downstream watercourse, the Santa Clara River, is on the 303(d) list of the Los Angeles Regional Water Quality Control Board. This 303(d) listing raises a significant concern for chloride and nitrate/nitrite runoff from the site.

In addition, the general water quality of the project site is expected to decrease as a result of the proposed project. Expected pollutants include: trash, debris, nutrients, bacteria, pesticides, herbicides, oil and grease and household hazardous wastes. This is due to the proposed large increase in impervious area and flow conveyed in proposed streets.

To deal with debris and silt from several undeveloped areas within the project site, several debris basins, desilting inlets, and continuous deflective screening (CDS) units are proposed.

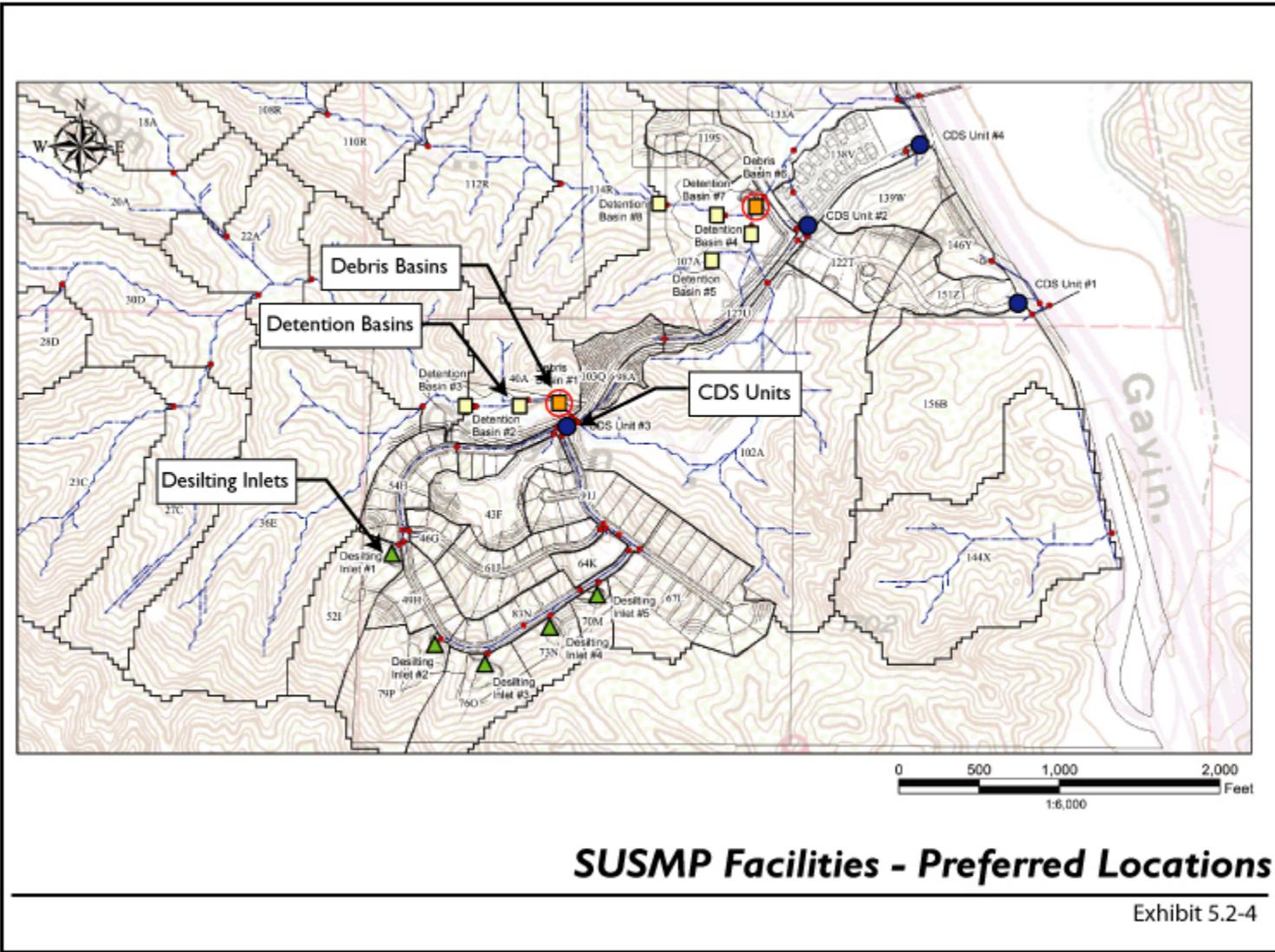
CDS units are the project applicant's preferred method of mitigating stormwater quality. Sizing of the CDS units required computing flows using the Standard Urban Stormwater Mitigation Plan (SUSMP) Manual. The manual specifies that a 0.75-inch rainfall depth be used to represent the amount of runoff that must be mitigated. The flow calculations for the SUSMP condition are included in Appendix C of Appendix I, *Hydrology and Water Quality Technical Report*.

Refer to Exhibit 5.2-4, SUSMP Facilities – Preferred Placement, for the project applicant's preferred placement of debris basins, desilting inlets, and CDS units.

As previously discussed, the project site's major downstream watercourse, the Santa Clara River, is included on the 303(d) list of the Los Angeles Regional Water Quality Control Board. This 303(d) listing raises a significant concern for chloride and Nitrate/Nitrite laden runoff from the site. Untreated waste from pets could mix with stormwater runoff and increase the amount of pollutants leaving the site.

The proposed project would increase impervious areas, resulting in impacts to stormwater quality, and could affect pollutant loading immediately off-site. Mitigation measures that address water quality impacts, listed below, would reduce water quality impacts to a less than significant level.

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### Post-Construction

Operation of the proposed project, once construction is completed, would increase trash, nutrients, bacteria, pesticides and herbicides, oil and grease, and household hazardous wastes from the development and increased activity. Water quality impacts due to the development of the site are considered potentially significant if not mitigated.

### Construction

There would be additional impacts to stormwater quality due to construction and associated earth moving. Construction of the proposed project has the potential to produce typical pollutants such as nutrients, heavy metals, pesticides and herbicides, toxic chemicals related to construction and cleaning, waste materials including wash water, paints, wood, paper, concrete, food containers, sanitary wastes, fuel, and lubricants. Prior to construction, a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) would be required to reduce pollutant loadings. Impacts to water quality due to construction are considered potentially significant if not mitigated.

### Mitigation Measures:

- HWQ5 Project developers shall prepare and submit a Notice of Intent to comply with the Construction General Permit to the State Water Resources Control Board.
- HWQ6 Project developers shall prepare a Stormwater Pollution Prevention Plan (SWPPP) to be approved by the Los Angeles County DPW per requirements of the Construction General NPDES Permit.
- HWQ7 Project developers shall comply with post-construction Best Management Practice (BMP) requirements as detailed in the L.A. County Standard Urban Stormwater Mitigation Plan (SUSMP).
- HWQ8 The project developer shall construct and maintain all structural stormwater filtration devices as shown on Figure 5.2-4 above. The final location of the proposed structural stormwater filtration systems shall be determined by the Los Angeles County Department of Public Works prior to issuance of building permits.
- HWQ9 In order to limit the amount of pollutants leaving the site in stormwater runoff, project developers shall implement public education programs for residents concerning the clean up of pet waste. Also, pet waste disposal bags and containers shall be provided by the project's HOA and their use described within the CC&Rs around parks and other areas of high pet traffic.

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- HWQ10 The Los Angeles County Department of Public Works shall be responsible for the operation and maintenance of any debris/detention basins on the site, which include:
- Dispersion of alluvial sediment deposition at inlet structures, thus limiting the extended localized ponding of water.
  - Periodic sediment removal to ensure adequate storage and treatment volume.
  - Monitoring of the basin to ensure it is completely and properly drained.
  - Outlet riser cleaning.
  - Vegetation management to prevent marsh vegetation from taking hold, and to limit the growth of habitat for disease-carrying fauna.
  - Removal of graffiti, litter, vegetative and other debris.
  - Preventative maintenance on monitoring equipment.
  - Vegetative stabilization of eroding banks.
- HWQ11 The project's Homeowners' Association or the Los Angeles County Department of Public Works shall be responsible for the operation and maintenance of any storm water filters on the site, to include:
- Providing adequate access for inspection and maintenance.
  - Removal of accumulated trash, paper and debris.
  - Corrective maintenance including removal and replacement of top layers of media.
  - Complete replacement of filter media every 3 to 5 years.
  - Periodic removal of vegetative growth.
- HWQ12 The project's homeowners' association or the Los Angeles County Department of Public Works shall be responsible for the operation and maintenance of any storm water clarifiers on the site, which include:
- Inspection prior to the beginning of the storm season.
  - Regular inspection following storm events.
  - Removal of accumulated sediment, trash and debris.
- HWQ13 Pesticide applications shall be managed through educational and other source control efforts, including the installation of efficient landscape irrigation systems in common areas and the development of guidance on applying these types of chemicals for contractors maintaining landscape areas. Examples of material which may be used for education may include educational pamphlets currently available through L.A. County and/or other sources (i.e., <http://www.americanococeans.org/runoff/epa-bro.htm>). Because of the concerns regarding indicators of human pathogens, education programs shall emphasize animal waste management, such as the importance of cleaning up after pets and not feeding wild animals, such as pigeons, seagulls, ducks and geese. The project

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applicant shall create and distribute these pamphlets to landscape contractors prior to on-site planting.

- HWQ14      The project applicant shall prepare an herbicide/pesticide program to be utilized by landscaping contractors on commonly owned landscaped areas. This program shall include requirements to minimize the use of herbicides and pesticides in these landscaped areas and shall be prepared and in place prior on-site planting.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### 5.2.4      MITIGATION MEASURES ALREADY INCORPORATED INTO PROJECT DESIGN

- To reduce pollution from impacts from the “first flush” runoff, a series of pipes and outlets would be constructed pursuant to Los Angeles County Department of Public Works requirements to intercept first flush runoff from paved developed areas and channel it to above ground and/or subsurface water quality control basins.
- The project is required to comply with the RWQCB Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001) to reduce the discharge of pollutants to the maximum extent practicable.
- To treat storm water, two water quality detention basins, and hydrodynamic separator systems would be constructed.
- Post-construction structural or treatment control BMPs to minimize or prevent storm water pollutants from discharging into the Santa Clara River shall, at minimum, include:
  - water quality detention basins;
  - hydrodynamic separator systems, such as Continuous Deflective Separator (CDS) units.
- Additional equivalent BMPs that could alternatively be implemented at the project site include:
  - catch basin inserts;
  - storm water filters; and
  - storm water clarifiers.

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## **5.2.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES**

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER CUMULATIVE PROJECTS WOULD CONTRIBUTE TO CUMULATIVE HYDROLOGY AND WATER QUALITY IMPACTS.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** During public hearings held for the preparation of the Santa Clara River Enhancement and Management Plan (a draft was completed in January 2004), the Ventura County Public Works Agency, Flood Control District estimated that approximately 4 percent of the Santa Clara River watershed within Los Angeles County and 2.5 percent of the Santa Clara River watershed within Ventura County would be developed.<sup>4</sup> It is acknowledged that each development project in the Santa Clara River watershed (1,634 sq. miles) will be of varying character and size, will have its own unique topographic and geologic characteristics, will have flood and water quality impacts that will be unique to the geologic/soil conditions of the site, will contribute directly or indirectly to either the Santa Clara River, or its tributary watershed, and will be subject to the development criteria of the jurisdiction in which it is located. In addition, it is acknowledged that the development projects in the same watershed as the proposed project may cumulatively impact watershed drainage, hydrology, and water quality.

All current and future development within the portion of the watershed of the Santa Clara River located in Los Angeles County, has been or will be required to comply with the LACDPW requirements to ensure that upstream or downstream flooding does not occur and to ensure that downstream erosion and sedimentation do not occur. Compliance with these requirements ensures consistency with the County's regional flood control model. Pursuant to LACDPW requirements, all drainage systems in developments that carry runoff from developed areas must be designed for the 25-year Urban Design Storm, while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps must be designed for the 50-year Capital Flood Storm. LACDPW also prohibits significant increases in off-site post-development storm flows and significant increases in storm flow velocities. Development in the Los Angeles County portion of the watershed must also comply with LACDPW design criteria. As a result of compliance, overall storm runoff discharge quantities from the watershed under post-development runoff conditions would be less than or equal to existing conditions largely because the runoff would be free of the debris that is typical of undeveloped watersheds and flow velocities would not increase significantly. Because on-site facilities would already have been built for burned and bulked flows from undeveloped areas, they would have more than adequate capacity to accommodate off-site flows as the off-site portions of the drainage areas develop.

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<sup>4</sup> Alex Sheydayi, Deputy Director, Ventura County Public Works Agency, Flood Control Department, statement made at the Santa Clara River Enhancement and Management Plan Steering Committee Meeting, May 30, 1995.

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Further, all development within the portion of the watershed of the Santa Clara River located within the jurisdiction of the RWQCB, including that within the unincorporated portions of Los Angeles County, is required to comply with the orders and regulations issued by the RWQCB, as well as those issued by the SWRCB, the NPDES, Standard Urban Stormwater Mitigation Plans (SUSMP) as required by the County of Los Angeles, and federal water quality laws applicable during both construction and operation of the project. Further, each current and future development in the Santa Clarita Valley will also be required to meet all of those requirements for the control storm water discharges of pollutants of concern for each such development (i.e. TMDLs).

Because the cumulative project storm water quality improvements in the Santa Clarita Valley would be required to conform to all of the above-referenced requirements, no potentially significant cumulative project flooding impacts are expected to occur from the incremental impacts of the project. In addition, the applicable water quality standards will ensure that no potentially significant cumulative impacts will occur.

**Mitigation Measures:** Refer to Mitigation Measures HWQ 1 through HWQ 14.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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## **5.3 HAZARDS AND HAZARDOUS MATERIALS**

The purpose of this section is to disclose the potential for environmental safety issues that could occur on the project site and to identify feasible mitigation measures that would reduce any identified significant impacts to a level less than significant. This section incorporates information from a Phase I Environmental Site Assessment prepared for the proposed project by RBF Consulting (RBF) in May 2004, included in its entirety as Appendix L, *Phase I Environmental Site Assessment*. The Phase I report included field surveys, as well as records, photo and database reviews. With regards to geotechnical and fire safety issues, please refer to Section 5.1, Geology, Soils and Seismicity, and Section 5.13 Fire Services, for an assessment of potential geotechnical and fire related hazards, respectively.

### **5.3.1 ENVIRONMENTAL SETTING**

#### **PHASE I ENVIRONMENTAL SITE ASSESSMENT**

The purpose of conducting a Phase I Environmental Site Assessment (ESA) is to permit the use of the resulting report to satisfy one of the requirements to qualify for the Innocent Landowner Defense to CERCLA (Superfund Law) liability, by providing an appropriate inquiry into the previous uses of the property, in order to identify Recognized Environmental Conditions (RECs). As defined in American Society for Testing and Materials (ASTM) Standard Practice E1527-00, a REC is "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property." The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include "de minimis" conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be "de minimis" are not RECs.

The Phase I ESA included the following components, which are designed to aid in the discovery and evaluation of RECs:

- ◆ RBF performed a site visit on April 20, 2004, consisting of a visual examination of the project site for visual evidence of potential environmental concerns including existing or potential soil and groundwater contamination, as evidenced by soil or pavement staining or discoloration, stressed vegetation, indications of waste dumping or burial, pits, ponds, or lagoons; containers of hazardous substances or petroleum products; electrical and hydraulic equipment that may contain polychlorinated biphenyls (PCBs), such as electrical transformers and hydraulic hoists; and underground and aboveground storage tanks (USTs/ASTs). RBF observed the physical characteristics of the property (i.e., apparent runoff directions, location of paved areas, etc.). It should be noted that the site visit specifically excluded any subsurface investigation including, but not limited to,

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sampling and/or laboratory analysis.

- ◆ An investigation of historical use of the project site by examining locally available aerial photographs (one source) and other readily available historical information, for evidence of potential environmental concerns associated with prior land use.
- ◆ A review of information available on general geology and topography of the project site and local groundwater conditions.
- ◆ A review of environmental records available from the property owner or site contact including regulatory agency reports, permits, registrations, and consultants' reports for evidence of potential environmental concerns.
- ◆ A site property line visual assessment of adjacent properties for evidence of potential off-site environmental concerns that may affect the project site.
- ◆ A review of a commercial database summary (provided by Environmental Data Resources, Inc. [EDR]), of federal, state and local regulatory agency records pertinent to the project site and off-site facilities located within ASTM-specified search distances for the project site.
- ◆ RBF compiled the data reviewed, discussed findings, formulated conclusions, opinions and recommendations, and prepared the written report presenting the findings of the Phase I ESA (included as Appendix L, Phase I Environmental Site Assessment).

The performance of the Phase I ESA was not limited by any extraordinary conditions or circumstances.

### PROJECT SITE PHYSICAL CONDITIONS

#### Topography

The United States Geological Survey (USGS) maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that impact the spread of contamination. Additionally, the maps depict topography through color and contour lines and are helpful in determining elevations and site latitude and longitude.

Based on the USGS Oat Mountain, California Quadrangle, photorevised in 1969, on-site topography ranges from approximately 1,462 to 1,700 feet above mean sea level (msl). Several dirt roads and two improved roads are noted on the map. The project site consists primarily of steep slopes with limited flat terrain. Two USGS "blue line" streams are present on-site. Eight structures are also present on-site. The map indicated that the project site is located within the Newhall Potrero Oil Field. No pits, ponds, or lagoons were noted within the project site on this topographical map.

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### GEOLOGY

The USGS Geological Map Index was searched by EDR for available Geological Maps that cover the project site and surrounding areas. These Geological Maps indicate geological formations that are overlaid on a topographic map. Geological maps can be effective in estimating permeability and other factors that influence the spread of contamination. Some maps focus on specific issues (i.e., bedrock, sedimentary rocks, etc.) while others may identify artificial fills (including landfills).

The project site is underlain by coarse sandy loam. More specifically, the site is located in the eastern portion of the East Ventura Basin, in which marine and non-marine sedimentary rock were deposited from Tertiary through Quaternary time periods with interim periods of non-deposition. The northern and western boundaries of the East Ventura Basin are considered to be the San Gabriel fault, while a fault complex consisting of the Oak Ridge fault, Santa Susana Fault and Weldon Canyon fault are considered within the eastern and southern boundaries. Rocks within the project site consist primarily of Pliocene shallow marine claystone, siltstone, and sandstone of the Pico Formation overlain by, and interfingered with, upper Pliocene and lower Pleistocene terrestrial mudstone and sandstone of the Saugus formation.

### Soils

According to the EDR GeoCheck database search performed as part of the *Phase I Environmental Site Assessment* process, dated October 29, 2003, the project site is underlain by the Cieneba association. The Cieneba association consists of loamy soils. This soil has a slow infiltration rate with somewhat excessive drainage. The Cieneba soil has a low water holding capacity and a depth to water table greater than 6 feet.

### Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the Earth's crust. Radon is an invisible, odorless, inert gas that emits alpha particles, known to cause lung cancer. Radon levels are highest in basements (areas in close proximity to the soil) that are poorly ventilated. According to the "U.S. EPA Map of Radon Zones," the County of Los Angeles is located within Zone 2, which has a predicted average indoor screening level of  $\geq 2.0$  but  $\leq 4.0$  Picocuries per liter (pCi/L). EPA recommends remedial actions when radon levels are greater than 4.0 pCi/L. The summary report included in the EDR Database Search indicates that this site is in between the 2.0 and 4.0 pCi/L benchmarks for radon.

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### **BIOLOGICAL RESOURCES**

The biotic community that exists within the vicinity of the project site is typical of natural open space. Plants and animals in the area consist of primarily native species. The project site consists of non-native grassland, coastal sage scrub, chaparral, mule fat scrub, willow riparian woodland, coast live oak woodland, and southern California walnut woodland. Disturbed areas are primarily associated with historic on-site structures and unimproved roads that traverse the project site. It should also be noted that the project site was substantially affected by the wildfires that occurred in Southern California during October 2003. Therefore, the biological setting of the project site has been altered. Refer to Section 5.6, Biological Resources, for a detailed description of on-site biological resources.

### **DRAINAGE**

Drainage of the project site occurs by overland sheet flow, which is generally in a northeastern direction. Several natural on-site drainages are located within the boundaries of the project site and convey overland sheetflow.

### **Flood Hazards**

Flood Prone Area Maps published by the USGS show areas prone to 100-year floods overlaid on a topographical map. These maps are not considered the official Federal Emergency Management Agency (FEMA) flood maps; therefore, in cases where a property is located immediately within or adjacent to the flood prone area boundary, a FEMA map should be obtained. According to the EDR Database search (described below), the western portion of the project site is located within a 100-year flood zone.

### **Groundwater and Water Wells**

Based on the Preliminary Geotechnical Investigation, the groundwater level in the main canyon area is approximately 53 to 67 feet below the existing ground surface. Within the southwestern portion of the canyon, a perched water level is at 14 feet. RBF assumed groundwater flow would follow the slope of the ground surface elevations towards the nearest open body of water or intermittent stream. The direction of this flow on-site is expected to be generally in a northeastern direction. According to the EDR GeoCheck Report, no water wells or public water supply wells have been reported within the boundaries of the project site. However, one water well, located in the central portion of the site, was observed during the April 20, 2004 site inspection.

### **CURRENT USES OF ADJOINING PROPERTIES**

For the scope of the Phase I ESA, properties are defined and categorized based upon their physical proximity to the project site. An adjoining property is considered any real property or properties the border of which is contiguous or partially contiguous with that of the project site, or that would be contiguous or partially contiguous with that of the project site if not for a street,

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road, or other public thoroughfare separating them. An adjacent property is any real property located within 0.50 miles of the project site's border. The following is a detailed description of each adjoining land use observed on April 20, 2004:

North: Sagecrest Circle and the Stevenson Ranch development, opposite of Sagecrest Circle, are present to the north of the project site.

East: The Old Road, west of Interstate 5, is present to the east of the project site. The City of Santa Clarita is located to the east of Interstate 5.

South: The Towsley Canyon Park is located to the south of the project site.

West: Open space land owned by the United States Department of the Interior Bureau of Land Management (BLM), Santa Monica Mountains Conservancy (SMMC), and private parties is located immediately west of the project site.

### HISTORICAL AND REGULATORY INFORMATION SEARCHES

#### Historical Site Usage

The following historical information is based upon review of available historical maps and documents, available public information, interviews, and a review of a series of historical aerial photographs dating from 1928 through 2002. Information provided by the project applicant indicates that the project site has been historically used for agricultural purposes, and more recently for television and movie filming activities.

#### Interviews

##### *County of Los Angeles Fire Department - Hazardous Materials Division*

RBF interviewed the Los Angeles County Fire Department in an effort to determine whether the project site has been under investigation of any hazardous materials regulation. The Fire Department indicated that no records exist for the project site.

##### *Los Angeles County Public Health Investigation Office*

RBF contacted the Public Health Investigation Office (PHIO) in an effort to determine whether the project site has been under investigation of any hazardous material regulations. The PHIO typically contains information of hazardous substance release and cleanup, based on addresses. A file review was set up for February 4, 2004. However, because the proposed project site does not currently have an address associated with it, staff was unable to perform a file review.<sup>1</sup>

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<sup>1</sup> Los Angeles County PHIO records are based solely on property address. As such, information such as assessor's parcel numbers, latitude/longitude, or qualitative descriptions are not considered adequate to perform a file review.

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### *County of Los Angeles Public Works*

RBF contacted the Los Angeles County Department of Public Works (LACDPW) in an effort to determine if underground storage tanks are present on-site. Staff indicated that records are not available for the project site, since no official address exists for the project site. A specific LACDPW project manager is assigned to projects for which records searches are requested, but only when it is determined that a records search is possible because an address exists for the property.

### **Documentation**

#### *Building Department Records*

Building Department Records are those records of the local government in which the project site is located indicating permission of the local government to construct alter, or demolish improvements on the property. The purpose for a records review is to obtain and review available building permit records that would help to evaluate potential RECs, which could be connected with the project site. Typically, Building Department Records are maintained by street address. RBF contacted the City of Santa Clarita and County of Los Angeles Building and Safety Departments to determine if Building Department Records are maintained for the project site; however, it was determined that no records were on-file for the subject property.

#### *Recorded Land Title Records*

Recorded land titles are records usually maintained by the city or county clerk/recorder of deeds, which detail ownership fees, leases, land contracts, easements, liens, deficiencies, and other encumbrances attached to, or recorded against, the project site within the local jurisdiction having control over, or reporting responsibility for, the project site. Due to state land trust regulations and laws, land title records will often only provide trust names, bank trust numbers, owners' names, or easement holders, and not information concerning previous uses or occupants of the project site. Additionally, environmental liens recorded against the project site are, at times, considered outside the scope of recorded land title records. For these reasons, the Phase I ESA relied upon other standard historical information sources assumed to be either more accurate or informative than recorded land titles.

#### *Sanborn Fire Insurance Maps*

Sanborn Maps contain detailed drawings that indicate the location and use of structures on a given property during specific years. These maps were originally produced to show buildings in sufficient detail for insurance underwriters to evaluate fire risks and establish premiums, but now are utilized as a valuable source of historical and environmental risk information. RBF requested available historical Sanborn Fire Insurance Maps for the project site from EDR. At the time of the Phase I ESA, no Sanborn Maps had been published for the project site vicinity.

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### *First American Real Estate Solutions Property Data*

RBF reviewed 2003-2004 *First American Real Estate Solutions* property data for the project site. *First American* property data provides current property ownership information and includes information regarding on-site improvements, zoning, land use, transfer of last sale, and other miscellaneous structural improvements. No property data was discovered during the search of the property records.

### City Directory Searches

City Directories, published by private companies (or sometimes the government), provide a chronological sequence of past site ownership, occupancy, and/or uses for a property by reference of an address. This type of search is particularly effective to determine the past uses of properties. Since the project site does not have a street address, this Phase I ESA relied upon other standard historical information sources assumed to be either more accurate or informative than City Directory searches.

### *Historical Topographic Maps*

RBF reviewed historical topographic maps dated 1903 through 1979, for the project site and adjacent areas provided by EDR. Review of available historical topographic maps provided the following chronological sequence of site history. Copies of the historical topographic maps as well as the most recent topographic map are appended to the Phase I Environmental Site Assessment (included as Appendix L, Phase I Environmental Site Assessment).

#### 1903

In the 1903 USGS Santa Susana, California Quadrangle, on-site topography ranges from 1,500 to 2,500 feet above msl. It should be noted that the 1903 quadrangle is a 15-minute series topographic map. These maps typically label major peaks, railroads, lakes, and rivers; however, often times they lack detail as far as specific elevations, roadways, and detailed land uses. On-site uses appear to consist of vacant land. Various canyons are labeled on the map. The community of Newhall is present to the northeast of the project site; however, most of the land consists of open space. The Southern Pacific Railroad (SPRR) traverses the quadrangle in a northwest-southeast direction.

#### 1941- 1943

In the 1941 through 1943 USGS Santa Susana, California Quadrangles, on-site topography ranges approximately from 1,500 to 2,500 feet above msl. On-site land uses are similar to those viewed in the 1903 USGS topographic map; the project site remains undeveloped; however, two structures are present along Highway 99, currently Interstate 5. One USGS “blue-line” stream (perennial stream) is present within the project site. The 1941 topographic map is the first to illustrate Highway 99. Surrounding off-site uses are slightly more developed, indicated by the presence of additional road alignments.

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Off-site oil fields are first labeled in the 1941 map. No other on-site structures, pits, ponds, or lagoons were noted on the 1941 through 1943 topographic maps.

### 1952

In the 1952 USGS Oat Mountain, California Quadrangle on-site topography is similar to that viewed in the 1941-1943 topographic maps. On-site uses also appear similar; however, three structures are present within the project site, and the on-site road has been extended and another road has been constructed which connects to the existing road. Two blue-line streams are present within the project site and merge into one adjacent to the converging road. The 1952 topographic map is the first to show Highway 99 as a four-lane thoroughfare.

### 1969

In the 1969 USGS Oat Mountain, California Quadrangle, on-site topography and land uses are similar to those viewed in the 1952 USGS topographic map. The Old Road has been constructed to the east of the project site, along Interstate 5 and connects to the on-site road. Off-site surrounding uses have been further developed, generally to the northeast. No on-site pits, ponds, or lagoons were noted on the 1969 topographic map. However, it should be noted that the project site is located within the Newhall Potrero Oil Field, per the 1969 USGS Quadrangle.

Based on review of the above-referenced historical topographic maps, the project site appears to have consisted of various on-site structures, vacant land and limited agricultural uses. Specific uses of the on-site structures remained undefined during the course of the Phase I ESA process. Based on the available USGS Quadrangles, the on-site structures appear to have been associated with past agricultural uses and/or past Warner Brothers Studios tenants.

### *Historical County Planning Maps*

Beginning in the 1930s, historical county planning maps were used by highway departments to disburse federal funding based on each county's road system. Some states just mapped roads, but many added cultural features such as farms and factories. These features were usually shown everywhere except within city limits. These maps are especially useful in conjunction with historical topographic maps. The topographical map can indicate the size, shape, and location of structures, while the historical county planning map can identify their use. The Phase I ESA relied upon other standard historical information sources assumed to be either more accurate or informative than historical county planning maps.

### *California Department of Oil, Gas, and Geothermal Resources*

RBF reviewed a Wildcat Map provided by the California Department of Oil, Gas, and Geothermal Resources (DOGGR). These maps indicate existing and historical oil and gas wells within the immediate vicinity of the project site. Current well status for any well indicated on

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the Wildcat Maps should be confirmed at the appropriate DOGGR District Office. According to Wildcat Map W1-2, dated April 24, 1999, the project site appears to be located in a sedimentary basin with oil, gas, or geothermal production.

According to the Preliminary Geotechnical Report, one previously abandoned oil well is present within the central portion of the project site. This “Ayers” drill site was constructed by the Sun Drilling Company in 1961 to a depth of 9,785 feet. The well has since been abandoned. However, evidence of this abandoned oil well was not observed during subsequent site visits.

### *Los Angeles County Public Health Investigation Office File Review*

Sites listed in the EDR Database Report (discussed below) that are located within the project site boundaries or within one mile of the project site boundary were reviewed to determine whether groundwater contamination or other unauthorized releases have occurred which could potentially affect surface or subsurface conditions of the project site. Typically, contamination plumes within groundwater are relatively localized to the source. Topographic conditions generally dictate the movement of groundwater, thus, the surface gradient is used to determine whether contamination plumes could be moving towards the project site.

Based on the EDR Database Report and other documents reviewed, one property is subject to additional data analysis due to its location within the project site (listed below). RBF contacted the Los Angeles County Public Health Information Office (PHIO) in order to request a file search and review. RBF reviewed files at the PHIO on February 4, 2004 in an effort to obtain the most recent reported information with respect to adjacent properties that have reported subsurface releases. The PHIO maintains files on hazardous materials releases and associated monitoring programs. The following discussion is based on the file review conducted at the PHIO on February 4, 2004.

“24945 The Old Road (Time Warner Entertainment Company): 24945 The Old Road is located within the boundaries of the project site. The property at 24945 The Old Road was listed within the HAZNET database report provided by EDR. The HAZNET database contains information that is extracted from the copies of hazardous waste manifests received each year by the California Environmental Protection Agency’s (CalEPA) Department of Toxic Substances Control (DTSC). The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from the manifests are submitted without correction, and therefore may contain some invalid values for data elements.

On September 24, 1990, the Los Angeles County Department of Health Services (DHS) responded to a complaint of an illegal disposal involving hazardous waste on-site. An investigation revealed that a waste material was illegally discharged to the ground surface. It was determined that approximately 165 gallons of methylcellulose liquid containing hydrocarbon waste was released to on-site soils. On September 24, 1990, an emergency response contractor removed and containerized visibly impacted soils and pooled methylcellulose liquid, and sampled and analyzed the containerized materials.

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A Sampling and Analysis Plan was approved on October 30, 1990 by DHS. EMCOM Associates performed the site assessment activities for the site. TPH and BTEX were not detected in any of the analyzed samples. According to EMCOM, the previous soil excavation in the release area of the site was successful in removing the volatile petroleum components released to site soil and low concentrations of total recoverable petroleum components are still present. At time of the soil assessment there were no regulatory criteria or guidelines for TRPH in soils. TRPH guidelines were used as a reference for acceptable TRPH limits. Soils containing up to 1,000 parts per million (ppm) TPH as diesel are not considered to pose a threat to groundwater. According to EMCOM's findings, "soils would not pose an adverse threat, and as such, should be able to be left in place."

### *Aerial Photographs*

RBF reviewed available historical aerial photographs for the project site and immediately adjacent areas to assist in the identification of development activities that have historically occurred on-site. Review of available historical aerial photographs dated 1928 through 2002 provided the following chronological sequence of site history. The aerial photographs were provided by EDR, and are contained in Appendix L, Phase I Environmental Site Assessment.

#### 1928

In the 1928 aerial photograph, on-site land uses appear to consist of open space; portions of the project site appear to have been rough graded and utilized for agricultural purposes. Two unimproved dirt roads are present within the project site. On-site structures appear to be located within the central portion of the project site. However, due to the quality and age of the aerial photograph, detail is limited. The surrounding land consists of open space. A major road is present to the northeast of the project site.

#### 1947

In the 1947 aerial photograph, on-site land use remains open space and agricultural uses. There are additional unimproved roadways on-site. Several on-site structures appear to have been constructed within the northeastern portion of the site, along Highway 99. Off-site development remains primarily vacant land with some development to the northeast and across Highway 99 from the project site.

#### 1968-1976

In the 1968 through 1976 aerial photographs, the agricultural uses and structures along Highway 99 are no longer present, due to roadway improvements. Highway 99 has been widened to a four-lane road and further development has occurred to the northeast of the project site. However, several structures are present within the central portion of the project site.

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### 1989-1994

In the 1989 through 1994 aerial photographs, development has increased within the central portion of the project site. The project site has been graded within the northeast corner and along Interstate 5. A planted vegetated square is present within the central portion of the site. The remainder of the site appears to be similar to the 1969 aerial; however, numerous dirt roads traverse the site. Off-site land uses have continued to be developed to the north, northeast, and east.

### 2002

In the 2002 aerial photograph, the on-site structures have been removed. However, development has occurred within the central portion of the vegetated square. More dirt roads have been constructed throughout the project site. Off-site development is similar to that noted in the 1994 aerial photograph.

Based on review of the above referenced historical aerial photographs, the project site appears to have consisted of on-site structures, open space, and agriculture activities, light development, and vacant land.

### *Other Historical Sources*

Other historical sources include miscellaneous maps, newspaper archives, and records in the files and/or personal knowledge of the property owner and/or occupants. No other historical sources beyond those previously identified in the Phase I ESA were utilized during the historical investigation.

### *Regulatory Sources*

Governmental sources were searched by EDR (at the request of RBF), for sites within the project site and within an approximate two-mile radius of the project site boundaries. Upon completion of their search, EDR provided RBF with the search findings dated October 29, 2003 (refer to Appendix L, Phase I Environmental Site Assessment). Sites listed in the EDR Report and other environmental documentation that are one-quarter mile or greater from the project site are reviewed to determine if there were or are any potential airborne releases where the plume could affect the project site by transport via the dominant wind pattern in the area. Surface water releases in creeks or other drainage areas are also reviewed for sites listed in the EDR Report that are greater than one-quarter mile from the project site.

The federal, state, and local database records included the EDR database search are presented below (Refer to Appendix L, Phase I Environmental Site Assessment, for a description of each database):

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- ◆ Biennial Reporting System (BRS)
- ◆ Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- ◆ Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS/NFRAP)
- ◆ Delisted NPL
- ◆ Emergency Response Notification System (ERNS)
- ◆ Facility Index System/Facility Identification Initiative Program Summary Report (FINDS)
- ◆ Federal Insecticide, Fungicide, & Rodenticide ACT (FIFRA)/Toxic Substances Control ACT (TSCA) Tracking System (FTTS)
- ◆ Federal Insecticide, Fungicide, & Rodenticide ACT (FIFRA)/Toxic Substances Control ACT (TSCA) Tracking System (FTTS INSP)
- ◆ Federal Superfund Liens (NPL Liens)
- ◆ Hazardous Material Information Reporting System (HMIRS)
- ◆ Material Licensing Tracking System (MLTS)
- ◆ Mines Master Index File (MINES)
- ◆ National Priorities List (NPL)
- ◆ PCB Activity Database System (PADS)
- ◆ Proposed National Priorities List (Proposed NPL)
- ◆ RCRA Administrative Action Tracking System (RAATS)
- ◆ RCRA Corrective Action Report (CORRACTS)
- ◆ RCRA Registered Small or Large Generators of Hazardous Waste (GNRTR)
- ◆ Resource Conservation and Recovery Information System (RCRIS)

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- ◆ Records of Decision (ROD)
- ◆ Toxic Release Inventory System (TRIS)
- ◆ Toxic Substances Control Act (TSCA)
- ◆ Aboveground Petroleum Storage Tank Facilities (AST)
- ◆ Annual Workplan Sites (AWP)
- ◆ CA Bond Expenditure Plan: (CA BOND EXP. PLAN)
- ◆ Cal-Sites
- ◆ California Hazardous Material Incident Reports System (CHMIRS)
- ◆ California Facility Inventory Database (CA FID UST)
- ◆ CA UST
- ◆ California Waste Discharge System (CA WDS)
- ◆ "Cortese" California Hazardous Material Incident Report System (CORTESE)
- ◆ Cleaners
- ◆ Hazardous Waste Information System (HAZNET)
- ◆ Historical Underground Storage Tanks (HIST UST)
- ◆ Leaking Underground Storage Tanks (LUST)
- ◆ Los Angeles County HMS
- ◆ Los Angeles County Site Mitigation
- ◆ Proposition 65 Records (Notify 65)
- ◆ Solid Waste Information System (SWL/LF (SWIS))
- ◆ Toxic Pits
- ◆ Underground Storage Tank (UST)
- ◆ Waste Management Unit Database (WMUDS/SWAT)

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### STANDARD ENVIRONMENTAL RECORD SEARCHES

#### Project Site

Available public records (provided by EDR) were reviewed by RBF on October 30, 2003. The reviewed lists identified one listed regulatory property within the boundaries of the project site. This site was also identified above under Los Angeles County Public Health Investigation Office File Review, and is further described below with regard to the database search results:

2002: 24945 The Old Road (Time Warner Entertainment Company, L.P.): 24945 The Old Road was listed within the HAZNET database. 24945 The Old Road has been listed within the HAZNET database for the storage of asbestos-containing waste, other empty containers 30 gallons or more, oxygenated solvents, unspecified sludge waste, and unspecified organic liquid mixture on-site. The property has a reported disposal method via landfill, disposal, and recycler. No contamination has been reported within the EDR database with respect to the on-site property. However, note the discussion above on page 5.3-9 regarding the February 2, 2004 search of PHIO re: 24945 The Old Road Site.

#### All Regulatory Listed Sites Within a Two-Mile Radius of the Project Site

Twenty sites are located within a one-mile radius of the project site which are listed in one or more of the above identified databases. For a complete list of sites identified and their status, refer to the map of sites within a two-mile radius of the project site contained within Appendix L, Phase I Environmental Site Assessment. Table 5.3-1, Identified Regulatory Sites Within a One-Mile of the Project Site, below, indicates those sites located within a one-mile radius of the project site.

#### *Additional Environmental Record Searches*

No additional environmental records searches were performed during the preparation of this Assessment.

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**Table 5.3-1  
Identified Sites Within A One-Mile Radius of the Project Site**

EDR Map ID#	Site Name/Address	Direction from Project site	Regulatory LIST	Site Status	Potential for an Environmental Condition on the Project site
A1	Time Warner Entertainment Company, L.P. 24945 The Old Road Newhall, CA 91321	On-site	HAZNET RCRIS-SQG FINDS	Asbestos-containing waste, other empty containers 30 gallons of more, oxygenated solvents, unspecified sludge waste, unspecified organic liquid mixture.  <u>Disposal Method:</u> Disposal, Land fill, Recycler.  Small quantity generator. No violations reported.	Low (Refer to Section 3.3.1, Historical Site Usage, <i>Los Angeles County Public Health Investigation Office File Review</i> )
3	Old Road South of Lyons Avenue Valencia, CA	0.20-miles northeast of the project site	CHMIRS	No information reported.	Low (Property located greater than 3 miles from the project site)
4	Calif Highway 99 Patrol 25111 Chiquella Lane Newhall, CA 91321	0.23-miles northeast of the project site	CA FID UST	Active underground storage tank.	Low (Refer to site status)

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**Table 5.3-1 (continued)  
Identified Sites within A One-Mile Radius of the Project Site**

EDR Map ID#	Site Name/Address	Direction from Project site	Regulatory LIST	Site Status	Potential for an Environmental Condition on the Project site
5	INTERSTATE 5, .4 Miles South Sierra Highway Los Angeles, CA	0.05-miles east of the project site	CHMIRS	Contamination to freeway. No further information reported.	Low (No contamination reported)
6	Canyon Pontiac Buick 24640 N. Wiley Canyon Road Newhall, CA 91321	0.13-miles east of the project site	RCRIS-SQG FINDS	Small Quantity Generator. No violations reported.	Low (Property located greater than 3 miles from the project site)
7	Mobil 15357 Chiquella Lane N Newhall, CA 91321	0.42-miles north of the project site	LUST Cortese	Gasoline leaked to soil only. Preliminary site assessment underway.	Low (Property located greater than 3 miles from the project site)
B8	24500 Lyons Avenue Santa Clarita, CA 91321	0.50-miles north of the project site.	CHMIRS	No information reported.	Low (Refer to site status)
B9	Exxon #7-3393 24518 Lyons Ave. W Newhall, CA 91355	0.50-miles north of the project site.	LUST Cortese	Gasoline leaked to soil only. Case closed on December 22, 1992.	Low (Refer to site status)
B10-11	TEXACO 24440 Lyons Newhall, CA	0.50-miles north of the project site	LUST Cortese	Leaking underground storage tank. Gasoline leaked to soil only. Case closed July 30, 1996.	Low (Refer to site status)
B12-13	Unocal Service Station 5881 24551 Lyons Ave. Newhall, CA 91321	0.50-miles north of the project site	HAZNET Cortese LUST	Aqueous solution. <u>Disposal Method:</u> Treatment, Tank.  Waste oil leaked to soil only. Case closed August 27, 1999.	Low (Property located greater than 3 miles from the project site)
C14	Shell Service Station 25340 Chiquella Lane Newhall, CA 91381	0.50-miles north of the project site	LUST	Gasoline leaked to soil only.	Low (Refer to site status)

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**Table 5.3-1 (continued)  
Identified Sites Within A One-Mile Radius Of The Project Site**

EDR Map ID#	Site Name/Address	Direction from Project site	Regulatory LIST	Site Status	Potential for an Environmental Condition on the Project site
C15	Mobil S.S. #11-KF3 25357 Chiquella Lane N. Newhall, CA 91321	0.50-miles north of the project site	LUST HAZNET Cortese	Gasoline leaked to soil only. Case closed October 10, 1996. Aqueous solution, waste oil and mixed oil, unspecified oil-containing waste. Disposal Method: Recycler.	Low (Refer to site status)
D16-18	Chevron Products SS#_93787 24137 Lyons Ave. Valencia, CA 91355	0.58-miles northeast of the project site	HAZNET LUST Cortese	Hydrocarbons leaked to soil only. Case closed December 14, 1999. Empty containers less than 30 gallons, aqueous solution. <u>Disposal Method:</u> Recycler, Disposal.	Low (Refer to site status)
19	24316 Vista Ridge Valencia, CA 91321	0.65-miles north of the project site	CHMIRS	Property is a vacant lot. Incident occurred July 26, 1990. Date completed July 26, 1990. No further information provided.	Low (Refer to site status)
20	Arco Products Company 24018 Lyons Ave. Newhall, CA 91321	0.65-miles northeast of the project site	HAZNET Cortese	Hydrocarbon solvents, other organic solids, waste oil and mixed oil, unspecified oil-containing waste. <u>Disposal Method:</u> Recycler, Transfer Station, Treatment, Tank. Leaking underground storage tank, no further information provided.	Low (Refer to site status)

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**Table 5.3-1 (continued)  
Identified Sites within A One-Mile Radius of the Project Site**

EDR Map ID#	Site Name/Address	Direction from Project site	Regulatory LIST	Site Status	Potential for an Environmental Condition on the Project site
21	High Desert Oil Co., Inc. 23950 Lyons Avenue Newhall, CA 91321	0.70-miles northeast of the project site	HAZNET Cortese	Tank bottom waste. <u>Disposal Method:</u> Treatment, Tank. Leaking underground storage tank, no further information provided.	Low (Refer to site status)
22	Newhall School District 24800 Peachland Ave. Newhall, CA 01321	0.85-miles east of the project site	LUST HAZNET Cortese Los Angeles Co. HMS	Gasoline contamination to soil only. Case closed February 9, 1990. Off-specification, aged, or surplus organics; unspecified aqueous solution.  <u>Disposal Method:</u> Transfer Station.  LA County permit status removed.	Low (Refer to site status)
23	Dale Poe Dev. Corp. of Cali. 25151 Pico Canyon Stevenson Ranch, CA 91381	0.80-miles northwest of the project site	Cortese	No information provided.	Low (Refer to site status)
24	Pico Canyon, 1 Mi. West of INTERSTATE 5 Valencia, CA	0.95-miles northwest of the project site	CHMIRS	Incident occurred on vacant lot on September 26, 1990. Completed on September 26, 1990.	Low (Refer to site status)

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**Table 5.3-1 (continued)  
Identified Sites Within A One-Mile Radius Of The Project Site**

EDR Map ID#	Site Name/Address	Direction from Project site	Regulatory LIST	Site Status	Potential for an Environmental Condition on the Project site
25	25610 The Old Road Valencia, CA	One-mile north of the project site	CHMIRS	Non-PCB Mineral Oil contamination. Waterway involved. Cleanup by Contractor, spill has been contained. A car struck pad mounted transformer causing this release. The Fire Department flushed this area with their fire hoses, causing product to enter a nearby flood control channel which feeds into a pond at a golf course. No drinking water involved.	Low (Refer to site status)

Notes: Map ID numbers match the site numbers indicated on the map of sites within a two-mile radius contained within Appendix A, *EDR SEARCH*.

**POTENTIAL FOR ENVIRONMENTAL CONDITION KEY:**

Low Potential = Potential to create environmental condition on project site is considered to be low for one or several factors including, but not limited to, the following:

- ◆ direction of groundwater flow is away from the project site (down gradient); remedial action is underway or completed at off-site location; distance from project site is considered great enough to not allow the creation of a potential environment condition; only soil was affected by the occurrence; and/ or reporting agency has determined no further action is necessary.

Moderate Potential = Potential to create environmental condition on project site is considered to be moderate and further investigation may be necessary due to one or several factors including, but not limited to, the following:

- ◆ occurrence reported but remedial status unknown; unable to confirm remedial action completed; proximity to project site; groundwater flow is towards the project site (up gradient).

High Potential = Potential to create environmental condition on project site is considered to be high and further investigation necessary due to one or several factors including the following:

- ◆ occurrence noted on-site and status if remedial action unknown; occurrence affected groundwater and is located up gradient from project site.

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### Potential Areas of Environmental Concern

#### *Methodology and Limiting Conditions*

The objective of the site reconnaissance conducted as part of the Phase I ESA was to obtain information indicating the likelihood of identifying RECs, including hazardous substances and petroleum products in connection with the property (i.e., soils, surface water, and groundwater). During the April 20, 2004 site inspection, RBF performed a visual observation of readily accessible areas of the project site and immediately adjoining properties. Evidence indicating the presence of a potential REC was noted during the site inspection and is discussed in detail herein.

It should be noted that the project site was affected by wildfires, both on- and off-site, in October 2003. The natural ground surface was not visible throughout the majority of the project site due to the presence of ash. Therefore, RBF's visual inspection was limited, especially with respect to identification of stained soils and or past spills.

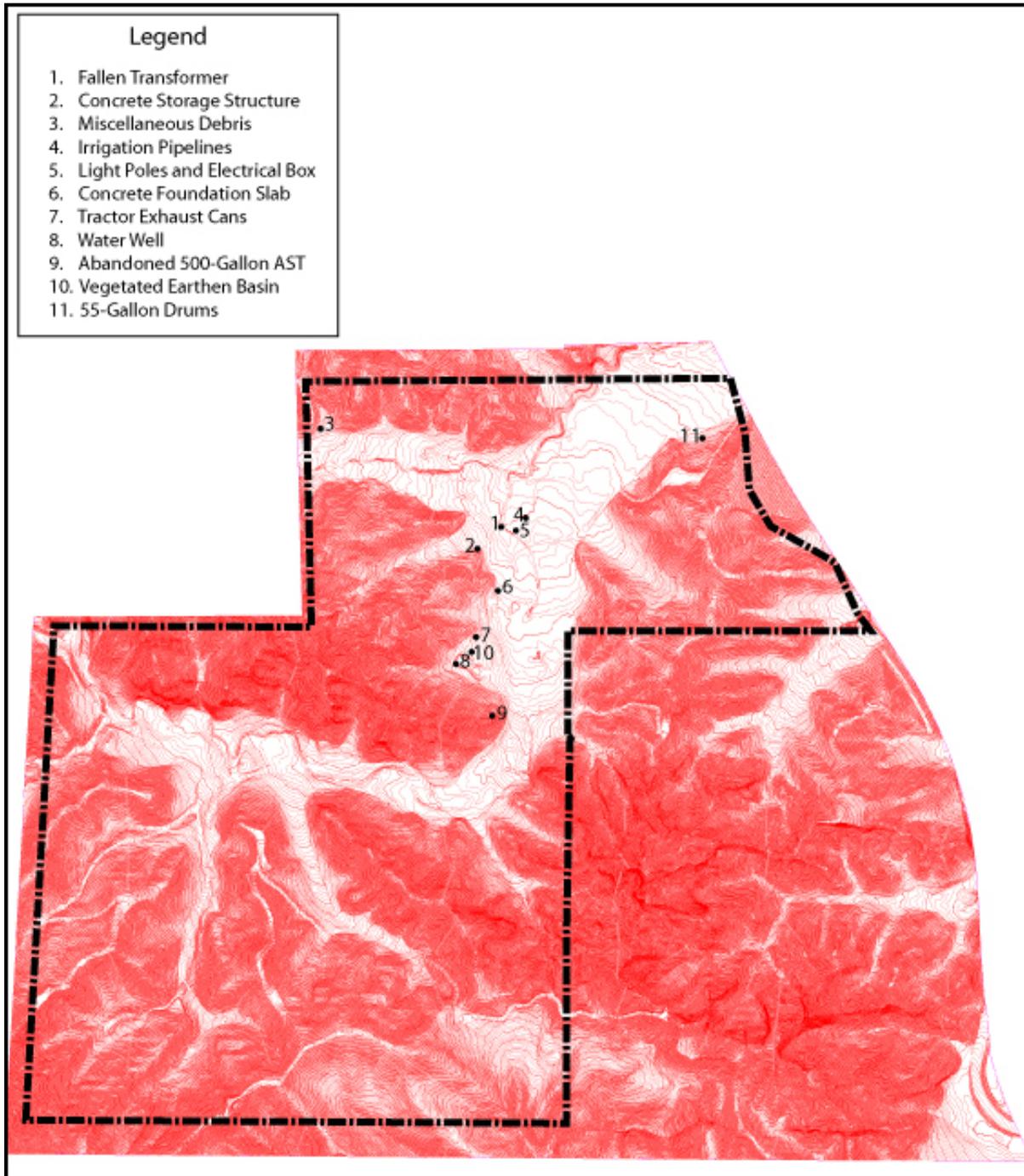
#### **On-Site Observations**

The project site consists of vacant land, with numerous dirt roads. No structures were noted within the boundaries of the project site during the April 20, 2004 site inspection. However, a concrete slab measuring approximately 20 feet by 30 feet was observed along the on-site drainage (Lyon Canyon Creek) during the Phase I ESA site inspection, which appears to have been used for placement of filming-related trailers or a "prop" structure. No evidence of utilities or other infrastructure that may have served such trailers or structure was observed. Exhibit 5.3-1, *Potential REC Locations*, illustrates the approximate location of potential RECs observed during the April 20, 2004 site inspection.

#### *Asbestos Containing Materials*

Asbestos is a strong, incombustible, and corrosion-resistant material that was used in many commercial products beginning in the 1940s and up until the early 1970s. If inhaled, asbestos fibers can result in serious health problems. Asbestos-containing materials (ACMs) are building materials containing more than one percent asbestos (some state and regional regulators impose a one tenth of one percent [0.1 percent] threshold). No structures are located within the boundaries of the project site; therefore, the potential for ACMs to be found on-site is considered low.

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## **Potential Recognized Environmental Condition (REC) Locations**

Exhibit 5.3-1

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### *Lead-Based Paints*

Until 1978, when the U.S. Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not constitute a material to be considered hazardous. In fact, if in good condition (no flaking or peeling), most intact LBP is not considered to be a hazardous material. In poor condition, LBP can create a potential health hazard for building occupants, especially children. No structures are located within the boundaries of the project site; therefore, the potential for LBP to be found on-site is considered unlikely.

### *Chemical Storage Tanks*

During the April 20, 2004 site inspection, the project site was inspected for fill pipes, vent pipes, areas of abnormal or heavy staining, manways, manholes, access covers, concrete pads not homogenous with surrounding surfaces, concrete build-up areas potentially indicating pump islands, abandoned pumping equipment, or fuel pumps. The documents reviewed indicated that USTs were not present within the boundaries of the project site. However, it should be noted that several concrete pads and numerous undocumented pipes were present within the project site. The specific nature of the pads and undocumented pipes remains undefined. One abandoned 500-gallon AST was noted atop an on-site hill, within the central portion of the project site. The specific use of the AST remained undefined during the course of the site assessment. However, it is assumed that this AST is most likely a water storage tank associated with past agricultural operations or a prop used for television filming activities at the site. Therefore, it is not anticipated that any chemical storage is associated with the tank, although subsequent investigation of the tank's contents is recommended.

### *Chemical Storage Areas*

No visual or physical evidence of a designated chemical storage area was observed during the April 20, 2004 site inspection.

### *Spills*

No visual or physical evidence of a spill was observed during the April 20, 2004 site inspection. However, it should be noted that due to the October 2003 fires, most of the ground on-site was covered in dark-colored ash; therefore, visual observation of on-site soils was limited.

### *Solid Waste Disposal*

One concrete structure was noted on-site. The structure was recessed into a hillside. Views looking into and from the top of the structure indicate that the structure was used for storage. The contents of the storage structure remain undefined, although the contents of the structure did not appear to be hazardous in nature. It should also be noted that miscellaneous debris piles (i.e.,

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agricultural equipment, tractor exhaust cans, 55-gallon drums, etc.) were noted throughout the project site. The condition of the soil underneath the piles was not visible during the April 20, 2004 site inspection. Due to the undefined nature of the contents of the concrete storage structure, and the potential for contamination associated with various debris piles and storage drums, subsequent inspection, and sampling and remediation (if deemed appropriate) are warranted.

### *Polychlorinated Biphenyls (PCBs)*

Power lines and transformers were noted within the project site during the April 20, 2004 site inspection. One fallen power line, with associated transformer box, was noted within the central portion of the project site. Surficial staining on concrete, associated with the power line, was present. Due to the age of the power line, the potential for the presence and release of PCBs exists.

### *Utilities*

Several pole-mounted lights were noted within the boundaries of the project site during the April 20, 2004 site inspection. The lights appeared to be associated with historic structures. Additionally, an electrical box was present near the lights. The interior of the box was empty, however electrical wires and conduit remained present.

### *Wells*

Irrigation lines were present within the project site. The lines appeared to be associated with former agricultural or residential uses. Evidence of a water well/spring was noted within the central area of the project site during the April 20, 2004 site inspection. Due to ownership rights, no well information (i.e., well logs) was obtained for the on-site well. The status of the well remains undefined. Subsequent investigation of the irrigation lines and the water well, including sampling and remediation (if deemed necessary) of affected soil and/or groundwater in the immediate area is warranted.

### *Pits, Ponds, Lagoons*

One vegetated, earthen basin was observed near the on-site water well during the April 20, 2004 site inspection. The nature of the basin was unknown at the time of the inspection; however, it appeared that the basin was associated with past on-site agricultural uses. No evidence of an REC was noted with respect to the basin.

### *Septic Systems*

Residential septic systems are possible receivers of household wastes and can be the source for soil and groundwater contamination. Active and abandoned residential structures not connected to city sewer likely have septic systems. No evidence of on-site septic systems was identified during the April 20, 2004 site inspection.

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### Off-Site Observations

An “adjoining property” is considered any real property or properties for which the border is contiguous or partially contiguous with that of the project site, or that would be contiguous or partially contiguous with that of the project site if not for a street, road, or other public thoroughfare separating them. An “adjacent property” is any real property located within 0.25 miles of the project site’s boundary. Visual observation of the publicly accessible portions of adjoining properties was conducted on April 20, 2004 as part of the Phase I ESA, and are described further below.

### *Utilities*

Typical utilities (e.g., lights and power lines) were noted within the vicinity of the project site during the April 20, 2004 site inspection. Additionally, signs indicating the presence of a petroleum pipeline were present along the eastern boundary of the project site (along The Old Road).

### *Tanks*

No evidence of USTs or ASTs was visible within the adjoining off-site properties during the April 20, 2004 site inspection.

### *Hazardous Materials*

During a preliminary observation of accessible adjoining properties on April 20, 2004, no visible or physical evidence was observed to suggest that a surface release of petroleum-based materials has recently occurred. No unusual or suspicious materials handling or storage practices were observed with respect to adjacent properties.

### Emergency Response/Evacuation Plans

#### *State Emergency Response/Evacuations Plans*

After the 1993 Oakland fire, the State of California passed legislation authorizing the State’s Office of Emergency Services to prepare a Standard Emergency Management System (SEMS) program which sets forth measures by which a jurisdiction handles emergency disasters. By December 1996, each jurisdiction was required to show the Office of Emergency Services that it is in compliance with SEMS through a number of measures, including having an up-to-date emergency management plan, which would include an emergency evacuation plan. Non-compliance with SEMS can result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

The California Office of Emergency Services coordinates an emergency organizational network of local Emergency Operations Centers (EOCs) in the state’s cities, regional EOCs within each

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county, and the California Office of Emergency Services. The regional office of the California Office of Emergency Services is located in Los Alamitos, and the Los Angeles County's EOC is located in downtown Los Angeles. The County Office of Emergency Management has prepared the County's Multi-Hazard Functional Plan, which details the coordination of County agencies during and after a catastrophic event and establishes the framework for the mutual aid agreements with the California Highway Patrol (CHP), and federal, state, and other local governments in the region. It also serves as the emergency management plan (including emergency evacuation plan) for the entire County. The Los Angeles County Board of Supervisors adopted a revised plan on February 17, 1998.

Funding for the Office of Emergency Services is primarily from the State General Fund, while other funding may come from the Federal Government's Federal Emergency Management Act and other sources. Funding is used two ways: the first is for public assistance in the event of a disaster, while the second is for hazard mitigation to avert a potential disaster.

### 5.3.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to hazards and hazardous materials. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving explosion or the release of hazardous materials into the environment (including, but not limited to oil, pesticides, chemicals, fuels, or radiation)?
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- i) Exposure of people to existing sources of potential health hazards (e.g., electrical transmission lines, gas lines, oil pipelines)?

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### **5.3.3 IMPACTS AND MITIGATION MEASURES**

#### **HAZARDOUS MATERIALS IMPACTS**

- ◆ ***CONSTRUCTION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO SOURCES OF POTENTIAL HEALTH HAZARDS, AS A RESULT OF PAST AND FUTURE ON-SITE ACTIVITIES.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** According to the Phase I ESA, the project site contains various RECs that may involve hazardous materials, including an abandoned oil well, debris piles, an aboveground storage tank, a fallen power line and transformer, a concrete storage structure, various undocumented pipes, a water well, and pesticide residues from former agricultural uses. The hazardous materials impacts of these specific RECs are individually discussed later in this section.

For the most part, hazardous materials at the project site would be addressed prior to and during construction activities, most notably during site preparation and grading. Aside from the RECs identified in the Phase I ESA and discussed above, if previously unidentified hazardous materials are discovered during construction activities, the following mitigation measure would be implemented to address such hazardous materials and reduce any health risks to acceptable levels. With implementation of applicable mitigation measures, impacts would be less than significant.

The proposed project, once developed, would consist primarily of single- and multi-family residential development. Proposed residential uses are not anticipated to involve the routine transport, use, or disposal of hazardous materials, or to result in reasonably foreseeable upset and accident conditions involving hazardous materials. Therefore, operation of proposed uses is not expected to pose a threat to people residing or working in the area, and impacts would be less than significant.

#### **Mitigation Measures:**

HAZ1 If unknown wastes or suspect materials are discovered during construction by the contractor, which he/she believes may involve hazardous waste/materials, the contractor shall:

- ◆ Immediately stop work in the vicinity of the suspected contaminant, removing workers and the public from the area;
- ◆ Notify the project engineer of the implementing agency;
- ◆ Secure the areas directed by the project engineer; and
- ◆ Notify the implementing agency's Hazardous Waste/Materials Coordinator.

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*Level of Significance After Mitigation:* Less Than Significant Impact.

## ABANDONED OIL WELL

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING EXPLOSION OR THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT RESULTING FROM EXISTING ON-SITE ABANDONED OIL WELLS.***

*Level of Significance Prior to Mitigation:* Significant Impact.

***Impact Analysis:*** Crude oil is not listed as a hazardous material in the California Health and Safety Code (Division 20, Chapter 6.5, Article 13, Management of Used Oil). In general, crude oils that have been removed from the ground and placed in pits or sumps have to be certified as non-hazardous according to the California Health and Safety Code. Spilled crude oil that enters either surface water or groundwater would be subject to clean-up regulations specified by the Regional Water Quality Control Board. There are no established regulatory clean-up levels for dissolved Total Petroleum Hydrocarbons (TPH) in groundwater; rather, clean-up levels are usually determined by appropriate regulatory agencies on a case-by-case basis.

If development is to occur on the project site in the areas where oil production has occurred, each area must be remediated per state law. The methods of remediation could include any of the following: stabilization; on-site incineration; off-site landfilling; bioremediation; and use in cold-batch asphalt. As documented in the Phase I ESA, former oil well and drill sites within the project site have been abandoned. Furthermore, based on testing and review of records, the oil well and drill sites have been abandoned in accordance with applicable regulations. However, the California Division of Oil, Gas and Geothermal Resources (DOGGR) regulates the development of structures over abandoned oil wells. As discussed in Section 5.1, Geology, Soils and Seismicity, the existing abandoned oil well may require reabandonment to current DOGGR standards, as deemed necessary by the project geotechnical engineer. With implementation of applicable mitigation requiring reabandonment of the existing oil well, if deemed necessary, impacts would be less than significant.

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### **Mitigation Measures:**

HAZ2 If deemed appropriate by the project's geotechnical engineer, the on-site abandoned oil well shall be reabandoned per current DOGGR standards prior to issuance of any grading permit.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

### **DEBRIS PILES**

- ◆ ***CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM THE POTENTIAL PRESENCE OF HAZARDOUS MATERIALS ASSOCIATED WITH VARIOUS ON-SITE DEBRIS PILES.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** On-site debris, including agricultural equipment, tractor exhaust cans, 55-gallon drums, buckets, and cans, are located throughout the site. During the April 20, 2004 site visit, no evidence was discovered that would indicate the presence of hazardous materials associated with on-site debris. Mitigation measures discussed below would be implemented to ensure that all debris is properly removed and disposed of at an appropriate facility, and that all potentially impacted soils are sampled and remediated as deemed necessary by affected regulatory agencies. With implementation of applicable mitigation measures, impacts would be less than significant.

### **Mitigation Measures:**

HAZ3 All miscellaneous debris shall be removed off-site and properly disposed of at an approved landfill facility prior to issuance of building permits. Once removed, a visual inspection shall be completed by a representative from the Los Angeles County Public Works Department, of the areas beneath the removed materials to confirm total removal. Any stained soils observed underneath the removed materials shall be sampled. Based on the results of the sampling, the applicant's consultant and a representative from the Los Angeles County Public Works Department shall determine the level of remediation efforts that may be required (if any).

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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**ABOVEGROUND STORAGE TANK**

- ◆ **CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM THE POTENTIAL PRESENCE OF HAZARDOUS MATERIALS ASSOCIATED WITH ABOVEGROUND STORAGE TANKS.**

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** The 500-gallon abandoned aboveground storage tank (AST) located on a hillside on the project site would be removed prior to construction activities. Although there is no indication of hazardous materials associated with the AST, there exists the potential for the presence of such materials within and near the tank. As recommended in the Phase I ESA, and included as mitigation below, this tank would be removed prior to construction activities, and visual inspections and sampling (if warranted) would be conducted to determine the need for further remedial action. With implementation of mitigation measures, impacts would be less than significant.

***Mitigation Measures:***

HAZ4 One 500-gallon abandoned AST was observed atop a hill within the central portion of the project site. The tank shall be removed and properly disposed of at an appropriate landfill facility prior to issuance of building permits. Once removed, exposed soils shall be visually observed to confirm the presence/absence of staining (an indication of contamination migration into the subsurface). If observed, stained soils shall be tested to identify appropriate remedial activities (if necessary).

***Level of Significance After Mitigation:*** Less Than Significant Impact.

**POWER LINE/TRANSFORMER**

- ◆ **CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM THE POTENTIAL PRESENCE OF POLYCHLORINATED BIPHENYLS ASSOCIATED WITH ON-SITE TRANSFORMERS.**

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Power lines and transformers are located on-site, and one fallen power line, with associated transformer box, was discovered in the central portion of the project site. Surficial staining on the concrete associated with the power line/transformer was present, and due to the age of the power line, the potential for the presence of PCBs exists. The power line/transformer and underlying concrete slab would be removed and properly disposed of, and

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surrounding soils would be sampled for PCBs prior to construction activities, as recommended in the Phase I ESA. If necessary, nearby soils would be removed or otherwise remediated to the satisfaction of affected regulatory agencies. With implementation of applicable mitigation measures, impacts would be less than significant.

### **Mitigation Measures:**

HAZ5 The fallen power line and transformer shall be removed off-site and properly disposed of at an approved landfill facility prior to issuance of building permits. Additionally, other transformers on-site shall be removed/relocated during site construction/demolitions. This removal/relocation shall be conducted under the purview of the local utility purveyor to identify proper handling procedures regarding potential PCBs. The concrete on which the power line and transformer fell shall be removed and properly disposed of at an approved landfill facility. Any stained soils observed underneath the concrete shall be sampled. Results of the sampling (if necessary) would indicate the level of remediation efforts that may be required.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### **CONCRETE STORAGE STRUCTURE**

◆ ***IMPLEMENTATION OF THE LYONS CANYON RANCH PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM THE POTENTIAL PRESENCE OF UNKNOWN HAZARDOUS MATERIALS ASSOCIATED WITH THE ON-SITE CONCRETE STORAGE STRUCTURE.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** The concrete storage structure contains various debris and equipment that has not been characterized, as containing materials that are considered hazardous. The contents of the structure would be removed and properly disposed of, and the interior surfaces would be inspected for evidence of hazardous materials. Depending on the nature and extent of contamination (if present), the concrete structure itself may be removed and properly disposed. Likewise, if evidence of contamination exists beneath the structure itself, once removed, sampling and remediation would be conducted to the extent necessary to reduce the associated health risks from hazardous materials to an acceptable level. With implementation of applicable mitigation, impacts would be less than significant.

### **Mitigation Measures:**

HAZ6 The contents of the concrete structure shall be removed off-site and properly disposed of at an approved landfill location prior to issuance of building permits. Once removed, a visual inspection of the area beneath the removed materials shall be performed. Any stained concrete or soil (depending on material) observed underneath the removed

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materials shall be sampled. Results of the sampling (if necessary) would indicate the level of remediation efforts that may be required. If concrete is present and staining is noted, the concrete shall be removed and disposed of at an appropriate permitted facility. Once removed, exposed soils shall be visually observed to confirm the presence/absence of staining (an indication of contamination migration into the subsurface). If observed, stained soils shall be tested to identify appropriate remedial activities (if necessary).

*Level of Significance After Mitigation:* Less Than Significant Impact.

### UNDOCUMENTED PIPES

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM THE POTENTIAL PRESENCE OF HAZARDOUS MATERIALS ASSOCIATED WITH UNDOCUMENTED PIPES AND POSSIBLY UNDERGROUND STORAGE TANKS, AT THE SITE.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** Undocumented pipes at the project site may have been used for agricultural irrigation purposes, but also may indicate the presence of an underground storage tank (UST). If part of an irrigation system, the pipes are not expected to pose any hazardous materials risks and would be removed from the site and disposed of at an appropriate facility. If the pipes are associated with an unrecorded or otherwise unknown UST, the removal of the pipes and UST may involve hazardous materials, depending on the contents of the UST. Although the Phase I ESA government records search and on-site investigations concluded that no USTs are currently located within the project site, if a UST is discovered during subsequent investigations and/or site grading, the recommendations contained in the Phase I ESA would be implemented as appropriate. The recommendations, included as mitigation measures below, include removal of the UST, disposal of the UST at an appropriate disposal facility, sampling of soil surrounding the tank and any associated components for the presence of hazardous materials, and development of a remediation plan for affected soils (if necessary). Impacts would be less than significant with implementation of applicable mitigation measures.

### ***Mitigation Measures:***

HAZ7 The terminus of all undocumented pipes shall be defined. The primary concern with pipes that extend into the ground surface is the potential for the pipe(s) to act as a ventilation apparatus for an undocumented UST. Should a UST be present, the UST shall be removed and properly disposed of at an approved landfill facility prior to issuance of building permits. Once removed, a visual inspection of the areas beneath and around the removed UST shall be performed. Any stained soils observed underneath the UST shall be sampled. Results of the sampling (if necessary) would indicate the level of remediation efforts that may be required.

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*Level of Significance After Mitigation:* Less Than Significant Impact.

**WATER WELL**

- ◆ ***CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM THE POTENTIAL PRESENCE OF HAZARDOUS MATERIALS ASSOCIATED WITH AN ON-SITE WATER WELL.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** The water well observed on the project site is not expected to pose a health risk relative to hazardous materials. This is because the well was likely used for irrigation purposes associated with former agricultural operations, and therefore it would have a low potential to have resulted in the presence of substantial hazardous materials concentrations. Nonetheless, as recommended in the Phase I ESA, the well and associated structures and any equipment would be removed and disposed of properly, a visual inspection of the areas beneath the removed materials (if present) would be performed, and soil sampling around the well would be performed, as determined appropriate by a qualified Phase II professional. With implementation of the Phase I ESA recommendations, included as mitigation measures, the water well would pose no hazardous materials risk to residents and workers at the project site. With implementation of mitigation measures, impacts would be less than significant.

**Mitigation Measures:**

HAZ8 The on-site well shall be properly removed and abandoned prior to issuance of a building permit pursuant to the latest procedures required by the Los Angeles County Department of Health Services with closure responsibilities for the wells. Any associated equipment (i.e., piping) shall be removed off-site and properly disposed of at a permitted landfill prior to issuance of building permits. A visual inspection of the areas beneath the removed materials (if present) shall be performed. Soil sampling around the well shall be performed, as determined appropriate by a qualified Phase II professional.

*Level of Significance After Mitigation:* Less Than Significant Impact.

**PESTICIDES**

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT COULD HAVE THE POTENTIAL TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS, RESULTING FROM THE POTENTIAL PRESENCE OF PESTICIDE RESIDUES FROM PAST AGRICULTURAL OPERATIONS AT THE SITE.***

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***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** As indicated previously and discussed in the Phase I ESA, portions of the project site were historically used for agricultural purposes for several years. Consequently, there exists the potential for the presence of several persistent pesticide residues in on-site soils that are considered hazardous materials. Depending on the results of soil sampling, as recommended in the Phase I ESA and included as mitigation below, any such contaminated soils would be removed and disposed of at an appropriate disposal facility. With implementation of applicable mitigation measures, impacts would be less than significant.

### **Mitigation Measures:**

HAZ9 The project site was utilized for agricultural purposes in the past and may contain pesticide residues in the soil. Soil sampling shall occur throughout the project site, especially in areas of past development (as identified within the historical aerial photographs) prior to issuance of building permits. The sampling shall determine if pesticide concentrations exceed established regulatory requirements and shall identify proper handling procedures that may be required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

### **LISTED HAZARDOUS MATERIALS SITES**

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING EXPLOSION OR THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT, OR TO EXPOSE PEOPLE TO EXISTING SOURCES OF POTENTIAL HEALTH HAZARDS RESULTING FROM EXISTING HAZARDOUS MATERIALS, ASSOCIATED WITH LISTED HAZARDOUS MATERIALS SITES.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** As discussed earlier, the Phase I ESA prepared for the proposed project reviewed a database of government-regulated properties having known and/or recognized environmental conditions that have potential environmental concerns on or in the vicinity of the project site. Based on the EDR governmental database review, only one listed site is located within the project boundaries, and that site was determined not to pose a health risk due to previous remediation activities undertaken to clean up the contaminants. No impacts are expected relative to listed hazardous materials sites within the project boundaries.

There is a low probability that listed off-site properties in the search vicinity have impacted or are currently impacting the project site. However, given that government-regulated properties are, by nature, regulated by specific regulatory agencies, the operation and maintenance of such

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properties provides a level of assurance that activities or substances will continue to be handled in a manner that would not adversely impact the project site. Due to the low probability of these off-site listed properties affecting the project site, development of the proposed project is not expected to pose a health risk to people living and working in the area. Impacts would be less than significant and no mitigation is required.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### OFF-SITE PETROLEUM PIPELINE

- ◆ **CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING EXPLOSION OR THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT ASSOCIATED WITH AN OFF-SITE PETROLEUM PIPELINE.**

**Level of Significance Prior to Mitigation:** Potentially Significant.

**Impact Analysis:** Other potential sources of hazards that could adversely affect the proposed project, such as electrical transmission lines, gas pipelines, and oil pipelines, do not occur on the project site. However, the Phase I ESA concluded that signs indicating the presence of a petroleum pipeline exist along, but outside, the eastern boundary of the project site (along The Old Road).

Although located outside the project boundaries, grading and construction activities along the eastern boundary of the project site (i.e., for road construction and utility installation) may have the potential to damage or otherwise disrupt the operation of the pipeline. Unless proper precautions to avoid the pipeline are implemented, grading and/or construction activities could potentially result in hazardous conditions. Disturbance of the pipeline could potentially result in an oil leak, fire, and/or explosion of the pipeline's contents. This would pose a hazard to construction workers and other persons in the immediate area, and depending on their location, to neighboring properties. However, with implementation of applicable mitigation measures requiring notification of pipeline operators and underground service alert hotline, pipeline-related hazard impacts would be considered less than significant.

Although a petroleum pipeline does, in fact, exist just outside the eastern project boundary, significant adverse impacts on the proposed project, once constructed, are not expected. This is because the pipeline is regulated by various regulatory agencies, including the California Public Utilities Commission (CPUC), which would preclude the potential for adverse conditions that could result in significant health hazards to people living and working at the project site.

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### **Mitigation Measures:**

HAZ10 Pipeline operators shall be notified in advance of any grading activity in the vicinity of the off-site oil pipeline. Any specific requirements of the operator to avoid disturbance that could create a safety hazard shall be fully implemented. Possible methods to protect underground utilities include dielectric coating, cathodic protection, mortar coating, or encasement in cement slurry or concrete.

HAZ11 Prior to grading in the vicinity of the off-site oil pipeline, the location of the pipeline shall be marked. Underground Service Alert shall be notified 48 hours in advance of grading and shall clear the pipeline location prior to grading activity.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### **EMERGENCY RESPONSE/EVACUATION PLAN IMPACTS**

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH, OR OTHERWISE ADVERSELY AFFECT, ADOPTED EMERGENCY RESPONSE OR EVACUATION PLANS.***

*Level of Significance Prior to Mitigation:* Less Than Significant Impact.

**Impact Analysis:** Upon buildout, the resident and daytime populations of the project site would increase above current levels. These populations would be subject to potential emergencies (e.g., earthquake, fire, etc.). Existing Los Angeles County emergency evacuation plans do not include guidelines for evacuation of the project site in the event of a natural disaster because it is not currently developed. However, because the County has demonstrated compliance with the State's Standard Emergency Management System with its adopted emergency management plan, it is reasonable to expect that the project site would be included in the evacuation plans prior to its development.

The County will continue to operate the existing Emergency Operations Centers. These centers have demonstrated compliance with the State's Standard emergency Management System with its adopted emergency management plan and will be required to regularly demonstrate compliance through a variety of means, including a regular update of the County's Emergency Evacuation Plans.

The proposed circulation plan for the project includes two major access points located off of The Old Road. "A" Street, A proposed collector street with a 64-foot right-of-way, would connect the northern portion of the project site to the northern access point off of The Old Road, while "E" Street, with a 60-foot right-of-way, would connect the southern portion of the site to the southern access point at The Old Road. These proposed on-site roadways would provide evacuation routes for the site to The Old Road, Calgrove Boulevard, and Interstate 5. Given these evacuation routes, it is not anticipated that the design of the proposed project would preclude implementation of an evacuation plan, which would provide for the safe movement of

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future residents. Consequently, no significant impacts are expected to occur with regard to emergency evacuation of the project site or its surroundings.

**Mitigation Measures:** No mitigation measures are required.

*Level of Significance After Mitigation:* Less Than Significant Impact.

#### **5.3.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES**

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT, IN CONJUNCTION WITH OTHER CUMULATIVE PROJECTS IN THE SANTA CLARITA VALLEY, WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE HAZARDS AND HAZARDOUS WASTE IMPACTS.***

*Level of Significance Before Mitigation:* Less Than Significant Impact.

**Impact Analysis:** Because hazards and hazardous materials issues are site-specific, any impact resulting from implementation of the proposed project and any related projects in the vicinity would not be cumulatively considerable. No mitigation measures are required.

**Mitigation Measures:** Refer to Mitigation Measures HAZ1 through HAZ8. No other mitigation measures are required.

*Level of Significance After Mitigation:* Less Than Significant Impact.

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### 5.4 NOISE

This section of the EIR evaluates the noise impacts associated with the proposed project. The analysis presented in this section is based on the calculations, analysis, and conclusions contained in the project's *Noise Impact Analysis* report, performed by LSA Associates (July 2005), included in its entirety in Appendix F. This section serves to determine the noise impacts associated with short-term construction of the proposed project on adjacent noise-sensitive uses, determine the long-term traffic and noise impacts from existing uses on noise-sensitive uses, and determine the required mitigation measures to reduce short-term and long-term noise impacts. The following analysis utilizes the Noise standards set for by the Los Angeles County Noise Element and Noise Control Ordinance.

#### 5.4.1 ENVIRONMENTAL SETTING

##### CHARACTERISTICS OF SOUND

Sound increasing in the environment can affect quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch may be an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave, resulting in the tone's range from high to low. Loudness is the strength of a sound and describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

##### Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times more acoustic energy than one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 decibels. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only a doubling of the

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loudness of the sound. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source noise, when produced within a relatively flat environment with absorptive vegetation, decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoyance effects of sound. Equivalent continuous sound level ( $L_{eq}$ ) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the  $L_{eq}$  and community noise equivalent level (CNEL) or the day-night average level ( $L_{dn}$ ) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly  $L_{eq}$  for noises occurring from 7:00 PM to 10:00 PM (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 PM to 7:00 AM (defined as sleeping hours).  $L_{dn}$  is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and  $L_{dn}$  are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level ( $L_{max}$ ), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by  $L_{max}$  for short-term noise impacts.  $L_{max}$  reflects peak operating conditions and addresses the annoyance aspects of intermittent noise.

Another noise scale often used together with the  $L_{max}$  in noise ordinances for enforcement purposes is noise standards in terms of percentile noise levels. For example, the  $L_{10}$  noise level represents the noise level exceeded 10 percent of the time during a stated period. The  $L_{50}$  noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The  $L_{90}$  noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the  $L_{eq}$  and  $L_{50}$  are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts, which refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater, since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which

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are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

## Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear.

Table 5.4-1, Definitions of Acoustical Terms, lists definitions of common acoustical terms; Table 5.4-2, Common Sound Levels and Their Noise Sources, lists noise typically associated with various sources, and Table 5.4-3, Land Use Compatibility for Exterior Community Noise, shows the noise ranges and limits for various land uses recommended by the California Department of Health, Office of Noise Control.

**Table 5.4-1  
Definitions of Acoustical Terms**

Term	Definition
Decibel, dB	A unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L <sub>02</sub> , L <sub>08</sub> , L <sub>50</sub> , L <sub>90</sub>	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
Equivalent Continuous Noise Level, L <sub>eq</sub>	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 PM to 10:00 PM and after the addition of 10 decibels to sound levels occurring in the night between 10:00 PM and 7:00 AM
Day/Night Noise Level, L <sub>dn</sub>	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 PM and 7:00 AM
L <sub>max</sub> , L <sub>min</sub>	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.

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Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Source: <i>Handbook of Acoustical Measurement and Noise Control 1991.</i>	

**Table 5.4-2  
Common Sound Levels and Their Noise Sources**

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	Reference Level
Average Office	60	Quiet	½ as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ as loud
Large Transformer	45	Quiet	
Average Residence without Stereo Playing	40	Faint	⅛ as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc. 2004.

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**Table 5.4-3  
Land Use Compatibility for Exterior Community Noise**

Land Use Category	Noise Range (Ldn or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50-55	55-70	70+
Auditoriums, concert halls, amphitheaters	45-50	50-65	65-70	70+
Residential-low-density single family, duplex, mobile homes	50-55	55-70	70-75	75+
Residential-multi-family	50-60	60-70	70-75	75+
Transient lodging-motels, hotels	50-60	60-70	70-80	80+
Schools, libraries, churches, hospitals, nursing homes	50-60	60-70	70-80	80+
Actively used open spaces-playgrounds, neighborhood parks	50-67	--	67-73	73+
Golf courses, riding stables, water recreation, cemeteries	50-70	--	70-80	80+
Office buildings, business commercial and professional	50-67	67-75	75+	--
Industrial, manufacturing, utilities, agriculture	50-70	70-75	75+	--

Source: Office of Noise Control, California Department of Health 1976.

Noise Range I—Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Noise Range II—Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made, and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Noise Range III—Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV—Clearly Unacceptable: New construction or development should generally not be undertaken.

## Existing Noise Setting

### *Existing Sensitive Land Uses in the Project Area*

Sensitive receptors include nearby existing residences. There are existing residences in close proximity to the project within the Sunset Point residential tract. These existing residences are immediately north of the project site along Sagecrest Circle. These sensitive land uses may be potentially affected by the noise generated during construction on the project site.

### *Overview of the Existing Noise Environment*

The primary existing noise sources in the project area are vehicles traveling along existing roadways. Traffic on The Old Road, Calgrove Boulevard, Interstate 5 (I-5), and other streets in the project vicinity is the primary source of ambient noise in the project vicinity. The existing (2004) average daily traffic (ADT) volumes for roadway segments in the project vicinity are provided by Austin-Foust Associates, Inc. (August 2004).

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The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions in the vicinity of the project site. This model requires various parameters including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Table 5.4-4, Existing (2004) Baseline Traffic Noise Levels, provides the existing traffic noise levels adjacent to roadway segments in the project vicinity (within 2 miles of the subject site). These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in the Noise Study included in Appendix G. Traffic noise is generally moderate to high along existing street segments in the project vicinity. The 70, 65, and 60 dBA CNEL noise contours for local roadways extend up to 97, 196, and 417 feet, respectively, from the roadway centerline. The 70, 65, and 60 dBA CNEL noise contours for I-5 extend up to 594, 1,277, and 2,749 feet, respectively, from the freeway centerline. Please refer to Figure 5.4-1, Existing Noise Contour Locations on page 5.4-17.

**Table 5.4-4  
Existing (2004) Baseline Traffic Noise Levels**

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
<b>The Old Road</b>					
Between Valencia Boulevard and McBean Parkway	17,000	52	112	230	67.0
Between Stevenson Ranch Parkway and Pico Canyon Road	25,000	57	115	243	68.1
Between Pico Canyon Road and Marriott Way	10,000	23 <sup>1</sup>	49	106	64.2
<b>Stevenson Ranch Parkway</b>					
Between The Old Road and I-5 SB Ramps	27,000	60	121	256	68.4
<b>Pico Canyon Road</b>					
20 feet West of The Old Road	14,000	37	80	166	65.4
Between The Old Road and Marriott Way	29,000	62	126	268	68.7
<b>Calgrove Boulevard</b>					
Between The Old Road and I-5 SB Ramps	11,000	25	53	113	64.6
<b>I-5</b>					
Between Lyons Avenue and Calgrove Boulevard	182,000	594	1,277	2,749	82.62
Source: LSA Associates, Inc., November 2004.					

<sup>1</sup> Traffic noise within 50 feet of roadway centerline was calculated manually.

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## 5.4.2 NOISE STANDARDS

### COUNTY OF LOS ANGELES NOISE STANDARDS

The County does not set land use standards for noise in its Noise Element of the General Plan. Therefore, the 65 dBA CNEL exterior standards recommended for residential uses in the State of California guidelines was used as the primary threshold of significance. However, the County Code, Chapter 12.08 Noise Control, has the following exterior noise standards listed in Table 5.4-5, Exterior Noise Standards, L<sub>50</sub>.

**Table 5.4-5  
Exterior Noise Standards, L<sub>50</sub>**

Noise Zone	Designated Noise Zone Land Use	Time Interval	Exterior Noise Level (dBA)
I	Noise Sensitive Area	Anytime	45
II	Residential Area	10:00 PM–7:00 AM	45
		7:00 AM–10:00 PM	50
III	Commercial Area	10:00 PM–7:00 AM	55
		7:00 AM–10:00 PM	60
IV	Industrial Area	Anytime	70

*Source: Los Angeles County Code Chapter 12.08 Noise Control*

The above noise level limits may not be exceeded for a cumulative period of more than 30 minutes in any hour. If the existing ambient L<sub>50</sub> exceeds these levels, then the ambient L<sub>50</sub> becomes the exterior noise levels. For events shorter than 30 minutes, higher noise limits are used for the exterior noise standards. For example, 5, 10, and 15 dBA are added to the above noise limits for events less than 15, 5, and 1 minutes, respectively. Twenty dBA plus the above noise limits (70 dBA L<sub>max</sub> during the day and 65 dBA L<sub>max</sub> during the night) may not be exceeded for any period of time.

For interior noise standards, the County sets an allowable interior noise level of 45 dBA for the period from 7:00 AM to 10:00 PM and 40 dBA for the period from 10:00 PM to 7:00 AM for all multi-family residential uses. For events shorter than 5 minutes in any hour, the noise standard is increased in 5 dBA increments in each standard. For example, 5 and 10 dBA are added to these noise limits for events less than 5 minutes and 1 minute, respectively. If the measured ambient noise reflected by the L<sub>50</sub> exceeds that permissible within any of the interior noise standards, the allowable interior noise level shall be increased in 5 dBA increments in each standard, as appropriate, to reflect said ambient noise level.

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The County also has the following construction noise restrictions:

- A. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 PM and 7:00 AM, or at any time on Sundays or holidays, such that the sound there from creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer is prohibited.
- B. *Noise Restrictions at Affected Structures.* The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule:
1. At Residential Structures.
    - a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) or of mobile equipment:

	Single-family Residential	Multi-family Residential	Semiresidential / Commercial
Daily, except Sundays and legal holidays: 7:00 AM to 8:00 PM	75 dBA	80 dBA	85 dBA
Daily, 8:00 PM to 7:00 AM and all day Sundays and legal holidays	60 dBA	64 dBA	70 dBA

- b. Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	Single-family Residential	Multi-family Residential	Semiresidential / Commercial
Daily, except Sundays and legal holidays: 7:00 AM to 8:00 PM	60 dBA	65 dBA	70 dBA
Daily, 8:00 PM to 7:00 AM and all day Sundays and legal holidays	50 dBA	55 dBA	60 dBA

2. At Business Structures.

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- a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment:

Daily, including Sundays and legal holidays, all hours: maximum of 85 dBA.

- C. All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped suitable exhaust and air-intake silencers in proper working order.
- D. In case of a conflict between this noise ordinance and any other ordinance regulating construction activities, provisions of any specific ordinance regulating construction activities shall control.

The County also has a noise policy regulating construction activities. For example, construction hours are limited to between the hours of 7:00 AM and 7:00 PM of any working day, except Sundays and holidays.

### 5.4.3 SIGNIFICANCE THRESHOLD CRITERIA

According to Appendix G of the CEQA Guidelines (2004), a project would normally have a significant noise impact if it would result in any of the following:

- ◆ Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- ◆ Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- ◆ A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- ◆ A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

While a project would normally have a significant noise-related effect on the environment if it substantially increases the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located, the applicable noise standards governing the project site are the County's noise criteria, discussed previously. These standards were also utilized to determine noise impact significance. As such, a significant noise impact would result if the proposed project would conflict with the applicable noise standards of the County of Los Angeles.

## 5.4.4 IMPACTS AND MITIGATION MEASURES

### CONSTRUCTION-RELATED NOISE IMPACTS

- ◆ ***PROJECT-RELATED GRADING AND CONSTRUCTION ACTIVITIES COULD RESULT IN TEMPORARY NOISE IMPACTS TO NEARBY NOISE-SENSITIVE RECEPTORS.***

*Level of Significance Before Mitigation:* Significant Impact.

*Impact Analysis:* Short-term noise impacts would be associated with excavation, grading, and erecting of buildings on-site during construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today, but would not occur once construction of the project is completed.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. There will be a relatively high single-event noise exposure potential at a maximum level of 87 dBA  $L_{max}$  with trucks passing at 50 feet. However, the projected construction traffic would be small when compared to the existing traffic volumes on The Old Road, Calgrove Boulevard, and I-5, and its associated long-term noise level change would not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would not be significant.

The second type of short-term noise impact is related to noise generated during excavation, grading, and construction on the project site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 5.4-6, Typical Maximum Construction Equipment Noise Levels ( $L_{max}$ ), lists maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor.

Typical maximum noise levels range up to 91 dBA at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings.

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Construction of the proposed project is expected to require the use of earthmovers, bulldozers, and water and pickup trucks. This equipment would be used on the project site. Based on Table 5.4-6, the maximum noise level generated by each earthmover on the proposed project site is assumed to be 88 dBA  $L_{max}$  at 50 feet from the earthmover. Each bulldozer would also generate 88 dBA  $L_{max}$  at 50 feet. The maximum noise level generated by water and pickup trucks is approximately 86 dBA  $L_{max}$  at 50 feet from these vehicles. Each doubling of a sound source with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level at each individual residence during this phase of construction would be 91 dBA  $L_{max}$  at a distance of 50 feet from the active construction area.

The closest existing residences in the vicinity of the project site are located more than 200 feet from the proposed construction areas. These residences are also elevated above the proposed project site. There are no intervening structures between these homes and the project site. These closest residences may be subject to short-term noise reaching 79 dBA  $L_{max}$ , generated by construction activities near the project boundary. Compliance with the construction hours specified in the County's Noise Control Ordinance would be required to minimize noise impacts to these residences to the maximum extent practicable. Although such construction related noise impacts would be temporary in nature, they would be considered significant and unavoidable because they would exceed the County's 65 dBA CNEL exterior noise level threshold.

**Table 5.4-6  
Typical Maximum Construction Equipment Noise Levels ( $L_{max}$ )**

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81-96	93
Rock Drills	83-99	96
Jackhammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	74-84	80
Scrapers	83-91	87
Haul Trucks	83-94	88
Cranes	79-86	82
Portable Generators	71-87	80
Rollers	75-82	80
Dozers	77-90	85
Tractors	77-82	80
Front-End Loaders	77-90	86

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**Table 5.4-6 (continued)  
Typical Maximum Construction Equipment Noise Levels ( $L_{max}$ )**

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Hydraulic Backhoes	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86
Source: <i>Noise Control for Buildings and Manufacturing Plants</i> , Bolt, Beranek, & Newman 1987.		

**Mitigation Measures:**

- N1 Construction shall be limited to the hours of 7:00 AM to 7:00 PM on any working day except Sundays and holidays, in accordance with the County’s Noise Control Ordinance (County Code Section 12.080.440.)
- N2 The following measures shall be implemented to reduce potential construction noise impacts on nearby sensitive receptors:
- a) During all site excavation and grading, the construction contractor shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers’ standards.
  - b) The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
  - c) The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and the existing noise-sensitive receptors (existing residences) north of the project site during all project construction.

***Level of Significance After Mitigation:*** Significant and Unavoidable Impact.

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### LONG-TERM TRAFFIC NOISE IMPACTS

- ◆ ***THE PROPOSED PROJECT COULD RESULT IN A PERMANENT INCREASE IN TRAFFIC-RELATED NOISE IN THE PROJECT AREA.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** Residential units planned on the exterior portions of the project fronting the Old Road and near the I-5 Freeway site would be exposed to high noise levels. These areas include the proposed fire station site, the senior housing area, and Lots 80-91 located along “E” and “F” Streets. The projected cumulative traffic volumes (using a previously proposed 835-unit project) forecast by Austin-Foust Associates, Inc. were applied to roadway segments in the project vicinity to determine the traffic noise impacts.

The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate future highway traffic-related noise conditions in the vicinity of the project site. Table 5.4-7, Interim Year (2015) No Project Traffic Noise Levels, provides the future interim year (2015) no project traffic noise levels adjacent to roadway segments in the project vicinity. Table 5.4-8, Interim Year (2015) Plus Project Traffic Noise Levels, provides the future interim year (2015) plus project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix G.

#### **Impacts to Off-Site Uses**

Table 5.4-8 shows that project-related traffic noise increase along roadway segments in the project vicinity would be mostly small and negligible (0.8 dBA or less), except along The Old Road between Marriott Way and Calgrove Boulevard (+2.1 dBA) or along Calgrove Boulevard between The Old Road and I-5 southbound ramps (+2.3 dBA). However, there are no existing residences directly adjacent to these segments of the road and these increases are less than the 3-dBA threshold normally perceptible by the human ear. No significant project-related traffic noise impacts on off-site land uses would occur. Therefore, no mitigation measures would be required.

#### **Impacts to On-Site Uses**

Although the proposed project includes the construction of 186 residential units, the following analysis was based on a worst-case scenario of a previously proposed 835 unit project on the same project site<sup>1</sup>. Based on the project’s traffic study report (Austin-Foust Associates, Inc., August 2004), all internal roadways on-site would carry maximum daily trips of 3,900. Vehicle speeds on these internal roads are usually 35 miles per hour (mph) or slower. However, with the

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<sup>1</sup> At the time of Noise Impact Study preparation (July 2005), a revised Traffic Impact Study for the proposed 186-unit project was not available. Therefore, these traffic related noise levels were generated from traffic associated with an 835-unit project previously proposed on the subject site.

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assumption of a vehicle speed at 45 mph, the 65 dBA CNEL would be within 40 feet of the roadway centerline. This range of distance is within the proposed roadway right-of-way. Therefore, no significant traffic noise impacts would occur from traffic on on-site roadways.

### **Impacts of Freeway Noise to On-Site Uses**

Table 5.4-8 shows that the 65 dBA CNEL would extend to 59 feet from the centerline of The Old Road. The 65 dBA CNEL from I-5 would extend to 1,565 feet from the centerline of I-5. Because The Old Road is parallel to I-5, the area impacted by traffic noise from The Old Road would also be impacted by much higher traffic noise from I-5 (area impacted by 60 dBA CNEL or lower from The Old Road would also be impacted by 70 dBA CNEL or higher from I-5). Therefore, the following discussion of potential traffic noise effects on the proposed on-site land uses focuses on traffic noise impacts from the I-5 Freeway.

Based on Tentative Tract Map 53563 for Lyons Canyon Ranch, the northeast portions of the project site designated for residential development (the proposed senior housing development, and Lots proposed along “E” Street and “F” Street) and the fire station site would be potentially exposed to high traffic noise from I-5. Noise levels affecting these development areas will range from 72 dBA CNEL to 66 dBA CNEL. It is estimated that the eastern edge of the fire station site is approximately 330 feet from the centerline of I-5. Therefore, the portions of the fire station designed to front the Old Road would be exposed to 75 dBA CNEL from I-5 traffic. Exhibit 5.4-1, Project-Site Noise Contour Locations, shows the potential effect of noise on the project site.

The eastern edge of the senior housing lot, proposed in the northeast portion of the project site, is approximately 500 feet from the centerline of I-5. As a result, this area would be exposed to traffic noise measuring 72 dBA CNEL. However, this area would be partially blocked by the fire station buildings. Thus, the units closest to the fire station buildings would receive some degree of noise reduction, although noise levels would still exceed the 65 dBA CNEL threshold.

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**Table 5.4-7  
Interim Year (2015) No Project Traffic Noise Levels**

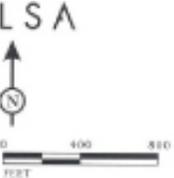
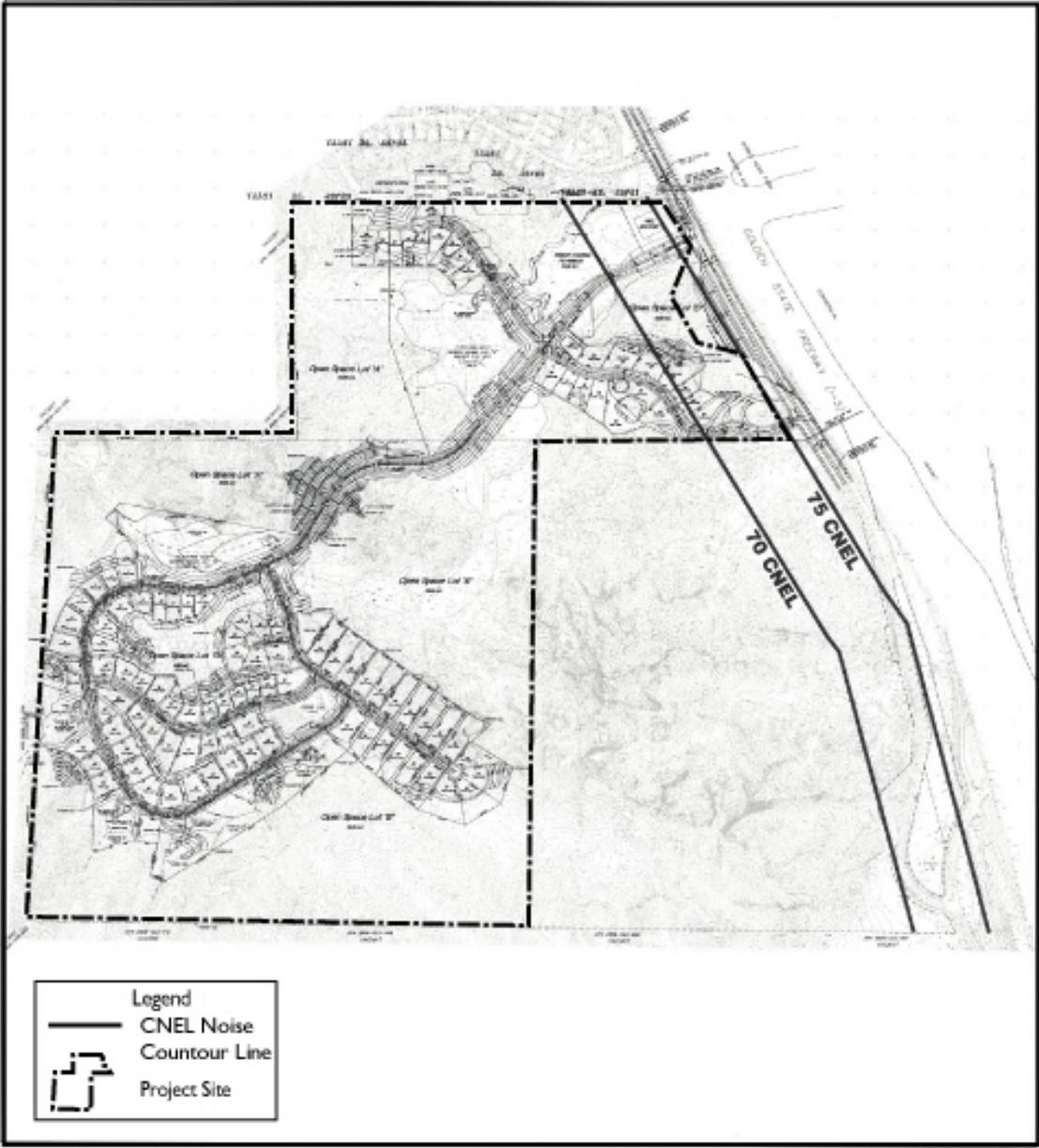
Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
<b>The Old Road</b>					
Between Valencia Boulevard and McBean Parkway	23,000	70	134	280	68.3
Between Stevenson Ranch Parkway and Pico Canyon Road	31,000	65	132	281	69.0
Between Pico Canyon Road and Marriott Way	10,000	23 <sup>1</sup>	49	106	64.2
Between Marriott Way and Calgrove Boulevard	8,000	20 <sup>1</sup>	43	92	63.2
<b>Stevenson Ranch Parkway</b>					
Between The Old Road and I-5 SB Ramps	37,000	72	148	315	69.8
<b>Pico Canyon Road</b>					
20 feet west of The Old Road	33,000	67	137	292	69.3
Between The Old Road and Marriott Way	40,000	75	156	332	70.1
<b>Calgrove Boulevard</b>					
Between The Old Road and I-5 SB Ramps	9,000	21 <sup>1</sup>	46	99	63.7
<b>I-5</b>					
Between Lyons Avenue and Calgrove Boulevard	246,000	726	1,561	3,361	83.9
Source: LSA Associates, Inc., November 2004.					
<sup>1</sup> Traffic noise within 50 feet of roadway centerline requires site-specific analysis.					

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**Table 5.4-8  
Interim Year (2015) Plus Project Traffic Noise Levels**

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane	Change from No Project Level (dBA)
<b>The Old Road</b>						
Between Valencia Boulevard and McBean Parkway	24,000	71	138	288	68.5	0.2
Between Stevenson Ranch Parkway and Pico Canyon Road	31,000	65	132	281	69.0	0.0
Between Pico Canyon Road and Marriott Way	12,000	26 <sup>1</sup>	56	120	65.0	0.8
Between Marriott Way and Calgrove Boulevard	13,000	27	59	126	65.3	2.1
<b>Stevenson Ranch Parkway</b>						
Between The Old Road and I-5 SB Ramps	37,000	72	148	315	69.8	0.0
<b>Pico Canyon Road</b>						
West of The Old Road	32,000	66	135	286	69.2	-0.1
Between The Old Road and Marriott Way	40,000	75	156	332	70.1	0.0
<b>Calgrove Boulevard</b>						
Between The Old Road and I-5 SB Ramps	15,000	30	65	139	66.0	2.3
<b>I-5</b>						
Between Lyons Avenue and Calgrove Boulevard	247,000	728	1,565	3,370	83.9	0.0
Source: LSA Associates, Inc., November 2004.						
<sup>1</sup> Traffic noise within 50 feet of roadway centerline requires site-specific analysis.						

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**Project Site Noise Contour Locations**

Exhibit 5.4-1

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### *Outdoor Active Use Areas*

Based on the above discussion, if outdoor active use areas, such as backyards or patios, are proposed along with residential dwelling units (including the fire station site) or any community recreational areas along the eastern edge of the subject site, they would be exposed to traffic noise ranging from 66 to 73 dBA CNEL. These outdoor active use areas, if proposed, would be potentially exposed to exterior noise levels exceeding the County's exterior noise standard of 65 dBA CNEL. Therefore, noise barriers would be required along the property lines or along the perimeter of the outdoor active use areas (backyards, patios, balconies, or decks) of these residential lots (including the fire station) along and directly exposed to traffic noise from the Old Road and I-5. If no outdoor active use areas are proposed along the eastern edge of these frontline dwelling units or the fire station, no sound walls will be required along the eastern property boundary to attenuate traffic noise. However, for any active use areas proposed along the eastern edge of Lots 79-90 along "E" and "F" Streets, and the fire station, a sound barrier with maximum wall heights of 6 feet will be required to reduce the exterior traffic noise level to 65 dBA or lower.

Balconies or decks proposed on the second story of single-family residential units or on the upper floors of the eastern senior housing building are prohibited on the eastern side of single-family dwelling units within Lots 79-90, the fire station, and the attached senior housing units because they would be directly exposed to The Old Road and I-5 traffic noise. Balconies or decks on Lots 79-90 and the senior housing units are allowed on the side of the building facing away from the street or on any lots outside of the 65 dBA CNEL impact zone. These residential units will not require sound wall protection and thus balconies are allowed.

### *Interior Noise Levels*

As stated above, homes proposed along the far eastern edge of the project site would be potentially exposed to traffic noise levels exceeding 65 dBA CNEL. Based on the data provided in the Environmental Protection Agency's (EPA) Protective Noise Levels (EPA 550/9-79-100, November 1979), standard homes in Southern California provide at least 12 dBA of exterior to interior noise attenuation with windows open and 24 dBA with windows closed. Therefore, homes exposed to exterior traffic noise levels lower than 69 dBA CNEL ( $45 + 24 = 69$  dBA) would not have their interior noise level exceed the 45 dBA CNEL standard with the windows closed. With the windows open, homes exposed to exterior traffic noise levels exceeding 57 dBA CNEL ( $45 + 12 = 57$  dBA) would exceed the 45 dBA CNEL interior noise standard.

Based on the above discussion and the projected traffic noise levels on the far eastern edge of the project site, Lots 79-83, the fire station, and the attached senior housing units are anticipated to be exposed to traffic noise below 69 dBA CNEL from roads adjacent to the project site. Therefore, building facade enhancements, such as double-paned windows with sound transmission class (STC) ratings higher than standard building construction provides will be required to achieve the 45 dBA CNEL interior noise standard. In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along the eastern edge of the project site to ensure that windows can remain closed for prolonged periods of time.

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### ***Fire Station Noise Impacts***

There would be potential noise impacts associated with the daily operation of the fire station, once constructed by the Los Angeles County Fire Department. Although noise from the normal operation of the fire station facility, including operation of fire truck engines or exhaust would not result in noise levels substantially higher than noise from I-5 traffic, the use of sirens by a fire truck or fire alarms may cause short-term annoyance to adjacent residential uses when it occurs. As with any residential use adjacent to a fire station, such noise impacts are considered temporarily significant because the siren noise can reach up to 95 dBA and thus will exceed the Los Angeles County 65 dBA exterior noise threshold.

### ***Mitigation Measures:***

- N3 A sound barrier, with a minimum wall height of six feet, is required for ground-floor frontline outdoor active use areas on the following lots: Lots 79 through 81 and Lots 83-86. Frontline second story balconies or decks are prohibited.
- N4 A sound barrier, with a minimum wall height of seven feet, is required for ground-floor frontline outdoor active use areas on Lot 82. Frontline second-story balconies or decks are prohibited.
- N5 A sound barrier, with a minimum wall height of five feet, is required for ground-floor frontline outdoor active use areas on the following lots: Lot 87-90. Frontline second-story balconies are prohibited.
- N6 Balconies or decks shall be prohibited on walls with direct second story (or higher) exposure for Lots 79 through 90, the fire station, or the attached senior housing, which are directly exposed to traffic noise from The Old Road and I-5. Balconies or decks on the side of the building facing away from the street or outside of the 65 dBA CNEL impact zone shall not require sound wall protection and thus are allowed.
- N7 Mechanical ventilation, such as an air-conditioning system for all units in the senior housing lot and the fire station.
- N8 Windows with a minimum STC-30 rating are required for bedrooms exposed to I-5 traffic on Lots 79-84, except for Lot 82, where windows with a minimum STC-32 rating are recommended for bedrooms exposed to I-5 traffic.
- N9 Windows with a minimum STC-34 rating are required for sleeping quarters associated with the proposed fire station.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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### STATIONARY SOURCE NOISE IMPACTS

- ◆ ***THE PROPOSED PROJECT COULD RESULT IN A PERMANENT INCREASE IN STATIONARY-SOURCE NOISE IN THE PROJECT AREA.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** The proposed residential development would likely include stationary noise sources associated with everyday residential activities. These stationary sources include noises from air conditioning operation and other common household activities. However, existing background noise levels associated with vehicle travel along local roadways and the I-5 freeway are anticipated to be much higher than typical household sources of stationary noise. Therefore, impacts are considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

### 5.4.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***THE PROPOSED PROJECT AND OTHER CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE TRAFFIC-RELATED NOISE IMPACTS.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** Based on the fact that noise dissipates as it travels away from its source, impacts from construction noise and stationary sources would be limited to the project site and vicinity. As such, noise impacts from related projects, in conjunction with project-specific noise impacts, would not have the potential to result in cumulatively considerable adverse effects.

Traffic-related (mobile-source) noise impacts could have the potential to be cumulatively considerable, when added to mobile-source noise generated by related projects in the vicinity of the proposed project site. This noise impact evaluation (from mobile sources) completed for the project was based on traffic data provided in the project's *Traffic Impact Analysis* and calculates pre and post-project operational noise impacts resulting from existing conditions and a project with 835 residential units. Therefore, this study accounts for future development projects in the project vicinity, cumulative noise impacts associated with the project, and related projects. As shown above, the project's contribution to cumulative traffic-related noise impacts in the project vicinity is not cumulatively considerable. However, given that the existing noise environment experienced by residential development in the project vicinity exceeds the County's exterior thresholds (primarily due to I-5 Freeway noise), the project's minimal contribution to exterior noise levels is considered a significant and unavoidable cumulative impact.

**Mitigation Measures:** Refer to mitigation measures N3 through N7. No additional mitigation measures are available to reduce cumulative noise impacts.

***Level of Significance After Mitigation:*** Significant and Unavoidable Impact.

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## 5.5 AIR QUALITY

This section of the EIR evaluates the potential air quality impacts associated with the development of the proposed project. This section provides a brief discussion of the physical setting of the project area, the regulatory framework for air quality, as well as provides data on existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies measures recommended to limit potential impacts.

The analysis presented in this section is based on the calculations, analysis, and conclusions contained in the project's *Air Quality Impact Analysis* report, performed by LSA Associates (July 2005), which is included in its entirety as Appendix E. The *Air Quality Impact Analysis* was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the South Coast Air Quality Management District (SCAQMD) California Environmental Quality Act (CEQA) *CEQA Air Quality Handbook* (SCAQMD, April 1993). The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing air quality analyses<sup>1</sup>. Although some of the data included in the SCAQMD CEQA Air Quality Handbook (April 1993) are outdated, the procedures identified in the Handbook are still current and acceptable to the SCAQMD review. Modeled air quality levels discussed in the *Air Quality Impact Analysis* are based upon vehicle data and project trip generation included in a traffic study prepared for the proposed project (Austin-Foust Associates, Inc. [AFA] August 2004). Predictions for air pollutant emissions generated by project traffic were calculated with the URBEMIS 2002 model. Construction emissions were calculated using the most current SCAQMD construction equipment emission factors and the construction emission methodology recommended by the SCAQMD Air Quality Handbook. Per the SCAQMD, Either the URBEMIS model or the procedures identified in the Handbook can be used to estimate construction emissions. However, because the URBEMIS provides a more generic estimate of construction emissions, the SCAQMD Air Quality Handbook guidelines were used to provide a more project-specific emissions estimate, which is more realistic and resembles what can be expected during the project construction. Emissions from stationary sources such as natural gas usage were also calculated with URBEMIS 2002. CO concentrations were predicted for the existing (2004), interim year (2015), and interim year (2015) with the project, based on traffic data provided in the traffic study (Austin-Foust Associates, 2004) prepared for the proposed project. CALINE 4, the fourth generation California Line Source Dispersion Model developed by the California Department of Transportation (Caltrans), was used to calculate CO concentrations. All of these analyses are included as part of the *Air Quality Impact Analysis* report prepared by LSA Associates, and included in its entirety as Appendix E.

### 5.5.1 ENVIRONMENTAL SETTING

#### EXISTING AIR QUALITY CONDITIONS

##### Regional Air Quality

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<sup>1</sup> South Coast Air Quality Management District, Comments on Notice of Preparation of the Lyons Canyon Ranch Draft Environmental Impact Report. July 14, 2005.

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The project site is located in an unincorporated portion of Los Angeles County, immediately west of the City of Santa Clarita's corporate boundary. The project site is located within the South Coast Air Basin (Basin), which includes Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the Basin is administered by the SCAQMD, a regional agency created for the Basin.

The Basin climate is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary, and high mountains surround the rest of the Basin. The region lies in the semi-permanent high pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than that of inland areas. The climatological station closest to the project site is the San Fernando Station.<sup>2</sup> Although this station was closed after 1974, the monitored temperatures are considered representative for the project area. The annual average maximum temperature recorded between 1927 and 1974 at this station is 78.2 degrees Fahrenheit, and the annual average minimum is 49.3 degrees Fahrenheit, with the hottest month being in August.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin along the coastal side of the mountains. Average rainfall measured at the San Fernando Station varied from 3.53 inches in January to 0.41 inch or less between May and October, with an average annual total of 16.16 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of a semipermanent high pressure cell over the Pacific Ocean (the Pacific high). This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning or do not form.

Winds in the vicinity of the project area blow predominantly from the east-southeast, with relatively low velocities averaging about four miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the

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<sup>2</sup> Western Regional Climatic Center, at Website wrcc.dri.edu, 2004.

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fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and oxides of nitrogen (NO<sub>x</sub>) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO<sub>x</sub> to form photochemical smog.

### Local Air Quality

The proposed site is located within the SCAQMD's jurisdiction. The SCAQMD maintains ambient air quality monitoring stations throughout the Basin. The air quality monitoring station closest to the site with more complete air quality data is the Santa Clarita Station. The criteria pollutants monitored at this station are shown in Table 5.5-1, Ambient Air Quality at Santa Clarita Air Monitoring Station. Carbon monoxide and nitrogen dioxide (NO<sub>2</sub>) levels monitored at this station have not exceeded State and Federal standards in the past three years. Ozone (O<sub>3</sub>) concentrations monitored at this station exceeded the State one-hour O<sub>3</sub> standard from 44 to 89 days per year in the past three years. The Federal one-hour O<sub>3</sub> standard was exceeded at this station from 9 to 35 days per year over the three-year period. The Federal eight-hour O<sub>3</sub> standard was exceeded from 25 to 69 days per year. Particulate matter less than 10 microns in diameter (PM<sub>10</sub>) monitored at this station exceeded the State 24-hour standard from 61 to 72 days per year, but did not exceed the Federal standard in the past three years. The Burbank-West Palm Avenue Station is the closest station that monitors particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) and sulfur dioxide (SO<sub>2</sub>). Data for PM<sub>2.5</sub> and SO<sub>2</sub> taken from the Burbank-West Palm Avenue Station are included in Table 5.5-1. The Federal PM<sub>2.5</sub> standard was exceeded from zero to four days per year. There is no State PM<sub>2.5</sub> standard. The Federal and State standards for SO<sub>2</sub> were not exceeded in the past ten years.

## REGULATORY FRAMEWORK

### Federal Regulations/Standards

Pursuant to the Federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the Federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation of the environment (e.g., impairment of visibility, damage to vegetation and property). The six criteria pollutants are O<sub>3</sub>, CO, PM<sub>10</sub>, NO<sub>2</sub>, SO<sub>2</sub>, and lead (Pb). The primary standards for these pollutants are shown in Table 5.5-2, California and Federal Ambient Air

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Quality Standards, and the health effects from exposure to the criteria pollutants are described in Table 5.5-3, Health Effects Summary of the Major Criteria Air Pollutants. In July 1997, the EPA adopted new standards for eight-hour O<sub>3</sub> and PM<sub>2.5</sub>, as shown in Table 5.5-2.

Data collected at permanent monitoring stations are used by the California Air Resources Board (ARB) to classify regions as “attainment” or “nonattainment,” depending on whether the regions met the requirements stated in the primary NAAQS. Significant authority for air quality control within the 15 statewide air basins has been given to local air districts (i.e. SCAQMD) that regulate stationary source emissions and develop local nonattainment plans.

The CAA Amendments designated the South Coast Air Basin as “extreme” for O<sub>3</sub>, requiring attainment with the Federal O<sub>3</sub> standard by 2010; “serious” for CO, requiring attainment of Federal CO standards by 2000; and “serious” for PM<sub>10</sub>, requiring attainment with Federal standards by 2001. Table 5.5-4, South Coast Air Basin Attainment Status, lists the air quality attainment status for the Basin.

**Table 5.5-1  
Ambient Air Quality at Santa Clarita Air Monitoring Station**

	One-Hour Carbon Monoxide		One-Hour Ozone		Coarse Suspended Particulate (PM <sub>10</sub> )		Nitrogen Dioxide	
	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded	Max. 24-Hour Conc. (g/m <sup>3</sup> )	Number of Days Exceeded	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded
<i>State Stds.</i>	> 20 ppm/1 hr		> .09 ppm/1 hr		> 50 g/m <sup>3</sup> , 24 hrs		> .25 ppm/1 hr	
2004	5.2	0	0.16	69	54	1	0.09	0
2003	3.3	0	0.19	89	72	8	0.12	0
2002	3.3	0	0.17	81	61	6	0.09	0
Maximum	3.3		0.19		72		0.12	
<i>Federal Stds.</i>	> 35 ppm/1 hr		> .12 ppm/1 hr		> 150 g/m <sup>3</sup> , 24 hrs		0.053 ppm, annual average	
2004	5.2	0	0.16	13	54	0	0.20	0
2003	3.3	0	0.19	35	72	0	0.021	0
2002	3.3	0	0.17	32	61	0	0.019	0
Maximum	3.3		0.19		72		0.021	
	Eight-Hour Carbon Monoxide		Eight-Hour Ozone		Fine Suspended Particulate (PM <sub>2.5</sub> ) <sup>3</sup>		Sulfur Dioxide <sup>3</sup>	
	Max. 8-Hour Conc. (ppm)	Number of Days Exceeded	Max. 8-Hour Conc. (ppm)	Number of Days Exceeded	Max. 24-Hour Conc. (g/m)	Number of Days Exceeded	Max. 24-Hour Conc. (ppm)	Number of Days Exceeded
<i>State Stds.</i>	9.0 ppm/8 hrs		No State Standard		No State Standard		> .04 ppm/24 hrs	
2004	3.7	0	0.13	NA <sup>4</sup>	60	NA <sup>4</sup>	0.009	0
2003	1.7	0	0.15	NA	121	NA	0.005	0
2002	1.7	0	0.14	NA	63	NA	0.007	0
Maximum	2.2		0.15		121		0.009	
<i>Federal Stds.</i>	9.0 ppm/8 hrs		> .08 ppm/8 hrs		> 65 g/m <sup>3</sup> , 24 hrs		0.14 ppm/24 hrs	
2004	3.7	0	0.13	52	60	0	0.003	0

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2003	1.7	0	0.15	69	121	1	0.001	0
2002	1.7	0	0.14	52	63	0	0.002	0
Maximum	2.2		0.15		121		0.002	

Source: ARB and EPA 2001–2003.

- <sup>1</sup> Data taken from the EPA Web site; others taken from Air Resources Board (ARB) Web site.
- <sup>2</sup> No data available for this year.
- <sup>3</sup> Data taken from Burbank-W Palm Avenue Station, the closest station that monitors PM<sub>2.5</sub> and sulfur dioxide data.
- <sup>4</sup> No State standard.

**Table 5.5-2  
California and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>2,5</sup>	Secondary <sup>2,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> )	1-Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	0.12 ppm (235 µg/m <sup>3</sup> ) <sup>8</sup>	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	–		0.08 ppm (157 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> )	24-Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup> *		50 µg/m <sup>3</sup>		
Fine Particulate Matter (PM <sub>2.5</sub> )	24-Hour	No Separate State Standard		65 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	15 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m <sup>3</sup> )	Nondispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m <sup>3</sup> )	None	Nondispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m <sup>3</sup> )		35 ppm (40 mg/m <sup>3</sup> )		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		–		
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	–	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.25 ppm (470 µg/m <sup>3</sup> )		–		
Lead	30-day average	1.5 µg/m <sup>3</sup>	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m <sup>3</sup>	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 µg/m <sup>3</sup> )	–	Spectrophotometry (Pararosaniline Method)

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	24-Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (365 µg/m <sup>3</sup> )	-	
	3-Hour	-		-	0.5 ppm (1300 µg/m <sup>3</sup> )	
	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )		-	-	

**Table 5.5-2 (continued)  
California and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>2,5</sup>	Secondary <sup>2,6</sup>	Method <sup>7</sup>
Visibility Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24-Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>9</sup>	24-Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

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Source: ARB (July 2003).

Footnotes:

- <sup>1</sup> California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1 and 24 hour); nitrogen dioxide; suspended particulate matter, PM<sub>10</sub>; and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- <sup>2</sup> National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current Federal policies.
- <sup>3</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- <sup>4</sup> Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- <sup>5</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- <sup>6</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- <sup>7</sup> Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- <sup>8</sup> New Federal eight-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current Federal policies.
- <sup>9</sup> The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

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**Table 5.5-3  
Health Effects Summary of the Major Criteria Air Pollutants**

Pollutants	Sources	Primary Effects
Ozone (O <sub>3</sub> )	Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
NO <sub>2</sub>	Motor vehicle exhaust. High-temperature stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
CO	Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. Natural Events, such as decomposition of organic matter.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
PM <sub>10</sub>	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
SO <sub>2</sub>	Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	Contaminated soil.	Impairment of blood function and nerve construction. Behavioral and hearing problems in children.
Source: ARB 2000		

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**Table 5.5-4  
South Coast Air Basin Attainment Status**

	State	Federal
One-Hour O <sub>3</sub>	Nonattainment	Extreme Nonattainment (attainment date 2010)
Eight-Hour O <sub>3</sub>	No State Standard	Severe 17 Nonattainment (attainment date 2021)
PM <sub>2.5</sub>	Not Established	Not Established
PM <sub>10</sub>	Non-attainment	Serious Non-attainment
CO	Attainment (except Los Angeles County)	Attainment (data finding in 2003 AQMP)
NO <sub>2</sub>	Attainment	Attainment/Maintenance
All Others	Attainment/Unclassified	Attainment/Unclassified
Source: ARB and SCAQMD, April 2004.		

The EPA established new national air quality standards for ground-level O<sub>3</sub> and PM<sub>2.5</sub> in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O<sub>3</sub> and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the U.S. Supreme Court upheld the way the government sets air quality standards under the CAA. The Court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for O<sub>3</sub> and soot in 1997. Nevertheless, the Court threw out the EPA's policy for implementing new O<sub>3</sub> rules, saying the agency ignored a section of the law that restricts its authority. It ordered the agency to come up with a more "reasonable" interpretation of the law.

The EPA issued the final eight-hour ozone nonattainment designations/boundaries on April 15, 2004. Across the nation, states were provided three years, to April 2007, to develop eight-hour ozone State Implementation Plans (SIPs). Overall, states were given until April 15, 2005 to demonstrate conformity with the SIPs, in eight-hour ozone nonattainment areas, given the one-year grace period following the April 15, 2004 final designations. However, it is important to note that various areas in the State of California have different attainment dates based on their corresponding classifications. For example, the SCAB is identified by the EPA as a severe non-attainment area for Ozone. Thus, the maximum ozone attainment date for ozone within the SCAB is 2021.

The eight-hour ozone implementation rule revokes the one-hour standard issued in April 2005. This will change the attainment status in some areas; however, it does not change any commitment each area made for attaining the one-hour ozone standard.

## State Regulations/Standards

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The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates (SO<sub>4</sub>), hydrogen sulfide (H<sub>2</sub>S), vinyl chloride (VC), and visibility-reducing particles. These standards are also listed in Table C in Appendix E.

Originally, there were no attainment deadlines for the CAAQS. However, the California Clean Air Act (CCAA) of 1988 provided a timeframe and planning structure to promote their attainment.

The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all.

### **REGIONAL AIR QUALITY PLANNING FRAMEWORK**

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the Federal standards in nonattainment areas of the state.

The Air Resources Board (ARB) coordinates and oversees both State and Federal air pollution control programs in California. The ARB oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a SIP for EPA approval. The ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected within these local air district stations are used by the ARB to classify air basins as “attainment” or “nonattainment” with respect to each pollutant and to monitor progress in attaining air quality standards. The ARB has divided the State into 15 air basins. Significant authority for air quality control within the basins has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans. The CCAA provides the SCAQMD with the authority to manage transportation activities at indirect sources and regulate stationary source emissions. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. An example of this would be the motor vehicles at an intersection, at a mall, and on highways. As a State agency, the ARB regulates motor vehicles and fuels for their emissions.

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### Regional Air Quality Management Plan

The SCAQMD and SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. Every three years, the SCAQMD prepares a new AQMP, updating the previous plan and having a twenty-year horizon. The SCAQMD adopted the 2003 AQMP in August 2003 and forwarded it to the ARB for review and approval. The ARB approved a modified version of the 2003 AQMP and forwarded it to the EPA in October 2003 for review and approval.

The 2003 AQMP updates the attainment demonstration for the Federal standards for O<sub>3</sub> and PM<sub>10</sub>; replaces the 1997 attainment demonstration for the Federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the Federal NO<sub>2</sub> standard that the Basin has met since 1992.

This revision to the AQMP also addresses several State and Federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2003 AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the Basin for the attainment of the Federal ozone air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/1999 Plan) from all sources, specifically those under the jurisdiction of the ARB and the U.S. EPA, which account for approximately 80 percent of the ozone precursor emissions in the Basin.

The 1999 Amendment to the 1997 Ozone SIP Revision for the Basin, adopted by the SCAQMD on December 10, 1999, and approved by the EPA in April 2000, is the most recent Federally approved AQMP.

The 1999 Amendment provides additional short-term stationary source control measures that implement portions of the 1997 Ozone SIPs long-term stationary source control measures. In addition, the Amendment revises the adoption and implementation schedule for the remaining 1997 Ozone SIP short-term stationary source control measures that the AQMD is responsible to implement.

The 1999 Amendment addresses the EPA's concerns relative to the adoption schedule for the 1997 Ozone SIP Revision short-term control measures and the increased reliance on long-term control measures. The EPA indicated, in a letter to the Governing Board, that it believes the 1999 Amendment would be approvable and would expedite the review and approval process.

The 1999 Amendment does not revise the PM<sub>10</sub> portion of the 1997 AQMP, the emission inventories, the mobile source portions of the 1997 Ozone SIP Revision, or the ozone attainment demonstration. However, with the new short-term stationary source control measures, additional emission reductions are projected to occur in the near future.

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## **5.5.2 SIGNIFICANCE THRESHOLD CRITERIA**

### **THRESHOLDS FOR CONSTRUCTION EMISSIONS**

The following significance thresholds for construction emissions have been established by the SCAQMD:

- ◆ 75 pounds per day of reactive organic compounds (ROC)
- ◆ 100 pounds per day of NO<sub>x</sub>
- ◆ 550 pounds per day of CO
- ◆ 150 pounds per day of PM<sub>10</sub>
- ◆ 150 pounds per day of SO<sub>x</sub>

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds above are considered significant per CEQA.

### **Thresholds for Pollutants with Regional Effects from Project Operations**

The daily operational emissions significance thresholds are as follows:

- ◆ 55 pounds per day of ROC
- ◆ 55 pounds per day of NO<sub>x</sub>
- ◆ 550 pounds per day of CO
- ◆ 150 pounds per day of PM<sub>10</sub>
- ◆ 150 pounds per day of SO<sub>x</sub>

Projects in the Basin with operation-related emissions that exceed any of the emission thresholds are considered significant per CEQA.

### **Standards for Pollutants with Localized Carbon Monoxide “Hot Spot” Effects**

Air pollutant standards for CO are as follows:

- ◆ California State one-hour CO standard of 20.0 ppm
- ◆ California State/Federal eight-hour CO standard of 9.0 ppm

The significance of localized CO project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards. When ambient levels are below the standards without the project emissions, a project is considered to have significant impacts if project-related emissions result in an exceedance of one or more of these standards. According to the SCAQMD the SCAQMD is in attainment for CO; therefore, project emissions are considered significant if they exceed the one-hour CO concentrations and the eight-hour CO concentrations as listed above (SCAQMD Air Quality Significance Thresholds, January 2006).

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## 5.5.3 IMPACTS AND MITIGATION MEASURES

### METHODOLOGY

A number of modeling tools are available to assess air quality impacts of projects. In addition, certain air districts, such as the SCAQMD, have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, *CEQA Air Quality Handbook* (April 1993 and its amended sections), were adhered to in the assessment of air quality impacts for the proposed project. The SCAQMD encourages the use of this Air Quality Handbook in preparing air quality analyses<sup>2</sup>.

The air quality assessment includes estimating emissions associated with short-term construction and long-term operation of the proposed project. Criteria pollutants with regional impacts would be emitted by project-related vehicular trips. In addition, localized air quality impacts (i.e., slight increase in CO concentrations (CO hot spots) near intersections or roadway segments in the project vicinity) would result from project-related vehicle trips.

CO concentrations were predicted for the existing (2004), interim year (2015) without the project, and interim year (2015) with the project, based on traffic data provided in the project traffic study (Austin-Foust Associates [AFA], August 2004). CALINE4, the fourth generation California Line Source Dispersion Model developed by the California Department of Transportation (Caltrans), was used to calculate the CO concentrations pursuant to the South Coast Air Quality Management District Guidelines. Input data for this model include meteorology, street network geometrics, traffic information, and emission generation rates. Meteorological data required include temperature, sigma theta (standard deviation of wind direction change), wind direction, and wind speed. Street network geometrics require use of an "x, y" coordinate system onto which the modeled roadway can be overlaid in order to identify the relative locations of the traffic lane(s) and nearby receptor(s). Required traffic information included peak-hour traffic volumes, speed limit, level of service, and signal cycle times. Emission factors were calculated using the ARB EMFAC 2002 emission factors.

Output from the model includes one-hour CO concentrations in parts per million (ppm) at selected receptor locations. To reflect total concentrations, the ambient CO concentration of the vicinity must be added to the CO concentration predicted by CALINE4. Based on the methodology suggested by the EPA and included in Caltrans CO Protocol, the existing ambient concentration was determined as the higher of the second highest annual one-hour and annual eight-hour observation at the nearest representative monitoring station over the past two years. Ambient concentrations for the year 2005 and year 2015 scenarios are assumed to be the same as the existing levels, which were determined to be the higher of the second highest CO concentrations monitored in the past two years at the nearest monitoring station, for the worst-case scenario. The predicted CALINE4 concentration is calculated for the one-hour averaging time. The one-hour CO concentrations predicted by CALINE4 were multiplied by a persistence factor of 0.7 to determine the predicted eight-hour CO concentrations.

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<sup>2</sup>South Coast Air Quality Management District, Comments on Notice of Preparation of the Lyons Canyon Ranch Draft Environmental Impact Report. July 14, 2005

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Regional emissions were calculated for motor vehicles. Predictions for air pollutant emissions generated by the project traffic were calculated with the URBEMIS 2002 model, based on the trip generations projected for the project from the traffic study (AFA, August 2004). Emissions from stationary sources such as natural gas usage were also calculated with URBEMIS 2002.

◆ ***PROJECT RELATED CONSTRUCTION IMPACTS WOULD EXCEED THE ESTABLISHED AIR POLLUTANT THRESHOLDS.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** Construction activities produce combustion emissions from various sources such as utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from construction activities envisioned on-site would vary daily as construction activity levels change. The use of construction equipment on-site would result in localized exhaust emissions.

Construction activities associated with the proposed project would temporarily increase localized PM<sub>10</sub>, ROC, NO<sub>x</sub>, and CO concentrations in the project vicinity. The primary sources of construction-related ROC and NO<sub>x</sub> emissions are gasoline- and diesel-powered, heavy-duty mobile construction equipment such as scrapers and motor graders. Primary sources of PM<sub>10</sub> emissions would be clearing activities, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces.

Emissions generated from construction activities are anticipated to cause temporary increases in pollutant concentrations that could contribute to the continuing violations of the Federal and State maximum concentration standards. The frequency and concentrations of such violations would depend on several factors, including the soil composition on the site, the amount of soil disturbed, wind speed, the number and type of machinery used, the construction schedule, and the proximity of other construction and demolition projects.

As a conservative assumption in the air quality modeling, project grading and building construction was anticipated to be completed in one phase.

### **Grading Activities**

It is expected that the grading of 3.8 million cubic yards of earth would likely take 18 months to complete. The total quantity of cut and fill would be approximately 3.8 million cubic yards, resulting in a balanced operation. Equipment exhaust, material transport, and construction crew commutes would generate gaseous emissions. It is assumed that on a peak day during the grading phase, the following equipment could be used: 10 rubber-tired dozers, 5 scrapers, 10 rubber-tired loaders, 5 tractors/loaders/backhoes, 5 crawler tractors, 1 water truck, 1 mechanic truck, 1 fuel truck, and 1 foreman truck. Based on emission factors in the EPA AP-42 documents and the SCAQMD CEQA Air Quality Handbook, Table 5.5-5, Peak-Day Construction Equipment Exhaust Emissions, lists the construction equipment exhaust emissions during a peak grading day. Table 5.5-5 also lists the vehicle exhaust emissions associated with the worker commute on a peak grading day, assuming a crew of 50 and an average round-trip

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commute of 50 miles. Table 5.5-5 shows that on a peak grading day, emissions from the construction activities would exceed the SCAQMD established daily emissions thresholds for construction. On a typical average grading day, it is estimated that only 60 percent of the workload, or proportionally the air pollutant emissions, would be emitted.

**Table 5.5-5  
Peak-Day Construction Equipment Exhaust Emissions**

Number and Equipment Type <sup>1</sup>	No. of Hours in Operation	Pollutants <sup>2</sup> ( pounds/day)				
		CO	ROC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
10 Rubber-Tired Dozers	8	249.7	45.4	522.2	45.5	22.7
5 Scrapers	8	142.3	12.9	245.8	25.9	19.4
10 Rubber-Tired Loaders	8	247.1	44.9	516.7	44.9	33.7
5 Tractors/Loaders/Backhoes	8	30.7	6.1	45.0	4.1	2.0
5 Crawler Tractors	8	119.9	21.8	250.7	21.8	10.9
1 Water Truck	40 miles	1.6	0.1	0.6	0.0	0.0
1 Mechanic Truck	10 miles	0.4	0.0	0.2	0.0	0.0
1 Fuel Truck	10 miles	0.4	0.0	0.2	0.0	0.0
1 Foreman Truck	10 miles	0.1	0.0	0.0	0.0	0.0
Workers Commute <sup>3</sup>	50 miles	18.8	1.0	3.7	0.0	0.0
<b>TOTAL</b>		<b>811</b>	<b>132</b>	<b>1,585</b>	<b>142</b>	<b>89</b>
<b>SCAQMD Threshold</b>		<b>550</b>	<b>75</b>	<b>100</b>	<b>150</b>	<b>150</b>
<b>Exceeds Threshold?</b>		<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
Source: LSA, 2004; SCAQMD <i>CEQA Air Quality Handbook</i> , Chapter 5: Determining Air Quality Impacts, SCAQMD Air Quality Significance Thresholds. January 2006. and EPA, <i>AP-42, Fifth Edition</i> , 1995						
<sup>1</sup> Number of equipment, equipment type, and number of workers are based on estimates provided to LSA by Diamond West Engineering, November 2004.						
<sup>2</sup> Emissions factors are from the SCAQMD CEQA Air Quality Handbook, Table A9-8-A, Table A9-8-B, and Table A9-8-C.						
<sup>3</sup> Assumption based on 50 workers traveling 50 miles (round trip) per worker.						

Fugitive dust emissions are generally associated with grading, land clearing, exposure, vehicle and equipment travel on unpaved roads, and dirt/debris pushing. Dust generated during construction activities would vary substantially depending on the level of activity, the specific operations, and weather conditions. Sensitive receptors in the project vicinity (i.e. those single-family residential and commercial uses located immediately north of the subject site) and on-site construction workers may be exposed to blowing dust, depending upon prevailing wind conditions.

Regional rules exist that would help reduce fugitive dust emissions during construction periods, which reduce short-term air quality impacts. Fugitive dust from a construction-site must be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Dust suppression techniques would be implemented to prevent fugitive dust from creating a nuisance off-site. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and

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thus the PM<sub>10</sub> component) by 50 percent or more. Compliance with these rules would reduce impacts on nearby sensitive receptors.

PM<sub>10</sub> emissions from site clearance and grading operations during a peak construction day for the project site are based on assumptions and LSA's past experience on similarly sized projects. The SCAQMD estimates that one acre of graded surface creates about 26.4 pounds of PM<sub>10</sub> per workday during the construction phase of the project and 21.8 pounds of PM<sub>10</sub> per hour from dirt/debris pushing per dozer. Based on the construction estimates, fugitive dust emissions from excavation, hauling/transport, dumping/reclamation, wind erosion, and miscellaneous activities during grading days, the uncontrolled PM<sub>10</sub> emissions would be 962.5 pounds per day (lbs/day). However, with the implementation of the Standard Air Pollution Control Measures, fugitive dust emissions from construction activities are expected to be reduced by 50 percent. The PM<sub>10</sub> emissions under the controlled condition would be reduced to 481.3 lbs/day. Table 5.5-6, Peak Grading Day Total Emissions, lists fugitive dust emissions and construction equipment exhausts.

Table 5.5-6 shows that, during peak grading days, daily total construction emissions with compliance with the Standard Air Pollution Control Measures would exceed the SCAQMD thresholds for CO, ROC, NO<sub>x</sub>, and PM<sub>10</sub>. This is considered a significant impact.

**Table 5.5-6  
Peak Grading Day Total Emissions**

Category	Emissions (lbs/day)				
	CO	ROC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
Vehicle/Equipment Exhaust (Table 5.5-5)	811	132	1,585	142	89
Fugitive Dust from Soil Disturbance, No Controls	—	—	—	—	963
Fugitive Dust from Soil Disturbance, with 50 Percent Control Efficiency	—	—	—	—	481
Total Grading, No Controls	811	132	1,585	142	1,052
Total Grading, with Controls	811	132	1,585	142	570
SCAQMD Threshold	550	75	100	150	150
Significant? (With Controls)	Yes	Yes	Yes	No	Yes <sup>1</sup>
Source: LSA, 2004; EPA, AP-42, Fifth Edition, 1995.					
<sup>1</sup> With control measures for fugitive dust implemented.					

### Building Activities

Building construction would be completed after mass grading is completed. Building construction uses different types of equipment on the project site than during the grading period. Similarities do exist in terms of equipment exhaust emissions and fugitive dust emissions. However, it is anticipated that emissions during building construction would be below peak grading day emissions. Therefore, air pollution control measures implemented for the peak grading day emissions would be adequate to reduce emissions during other construction periods.

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### Architectural Coatings

Architectural coatings contain volatile organic compounds (VOC) that are similar to ROC and are part of the O<sub>3</sub> precursors. At this time, there is no project-specific information available for the types and volumes of architectural coatings needed for the proposed on-site buildings. An emissions estimate for architectural coatings is, therefore, not provided in this analysis. Based on the number of proposed dwelling units and the square footage of neighborhood commercial uses, the proposed project is expected to result in architectural coatings-related ROC emissions exceeding the SCAQMD daily threshold of 75 lbs/day. The proposed project would be required to comply with the SCAQMD Rule 1113 on the use of architectural coatings. Following the SCAQMD Rule 1113, emissions associated with architectural coatings could be reduced by using precoated/natural colored building materials, water-based or low-VOC coating on all interior and exterior walls, and coating transfer or spray equipment with high transfer efficiency. For example, a high-volume, low-pressure (HVLP) spray method is a coating application system operated at air pressure between 0.1 and 10 pounds per square inch gauge (psig), with 65 percent transfer efficiency. Manual coating applications such as a paintbrush, hand roller, trowel, spatula, dauber, rag, or sponge have 100 percent transfer efficiency. Although implementation of applicable mitigation measures would reduce VOC emissions associated with construction-related architectural coatings, VOC emissions are anticipated to exacerbate the exceedance of the SCAQMD daily emissions threshold for ROC. As such, VOC-related impacts would be considered significant.

### Summary of Construction Emission Impacts

Based on the above, with implementation of feasible measures during construction of the proposed project, emissions from construction equipment exhaust and soil disturbance would be minimized. However, construction emissions from the project would exceed the daily emissions thresholds for CO, ROC (including VOC), NO<sub>x</sub>, and PM<sub>10</sub> established by the SCAQMD. Construction of the proposed project would result in significant air quality impacts.

### Mitigation Measures:

Because project-related construction emissions would exceed the SCAQMD thresholds for criteria pollutants, the following mitigation measures are recommended to minimize air pollutant emissions. Compliance with the fugitive dust palliative SCAQMD Rules 402 and 403 have been utilized in the impact analyses to reduce potential PM<sub>10</sub> emissions to the extent practicable, although not below SCAQMD thresholds.

AQ1 The construction contractor shall be responsible for ensuring that all measures listed in Table 5.5-7, Standard Measures for Construction-Related Emissions are implemented. To achieve the particulate control efficiencies shown, it is assumed that finished surfaces will be stabilized with water and/or soy-based, or other non-chloride-based, dust palliatives and isolated from traffic flows to prevent emissions of fugitive dust from these areas. In addition, the following water application rates are assumed:

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- ◆ Roads traveled by autos, rock trucks, water trucks, fuel trucks, and maintenance trucks: up to twice per hour;
- ◆ Roads traveled by scrapers and loaders; active excavation area: up to three times per hour; and
- ◆ Finish grading area: up to once every two hours.

AQ2 All construction equipment shall be maintained in good operating condition so as to reduce operational emissions. The construction contractor shall ensure that all construction equipment is being properly serviced and maintained.

AQ3 The construction contractor shall utilize pre-coated/natural colored building materials, water-based or low-VOC coating on all interior and exterior walls, and coating transfer or spray equipment with high transfer efficiency, such as HVLP spray method, or manual coatings application such as a paintbrush, hand roller, trowel, spatula, dauber, rag, or sponge.

AQ4 Low-emitting paints and solvents shall be used on all future on-site structures.

**Level of Significance After Mitigation:** Significant and Unavoidable Impact.

**Table 5.5-7  
Standard Measures for Construction-Related Emissions**

Construction Vehicle/Equipment Operation
<ul style="list-style-type: none"> <li>◆ Configure construction parking to minimize traffic interference.</li> <li>◆ Provide temporary traffic control during all phases of construction activities to improve traffic flow (e.g., flag person).</li> <li>◆ Provide on-site food service for construction workers.</li> <li>◆ Prohibit truck idling in excess of 10 minutes.</li> <li>◆ Apply four to six degree injection timing retard to diesel IC engines, whenever feasible.</li> <li>◆ Use reformulated low-sulfur diesel fuel in all equipment, whenever feasible.</li> <li>◆ Use catalytic converters on all gasoline-powered equipment.</li> <li>◆ Minimize concurrent use of equipment through equipment phasing.</li> <li>◆ Use low NO<sub>x</sub> engines, alternative fuels, and electrification, whenever feasible.</li> <li>◆ Substitute electric and gasoline-powered equipment for diesel-powered equipment, whenever feasible.</li> <li>◆ Turn off engines when not in use.</li> <li>◆ Wash truck wheels before the trucks leave the construction-site.</li> <li>◆ When operating on-site, do not leave trucks idling for periods in excess of 10 minutes.</li> <li>◆ Operate clean fuel van(s), preferably vans that run on compressed natural gas or propane, to transport construction workers to and from the construction-site.</li> <li>◆ Provide documentation to the County of Los Angeles prior to beginning construction, demonstrating that the project proponents will comply with all SCAQMD regulations including 402, 403, 1113, and 1403.</li> <li>◆ Suspend use of all construction equipment operations during second stage smog alerts.</li> </ul>

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Grading
<ul style="list-style-type: none"> <li>◆ Apply nontoxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).</li> <li>◆ Enclose, cover, water twice daily, or apply nontoxic soil binders, according to manufacturers' specifications, to exposed piles (i.e., gravel, sand, dirt) with 5 percent or greater silt content.</li> <li>◆ Water active sites at least twice daily.</li> <li>◆ Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph.</li> <li>◆ Cover all trucks hauling dirt, sand, soil, or other loose materials on-site or maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of CDC Section 23114.</li> <li>◆ Cover all trucks hauling these materials off-site.</li> </ul>
Paved Roads
<ul style="list-style-type: none"> <li>◆ Sweep streets at the end of the day if visible soil material is carried onto adjacent public paved road (water sweepers with reclaimed water are recommended).</li> <li>◆ Sweep public streets at the conclusion of construction work.</li> <li>◆ Install adequate storm water control systems to prevent mud deposition onto paved areas.</li> </ul>
Unpaved Roads
<ul style="list-style-type: none"> <li>◆ Apply water three times daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces.</li> </ul>
Source: SCAQMD Rules 402 and 403; LSA, 2004.

◆ ***OPERATION OF THE PROPOSED PROJECT WOULD INCREASE AIR POLLUTANT CONCENTRATIONS IN THE PROJECT AREA.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:***

**Area Sources Emissions**

The proposed project would result in stationary source emissions from natural gas usage and consumer products. The emissions associated with area sources would be small when compared to mobile source emissions. Emissions associated with area sources were calculated with URBEMIS 2002 and are included in Table 5.5-8, Project Operational Emissions.

**Mobile Sources Emissions**

The proposed project is estimated to generate 1,261 vehicular trips per day (AFA, July 2005). Using the default emission factors included in URBEMIS 2002, emissions associated with project-related vehicular trips were calculated and are included in Table 5.5-8.

Table 5.5-8 shows that total project-related emissions for CO, ROC, and NO<sub>x</sub> would be less than the SCAQMD daily emissions thresholds. Therefore, no significant regional air quality impacts would occur as a result of operation of the proposed project.

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**Table 5.5-8  
Project Operational Emissions**

Source	Pollutants, lbs/day				
	CO	ROC	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>
Stationary Sources: Summer	8.96	17.17	2.42	0.09	0.04
Vehicular Traffic: Summer	156.22	14.23	14.00	0.14	12.82
Subtotal Summer	165.17	31.40	16.42	0.23	12.85
Stationary Sources: Winter	1.01	15.95	2.38	0.00	0.00
Vehicular Traffic: Winter	147.84	12.41	20.38	0.13	12.82
Subtotal Winter	148.85	28.36	22.76	0.13	12.82
SCAQMD Threshold	550	55	55	150	150
Exceeds Threshold? <sup>1</sup>	No/No	No/No	No/No	No/No	No/No
Significant Impact?	No	No	No	No	No
Source: LSA, November 2004. SCAQMD <i>CEQA Air Quality Handbook</i> , Chapter 5: Determining Air Quality Impacts, SCAQMD Air Quality Significance Thresholds. January 2006.					
Notes: 1) Summer/Winter violation					

***Mitigation Measures:***

- AQ5 Future on-site buildings shall incorporate design principles of the Energy Star program and/or Leadership in Energy and Environmental Design (LEED) program, and associated energy-saving features, including energy-efficient heating and cooling systems, tight construction and ducts, improved insulation, high-performance windows, and built-in energy efficient appliances.
- AQ6 All public and private parking areas (i.e. recreational facilities, trailhead parking, senior housing parking) shall be planted with trees to insure shading and prevent heat buildup.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

- ◆ ***OPERATION OF THE PROPOSED PROJECT COULD CREATE CARBON MONOXIDE “HOT SPOT” IMPACTS IN THE PROJECT AREA.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** The intersection vehicle turn volumes included in the project traffic study report (AFA, August 2004) were used in Caltrans CALINE4 model to evaluate the local CO concentrations at intersections most affected by project traffic. Although the currently proposed project includes the construction of 186 dwelling units, a worst-case analysis assuming the traffic associated with an 835 dwelling unit project was used to estimate local CO concentrations at area intersections. Eight intersections that either have the highest turn volumes or worst level of service (LOS) in the project vicinity most affected by the project traffic were selected for the CO hot spot analysis. Table 5.5-9, Existing CO Concentrations, lists the CO concentrations for eight intersections in the project vicinity under the existing (2004) conditions. Table 5.5-10, Interim

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*Year (2015) CO Concentrations*, lists the CO level in the interim year (2015) under the with project and without project scenarios. It should be pointed out that, due to technology improvements, emission factors (for vehicle exhaust) for future years are likely to decrease. In addition, background concentrations in future years are anticipated to continue to decrease as the concerted effort to improve regional air quality progresses. Therefore, CO concentrations in future years are anticipated to be lower than existing conditions in the future.

The proposed project would contribute to increased CO concentrations at intersections in the project vicinity. As shown in Tables 5.5-9 and 5.5-10, none of the eight intersections analyzed would have a one-hour CO concentration exceeding State standards of 20 ppm under existing and 2015 with and without project conditions. The eight-hour CO concentration at these intersections would also be below the State standard of 9.0 ppm.

The project-related increase in CO concentrations at all eight intersections would be 0.2 ppm or less for the one-hour period and 0.1 ppm or less for the eight-hour period. Since no Federal or State standards would be exceeded, no CO hot spot would occur. Therefore, no air pollution control measures are necessary or recommended for CO emissions.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Not applicable.

**Table 5.5-9  
Existing CO Concentrations**

Intersection	Receptor to Road Centerline Distance (Meters)	Existing One-Hour CO Concentration (ppm)	Existing Eight-Hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr	8-Hr
Wiley Canyon Road and Lyons Avenue	15	5.7	3.7	No	No
	15	5.7	3.5	No	No
	16	5.5	3.4	No	No
	17	5.5	3.4	No	No
Orchard Village Road and Wiley Canyon Road	14	5.0	3.0	No	No
	14	4.9	3.0	No	No
	15	4.9	3.0	No	No
	15	4.8	2.9	No	No
The Old Road and Valencia Boulevard	19	4.7	2.8	No	No
	21	4.7	2.8	No	No
	22	4.5	2.7	No	No
	22	4.5	2.7	No	No
The Old Road and McBean Parkway	15	5.5	3.4	No	No
	17	5.5	3.4	No	No
	17	5.4	3.3	No	No
	19	5.1	3.1	No	No
The Old Road and Pico Canyon Road	14	5.3	3.2	No	No
	14	5.3	3.2	No	No
	15	4.9	3.0	No	No
	17	4.8	2.9	No	No
Chiquella Lane and	7	5.4	3.3	No	No

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Pico Canyon Road	7	5.4	3.3	No	No
	13	5.4	3.3	No	No
	14	5.4	3.3	No	No
Marriott Way and The Old Road	7	4.1	2.4	No	No
	7	4.1	2.4	No	No
	7	4.1	2.4	No	No
Chiquella Lane and The Old Road	7	4.2	2.5	No	No
	7	4.2	2.5	No	No
	7	4.1	2.4	No	No
	7	4.1	2.4	No	No

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**Table 5.5-10  
Interim Year (2015) CO Concentrations**

Intersection	Receptor to Road Centerline Distance (Meters)	Project Related Increase 1-hr/8-hr (ppm)	Without/With Project One-Hour CO Concentration (ppm)	Without/With Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
Wiley Canyon Road and Lyons Avenue	21/21	0.0/0.0	4.6/4.6	2.8/2.8	No	No
	19/19	0.0/0.0	4.6/4.6	2.8/2.8	No	No
	19/19	0.0/0.0	4.5/4.5	2.7/2.7	No	No
	17/17	0.0/0.0	4.5/4.5	2.7/2.7	No	No
Orchard Village Road and Wiley Canyon Road	17/17	0.0/0.0	4.7/4.8	2.9/2.9	No	No
	17/17	0.0/0.0	4.6/4.6	2.8/2.8	No	No
	17/17	0.0/0.0	4.4/4.4	2.6/2.6	No	No
	14/14	0.0/0.0	4.4/4.4	2.6/2.6	No	No
The Old Road and Valencia Boulevard	24/24	0.0/0.0	4.2/4.2	2.5/2.5	No	No
	24/24	0.0/0.0	4.2/4.2	2.5/2.5	No	No
	24/24	0.0/0.0	4.2/4.2	2.5/2.5	No	No
	22/22	0.1/0.1	4.1/4.2	2.4/2.5	No	No
The Old Road and McBean Parkway	21/21	0.1/0.1	4.7/4.8	2.8/2.9	No	No
	21/21	0.0/0.0	4.7/4.7	2.8/2.8	No	No
	19/19	0.0/0.0	4.7/4.7	2.8/2.8	No	No
	17/17	0.1/0.0	4.6/4.7	2.8/2.8	No	No
The Old Road and Pico Canyon Road	17/17	0.0/0.0	4.5/4.5	2.7/2.7	No	No
	17/17	0.1/0.1	4.4/4.5	2.6/2.7	No	No
	15/17	0.0/0.0	4.3/4.3	2.5/2.5	No	No
	15/15	0.0/0.0	4.2/4.2	2.5/2.5	No	No
Chiquella Lane and Pico Canyon Road	14/14	0.0/0.0	4.7/4.7	2.8/2.8	No	No
	14/14	0.1/0.0	4.6/4.7	2.8/2.8	No	No
	13/13	0.1/0.0	4.6/4.7	2.8/2.8	No	No
	13/13	0.0/0.0	4.6/4.6	2.8/2.8	No	No
Marriott Way and The Old Road	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
Chiquella Lane and The Old Road	12/12	0.2/0.1	3.5/3.7	2.0/2.1	No	No
	8/12	0.1/0.1	3.5/3.6	2.0/2.1	No	No
	8/8	0.1/0.1	3.5/3.6	2.0/2.1	No	No
	8/8	0.1/0.1	3.5/3.6	2.0/2.1	No	No

Source: LSA Associates, Inc., July 2005.

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◆ ***THE PROPOSED PROJECT WOULD CONFLICT WITH THE ADOPTED SCAQMD AIR QUALITY MANAGEMENT PLAN.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** In order to accurately assess the environmental impacts as a result of new or renovated developments, environmental pollution and population growth are projected for future scenarios in the general plans of local jurisdictions and incorporated into the regional AQMPs. The project pollutants emissions would contribute to new exceedances of the SCAQMD's established daily air emission thresholds. The proposed project would not require amendments to the projections of the County's General Plan but would conflict with SCAQMD's 1997 AQMP due to project related air emissions above SCAQMD thresholds of significance. The proposed project is therefore considered inconsistent with the most recently adopted AQMP.

***Mitigation Measures:*** No mitigation measures are recommended that could feasibly reduce the significant impacts referenced.

***Level of Significance After Mitigation:*** Significant and Unavoidable Impact.

◆ ***THE PROPOSED PROJECT WOULD CREATE OBJECTIONABLE ODORS THAT COULD ADVERSELY AFFECT PEOPLE IN THE VICINITY OF THE PROJECT SITE.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** Construction of the proposed project would involve operation of diesel-powered equipment and application of paint and other architectural coatings, which create odorous emissions. However, construction-related odors would be temporary in nature, as they would only occur during the construction period, and would be adequately minimized through implementation of all applicable mitigation measures identified previously (AQ1 through AQ4).

The proposed residential uses on the project site, once constructed, are not anticipated to generate objectionable odors that would be noticeable to surrounding uses. Residential uses typically do not generate objectionable odors. Nonetheless, all such uses would be required to comply with SCAQMD Rule 402, *Nuisance*, which would preclude the possibility of impacts to surrounding uses resulting from nuisance odor.

***Mitigation Measures:*** Refer to mitigation measures AQ1 through AQ4. No additional mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

#### 5.5.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***THE PROPOSED PROJECT AND OTHER CUMULATIVE PROJECTS WOULD RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE CRITERIA POLLUTANTS.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** As discussed in Section 5.10, Traffic and Circulation, cumulative projects were considered in the assessment of traffic impacts, and therefore mobile source air quality impacts, were considered for the proposed project. The traffic study included vehicular trips from all present and future projects in the Santa Clarita Valley and in the project vicinity. Therefore, CO hot spot concentrations calculated at these intersections include the cumulative traffic effect. Based on Table 5.5-10, no significant cumulative CO impacts would occur.

Construction of the proposed project would contribute cumulatively to the local and regional air pollutants together with other projects under construction. Emissions associated with operations of the proposed project would contribute to long-term regional air pollutants. Therefore, even though mitigation measures would be implemented to reduce impacts to the maximum extent practicable, implementation of the proposed project would contribute to significant cumulative air quality impacts.

**Mitigation Measures:** Refer to mitigation measures AQ1 through AQ6. No additional mitigation measures are required.

***Level of Significance After Mitigation:*** Significant and Unavoidable Impact.

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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-acre<sup>1</sup> property located just west of the Golden State Freeway (I-5) and The Old Road, which serve 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 and Lyons Avenue. 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

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<sup>1</sup> 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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Angeles County and a general aerial view (date of aerial is 23 March 2003) of the project site boundaries, respectively.

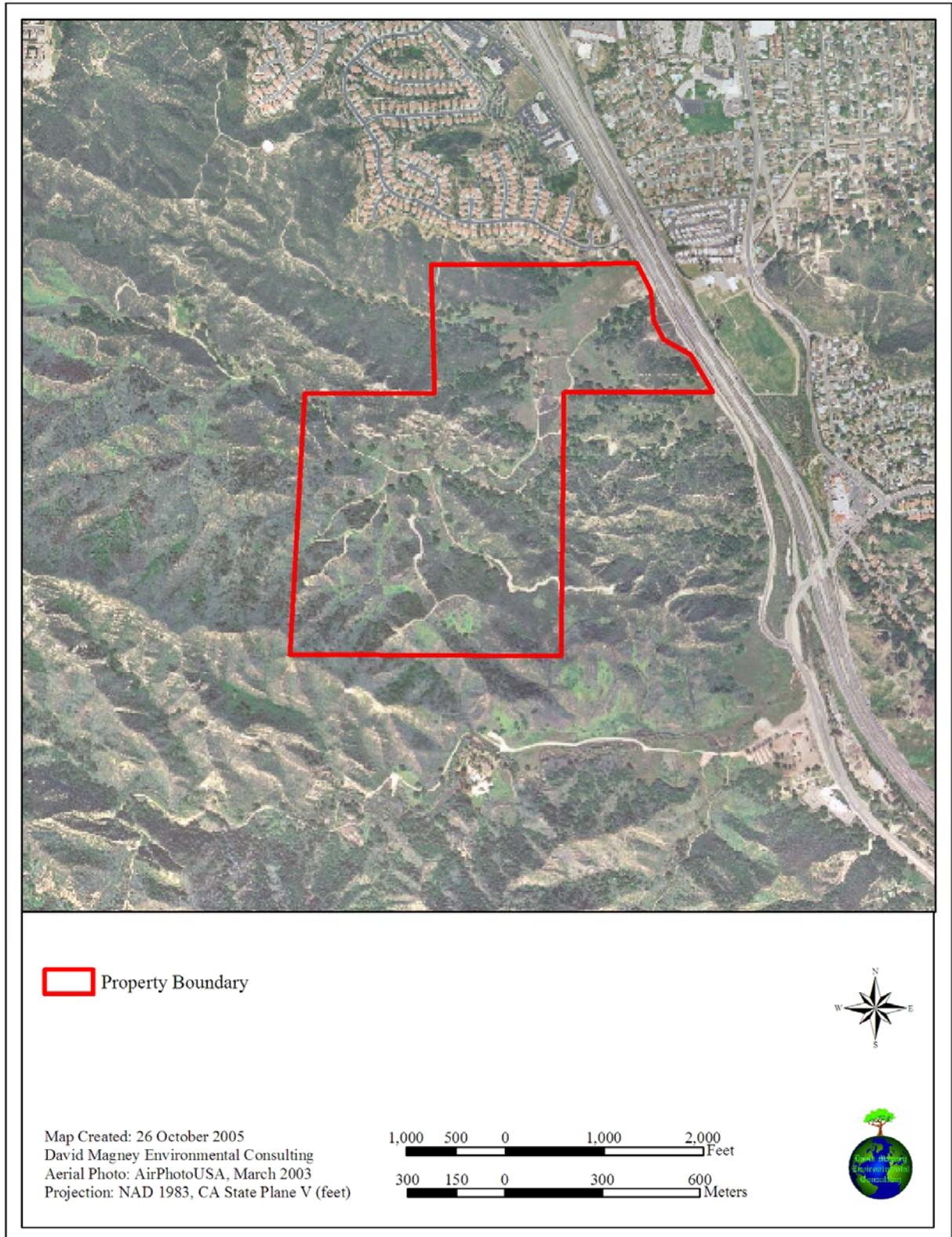
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**Exhibit 5.6-1. General Location Map of the Lyons Canyon Ranch Project Site**



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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)**

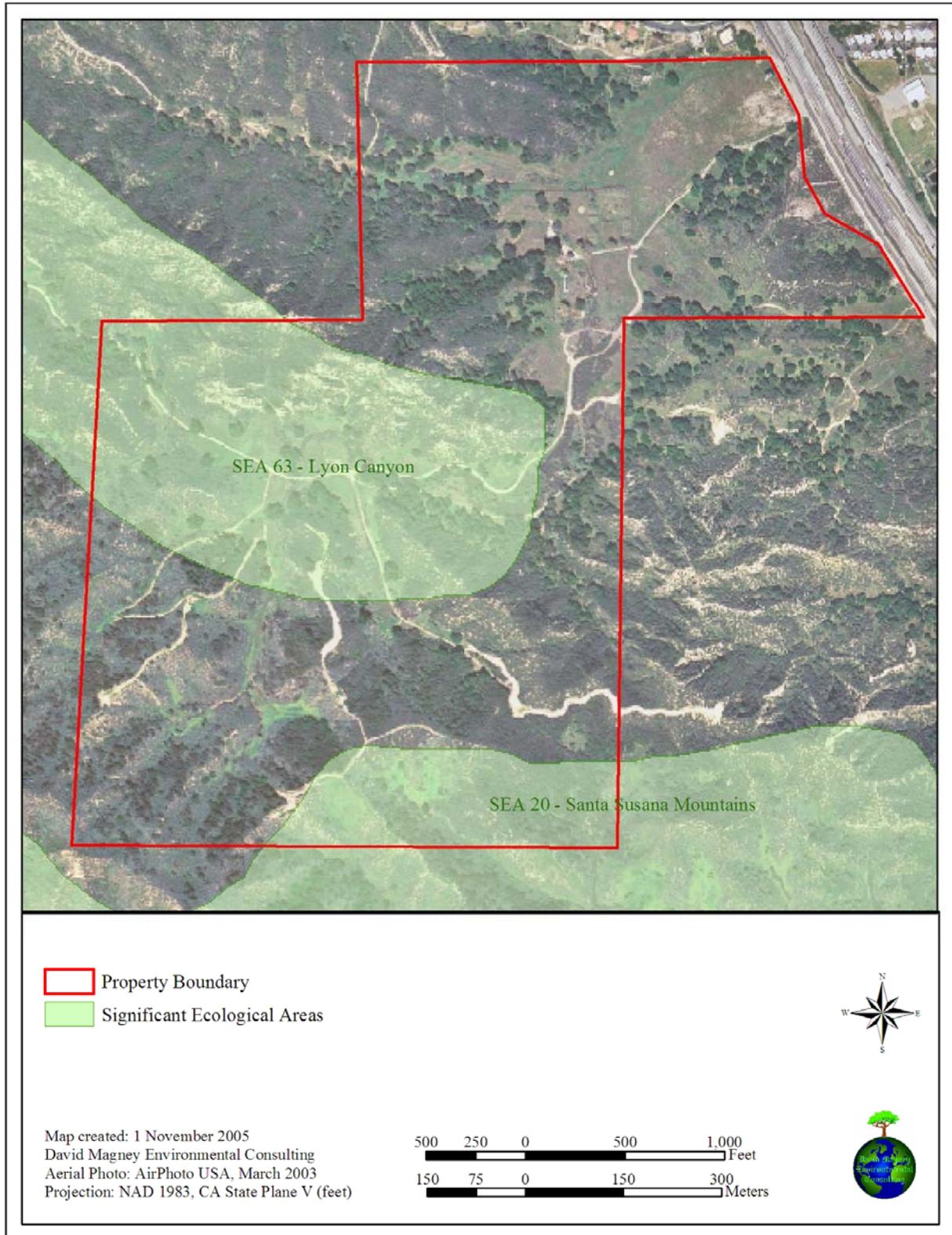
The Lyons Canyon Ranch property contains portions of two Los Angeles County designated SEAs: 20 (Santa Susana Mountains) and 63 (Lyon Canyon), as illustrated on Exhibit 5.6-3, SEAs in the Vicinity of Lyons Canyon Ranch.

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 southeast 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. 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.

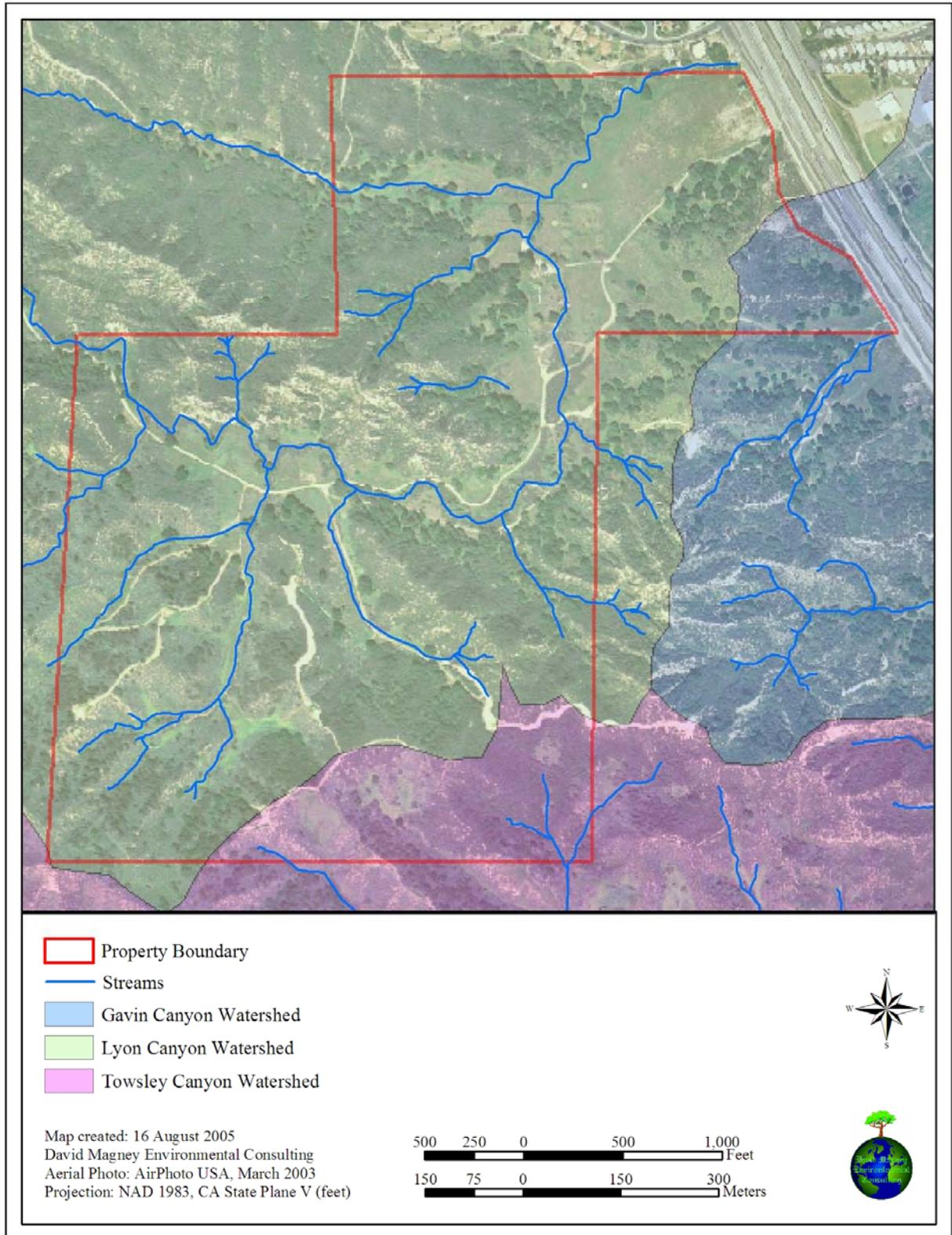
Surficial soils within the property are represented by artificial (man-made) fill, colluvium, rock fall debris, and alluvium. The project site is located on the Saugus Formation, which is exposed along The Old Road. At the intersection of the I-5 with the Antelope Valley Freeway (State Route [SR] 14), 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 sheephead (*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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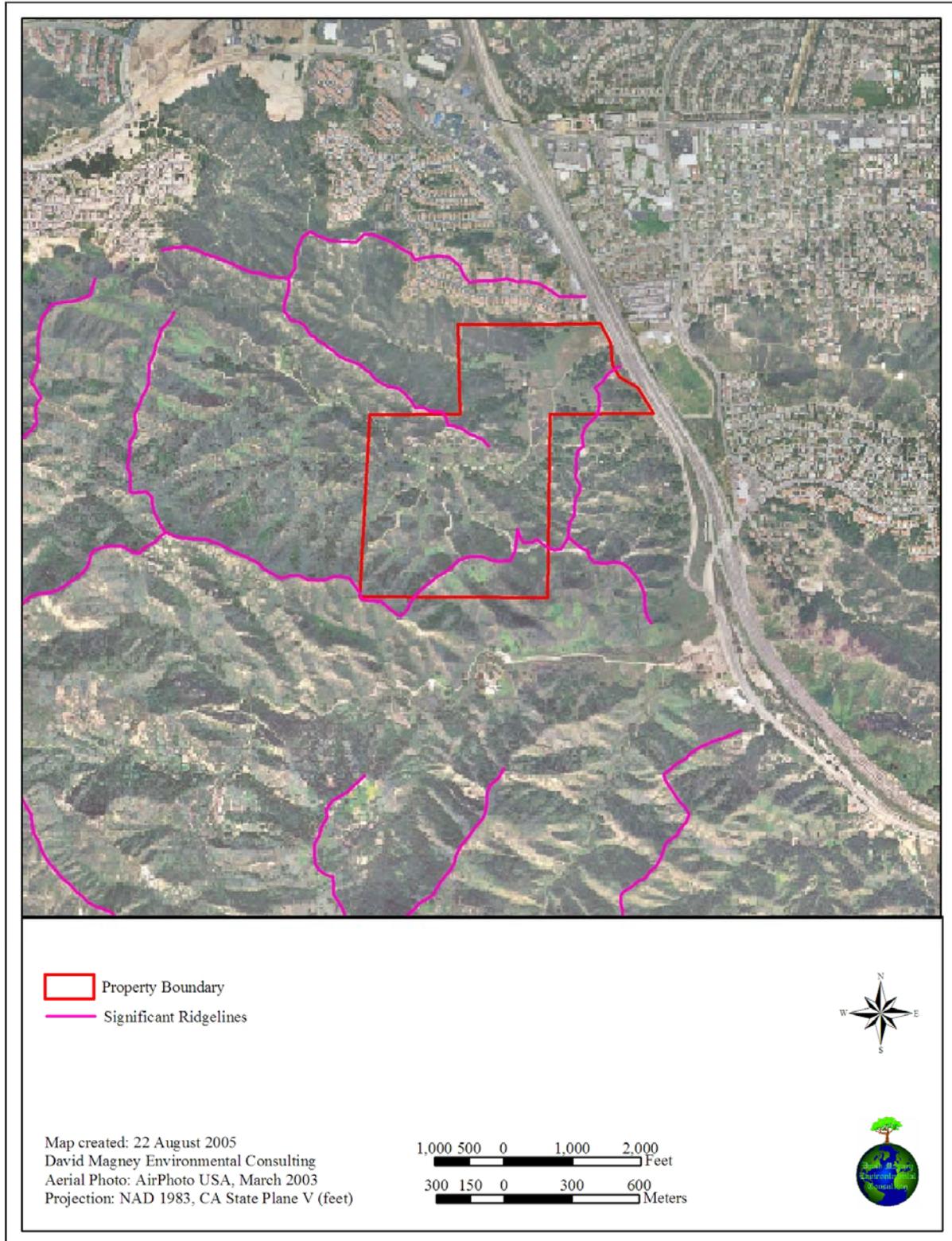
Exhibit 5.6-4. Watersheds in the Vicinity of Lyons Canyon Ranch





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



# 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.

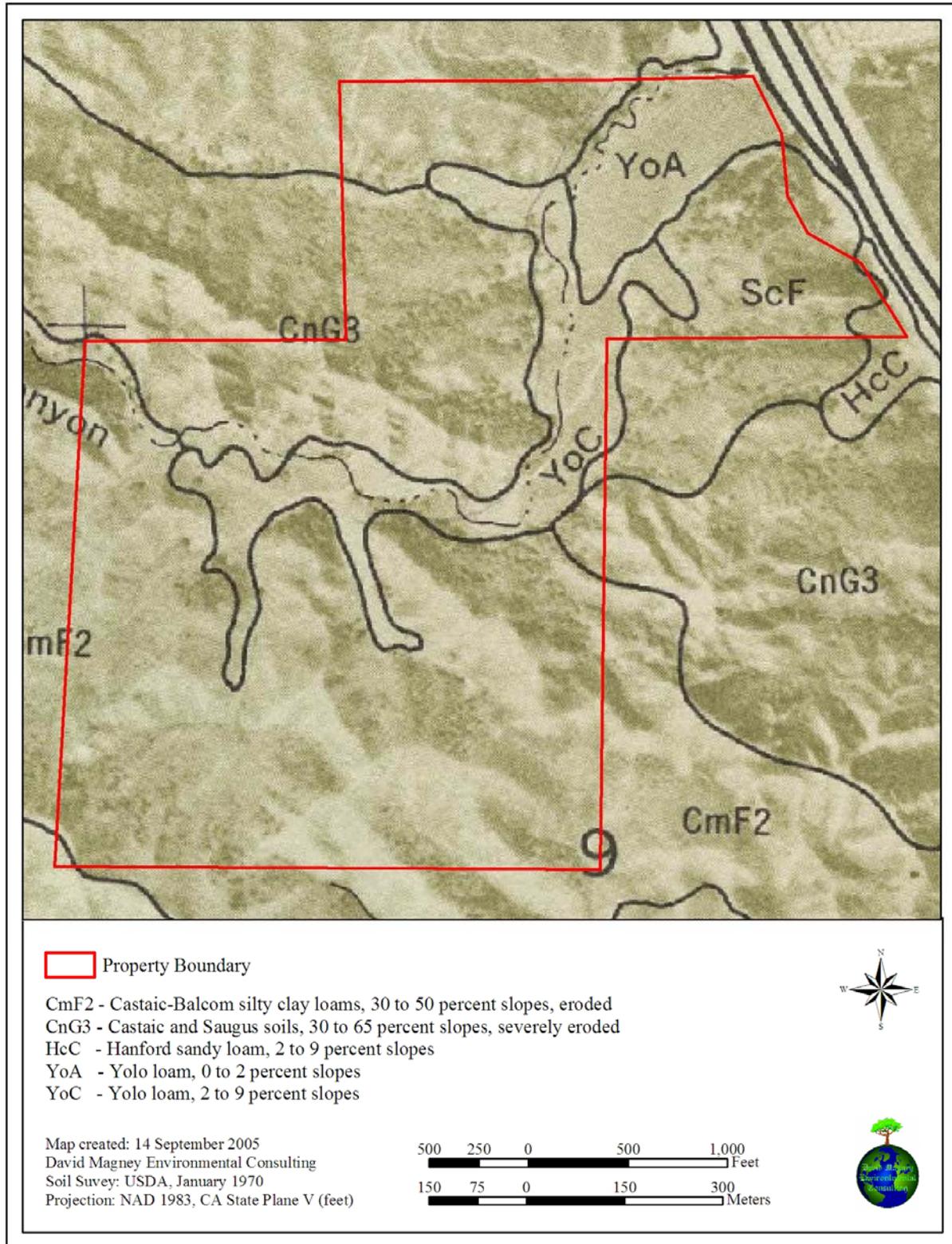
#### 5.6.2.1 Existing Land Uses

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 (Pico Canyon)/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

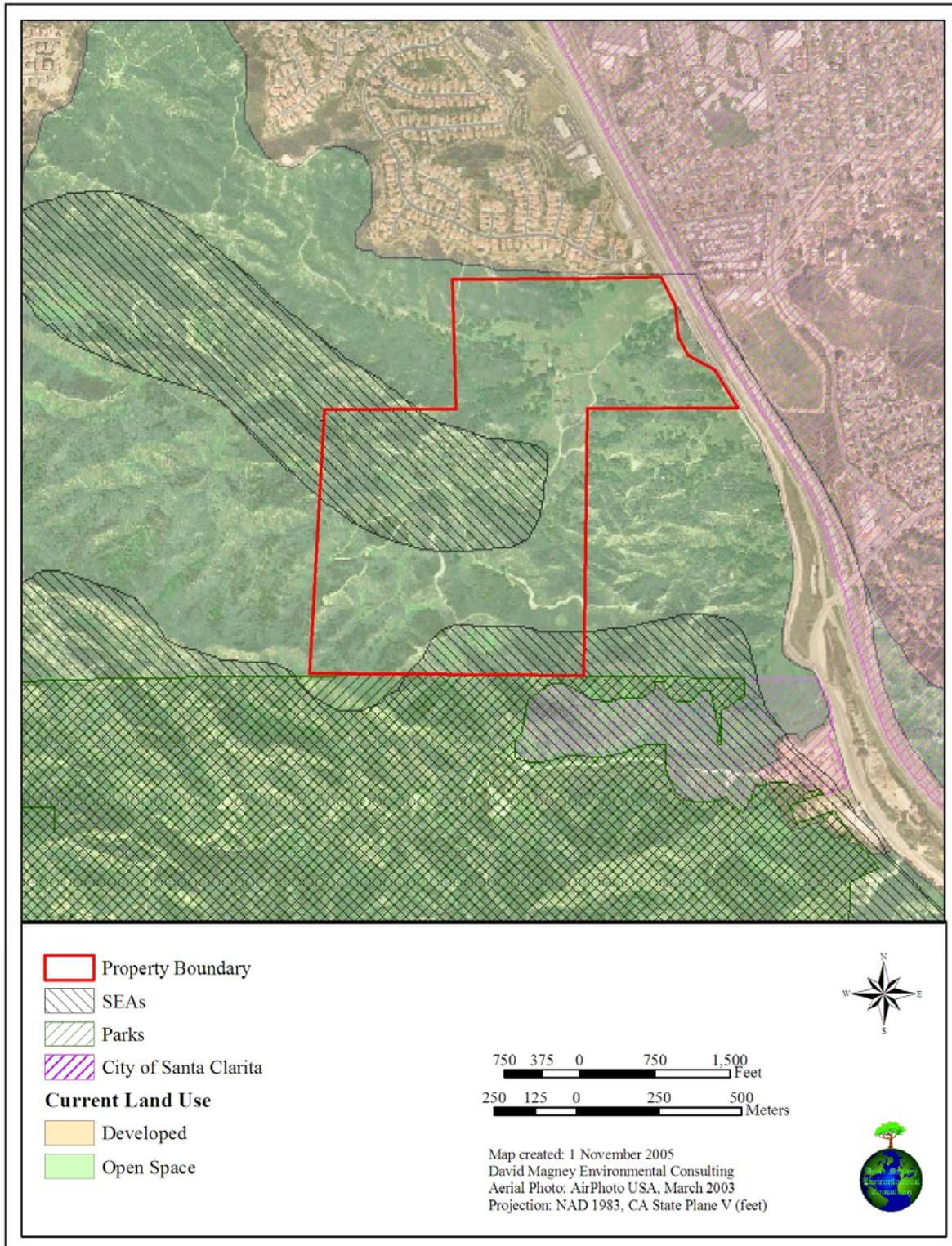
The uses surrounding the project site are I-5 on the east, Ed Davis Park in Towsley Canyon to the south, vacant land to the west, residential uses on Sagecrest Circle and the Stevenson Ranch development, opposite of Sagecrest Circle, to the north. Due to the I-5 and the Stevenson Ranch development there 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.

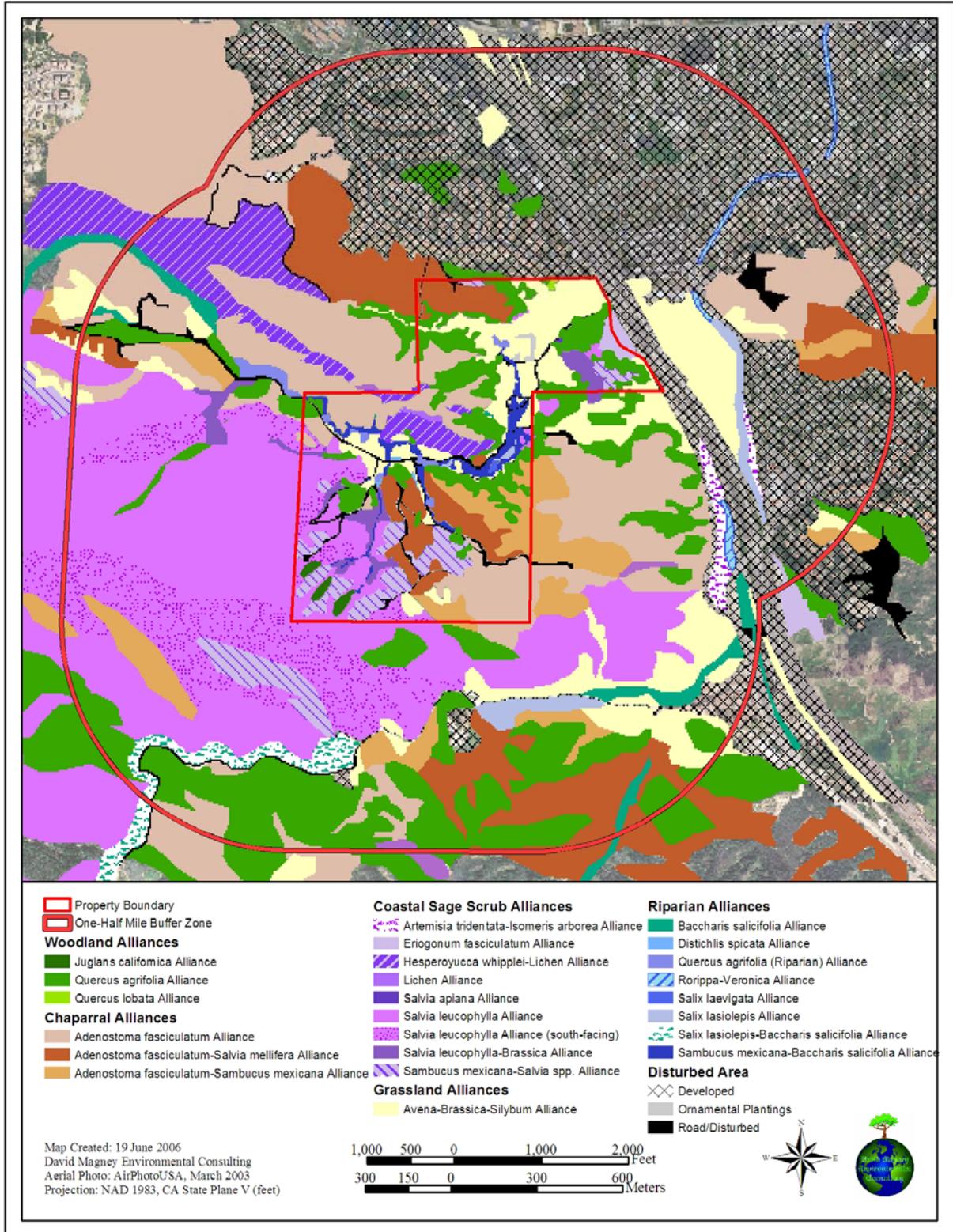
# Lyons Canyon Ranch Draft Environmental Impact Report

**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
<b>Total Acreage<sup>2</sup>:</b>	<b>1,421.21</b>

<sup>2</sup> 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 greater area beyond the immediate vicinity 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). All but one 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 immediate 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 Southern Steelhead are present in the Santa Clara River, none of which has been observed at the

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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 region. 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).

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

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- 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 Placerita, 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*

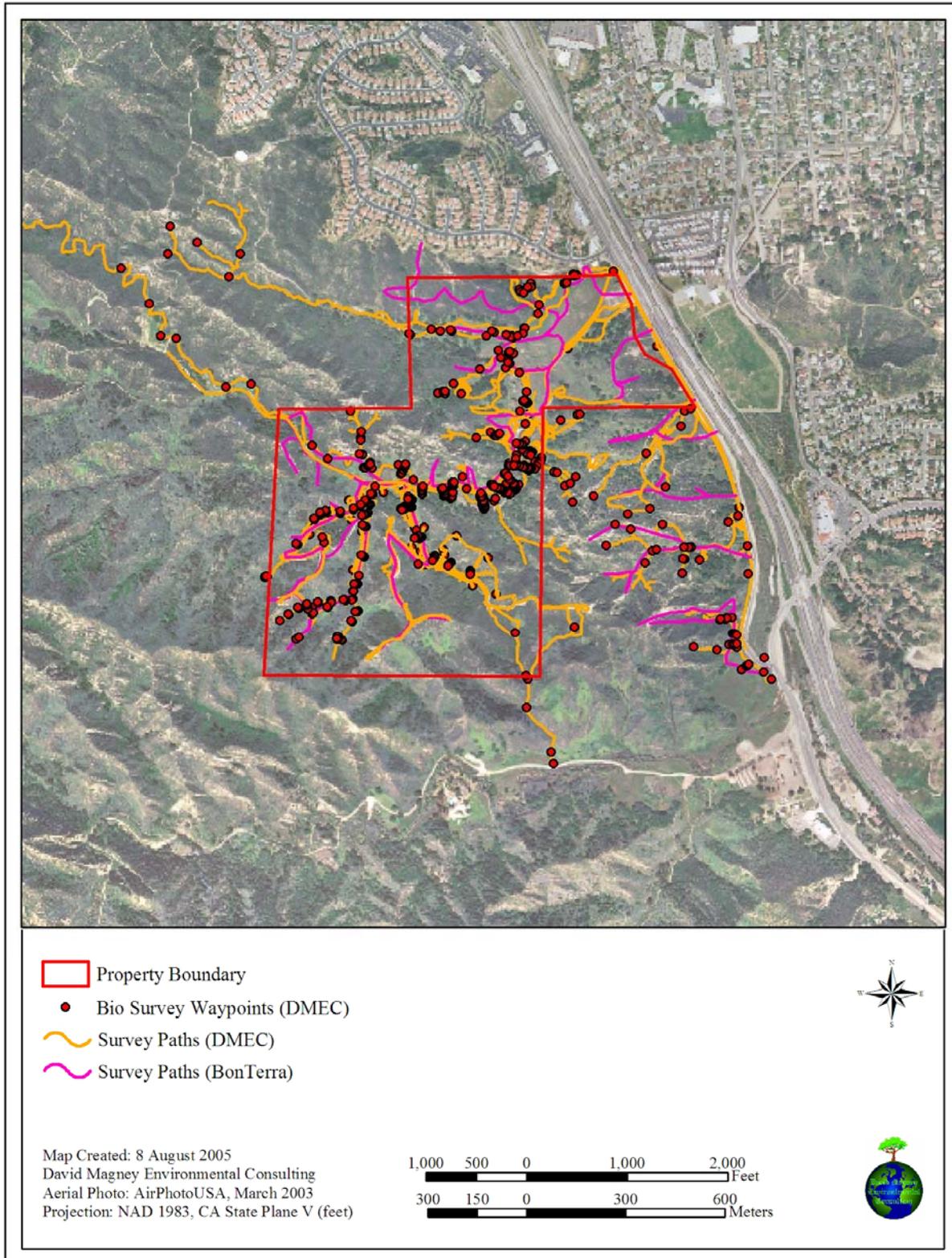
BonTerra's plant surveys were conducted by using meandering transects to cover areas of suitable habitat on the project site. Locations of any special-status species found were recorded in field notes and on a topographic map. Voucher specimens were collected for special-status plant species and deposited 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.

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.)

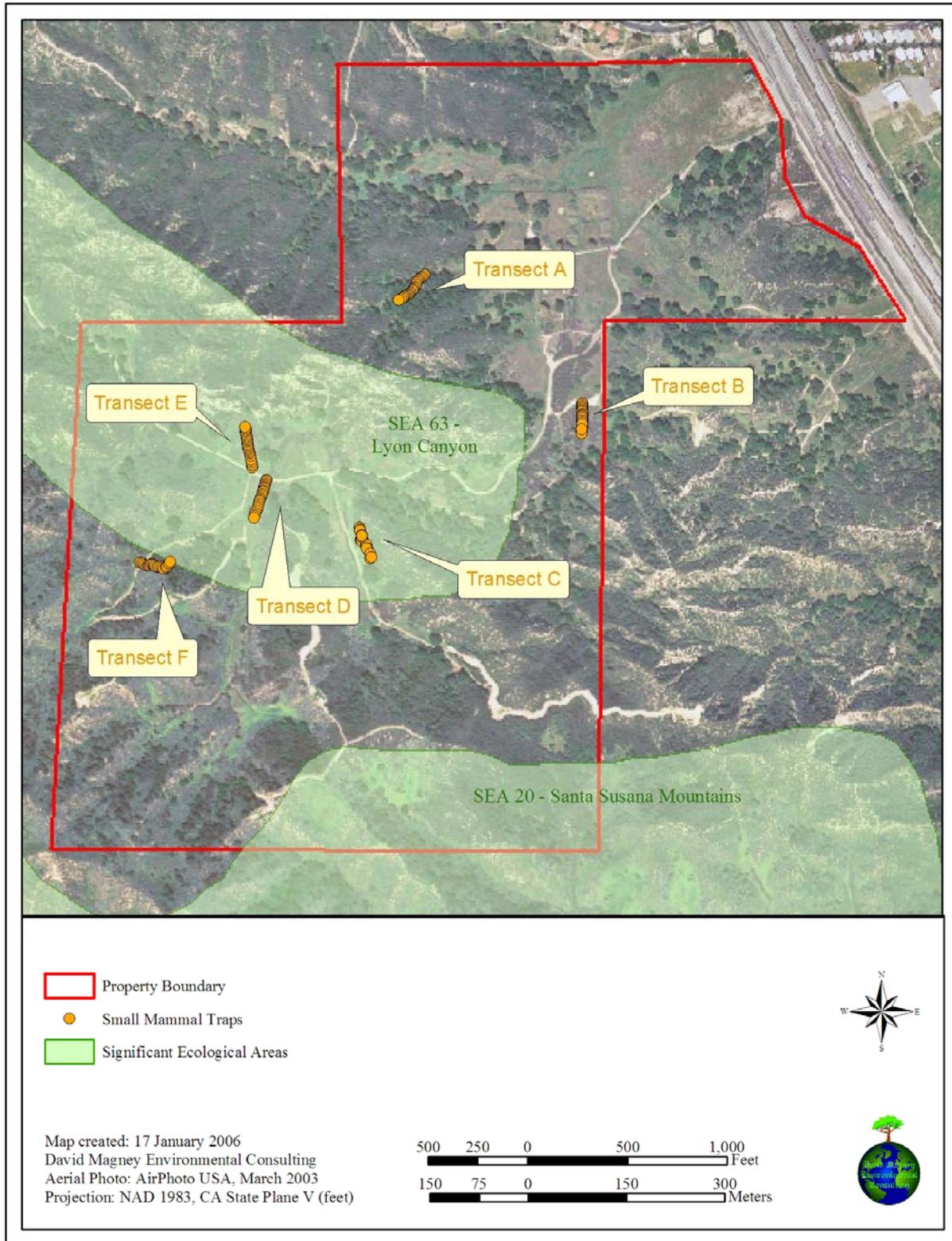
No focused surveys for wildlife were performed in the spring of 2004 due to the Simi Fire. BonTerra Consulting Senior Scientist Mike Robson visited the project site on 30 March 2004 to verify wildlife habitat conditions following the Simi Fire. Little to no habitat for special-status wildlife species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

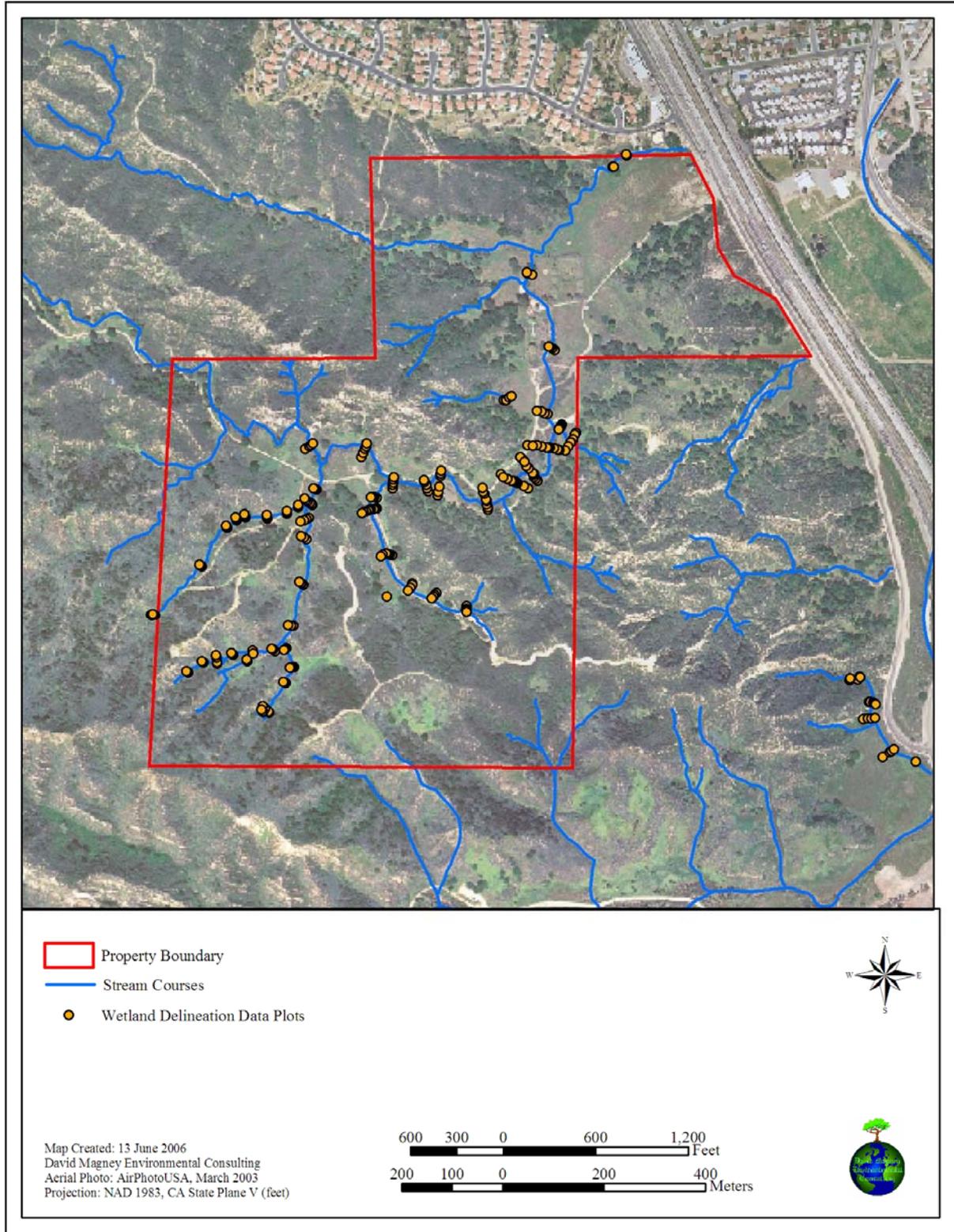
DMEC gathered existing data on the oak trees present within the Lyons Canyon Ranch development site, based on assessments prepared by Richard Ibarra (arborist with Trees, Etc.), L. Newman Design Group and Land Design Consultants (DMEC 2004b). The DMEC oak tree assessment is provided as Appendix H of 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 (for numerous species expected or known to occur onsite), and other similar keywords and combinations of keywords.

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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.

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

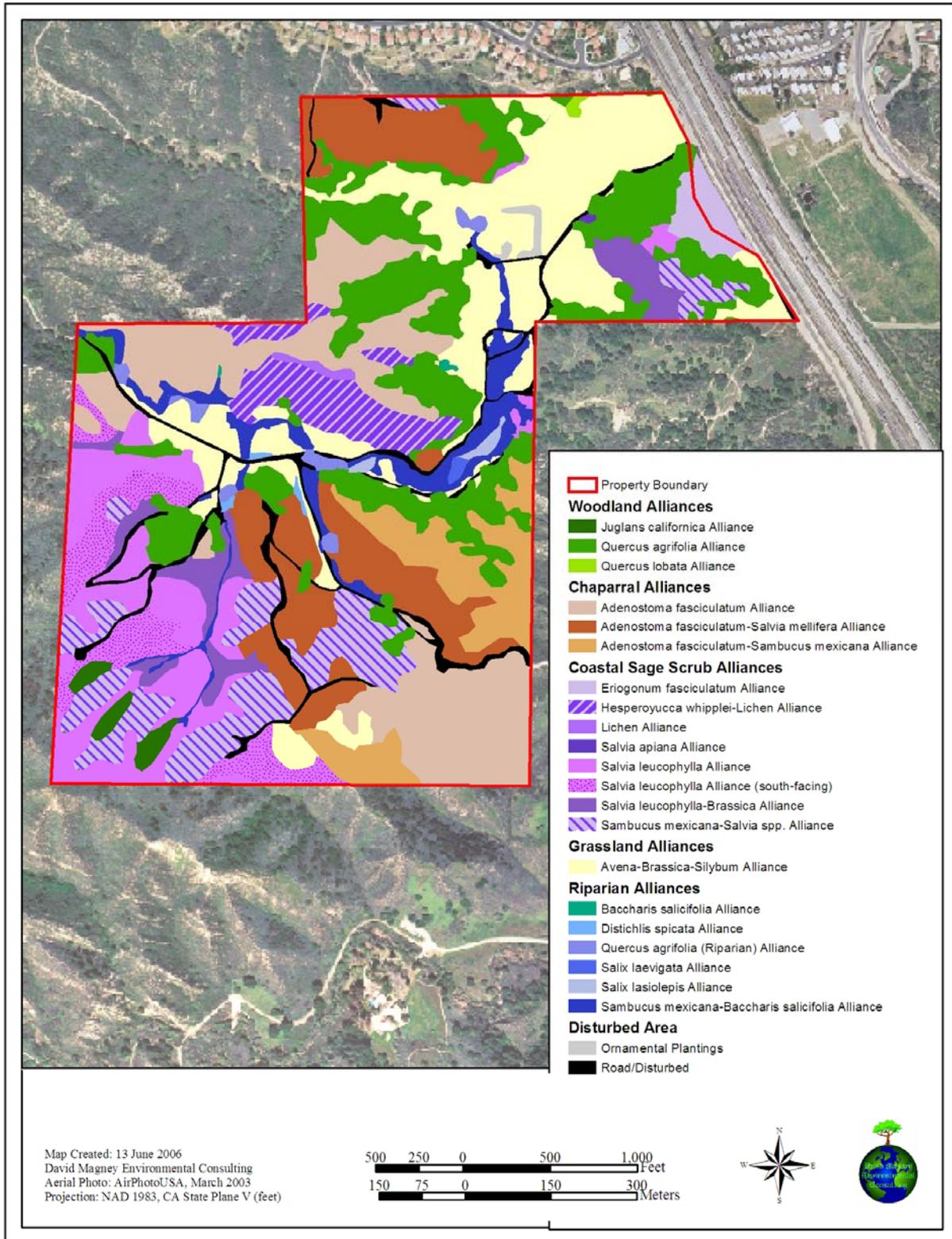
Alliance	Acres
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<b>Riparian Habitat (11.95 acres)</b>	
<b>Woodland (2.46 acres)</b>	
<i>Salix laevigata</i> Alliance	0.24
<i>Salix lasiolepis</i> Alliance	0.57
<i>Quercus agrifolia</i> [Riparian] Alliance	1.65
<b>Scrub (9.15 acres)</b>	
<i>Baccharis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

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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. 1997). Many typical Coastal Sage Scrub species also grow intermixed as associates with

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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.

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

*Eriogonum fasciculatum* Alliance (California Buckwheat Scrub) is dominated by *Eriogonum fasciculatum* var. *fasciculatum*, a perennial shrub with fascicled tomentose (lower surface) leaves

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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.

### ***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

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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.

### ***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

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

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### *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. (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

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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.

### **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.

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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 onsite<sup>3</sup>. 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:

- **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).

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<sup>3</sup> 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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- **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 Site<sup>4</sup>**

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)
<b>Total:</b>		<b>1327</b>	<b>82(1)</b>	<b>1,409(2)</b>

## 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 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.

<sup>4</sup> Numbers in parentheses indicate trees that were dead prior to the fire of October 2003.

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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 <sup>5</sup>	
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	0 <sup>6</sup>	0	0	-	<b>0</b>
<i>Chaetodipus californicus</i>	California Pocket Mouse	4	7	5	1	<b>16</b>
<i>Peromyscus maniculatus</i>	Deer Mouse	12	29	61	5	<b>102</b>
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse	4	5	0	0	<b>9</b>
<b>Capture Totals:</b>		<b>21</b>	<b>41</b>	<b>66</b>	<b>6</b>	<b>128</b>
<b>Trap Nights:</b>		<b>115</b>	<b>117</b>	<b>117</b>	<b>-</b>	<b>349</b>
<b>Percent Success:</b>		<b>18.3%</b>	<b>35.0%</b>	<b>56.4%</b>	<b>-</b>	<b>36.7%</b>

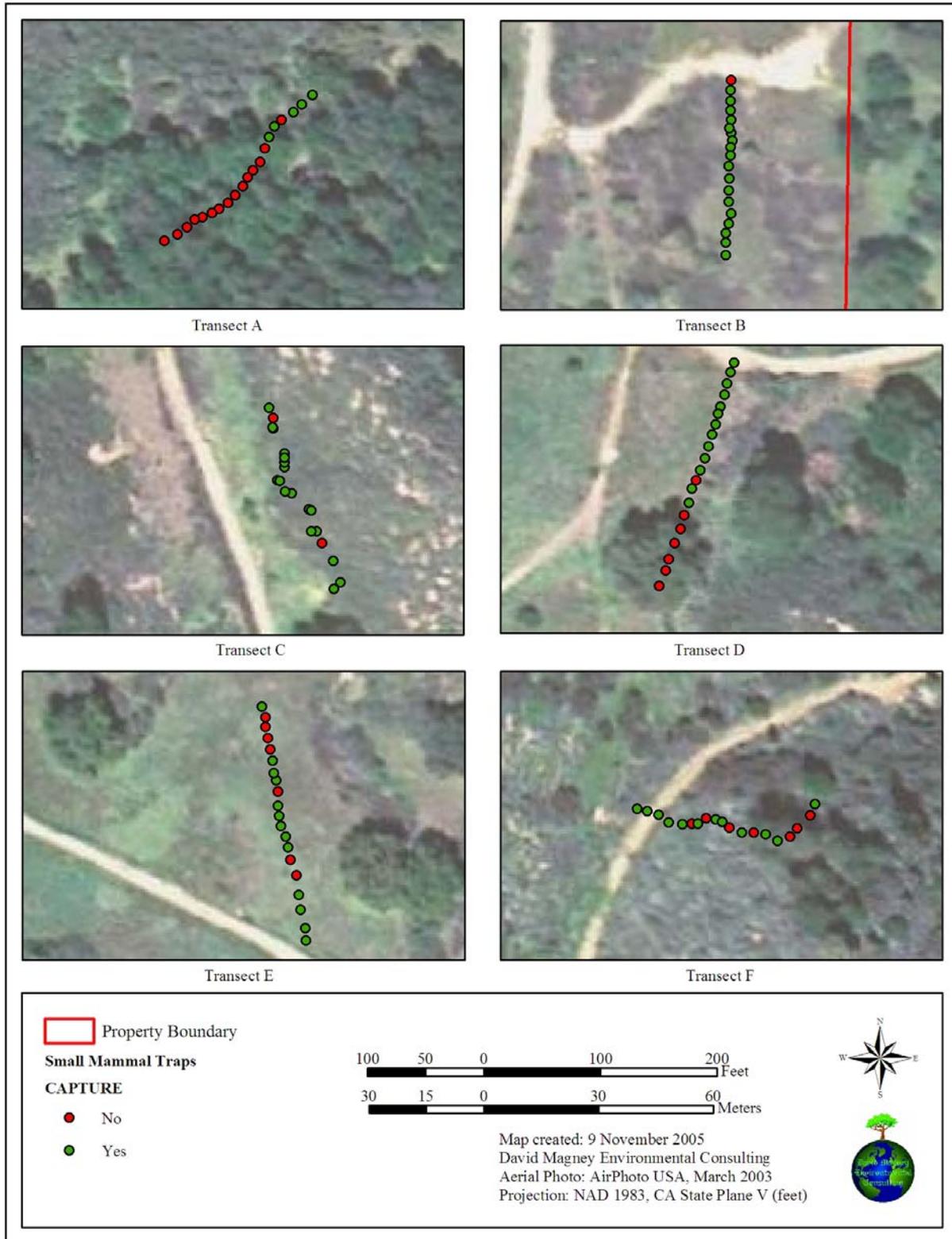
Three mammal species were caught onsite, including California Pocket Mouse, Deer Mouse, and Western Harvest Mouse. Exhibit 5.6-14, Small Mammal Trapping Results, illustrates the distribution of traps along each transect and indicates the traps where one or more species were captured at least once.

<sup>5</sup> The recaptured totals are not included in the Capture Totals.

<sup>6</sup> 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.)

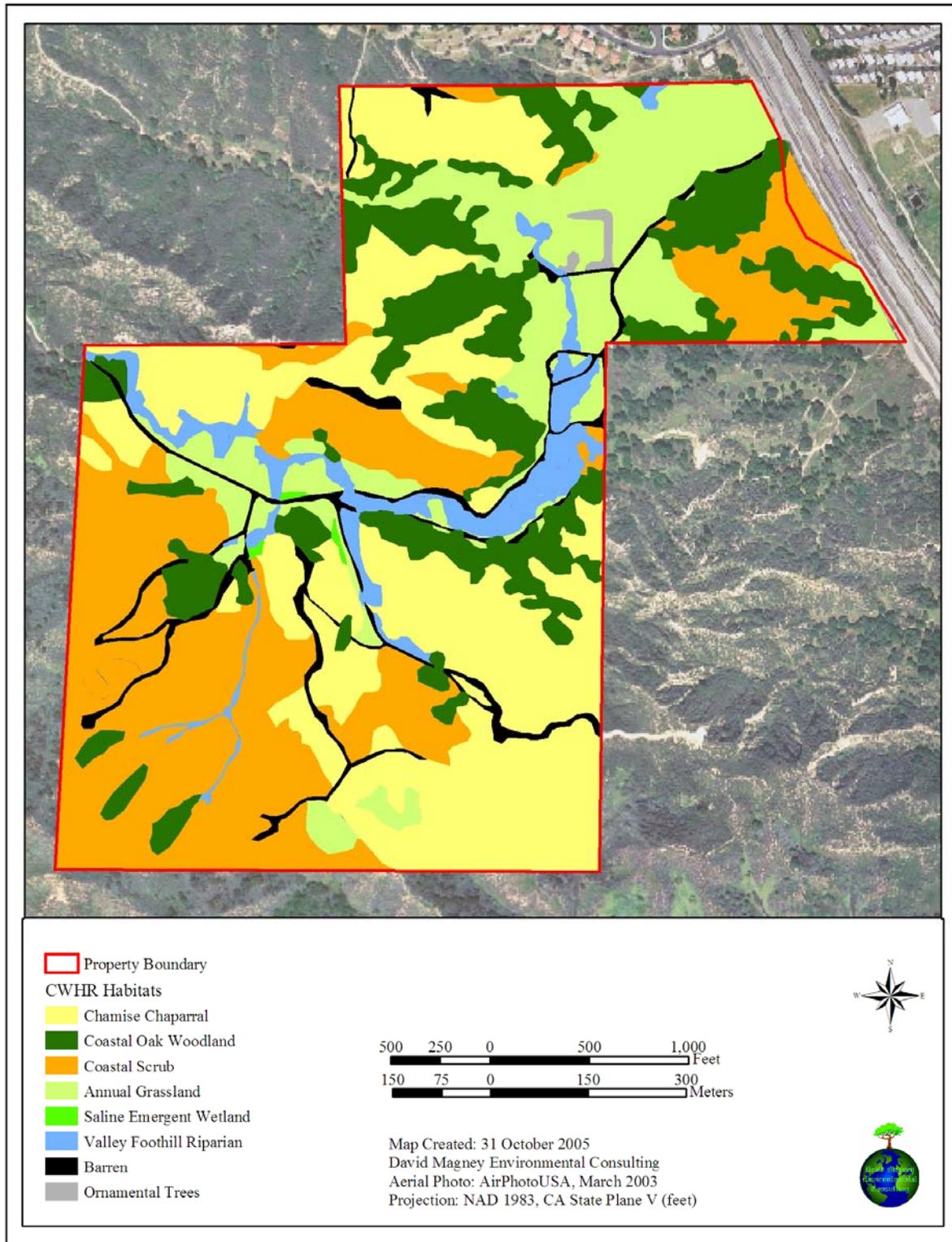
The wildlife habitats present on the project site are illustrated in Exhibit 5.6-15, California Wildlife Habitat Relationship (CWHR) Habitats of Lyons Canyon Ranch. The wildlife habitats mapped on Exhibit 5.6-15, which were classified based on the CWHR habitat classification, is a more general mapping 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
<b>Total Acres</b>	<b>235.50</b>

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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 (*Bombocilla 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 Bear<sup>7</sup> (*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*).

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<sup>7</sup> 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.

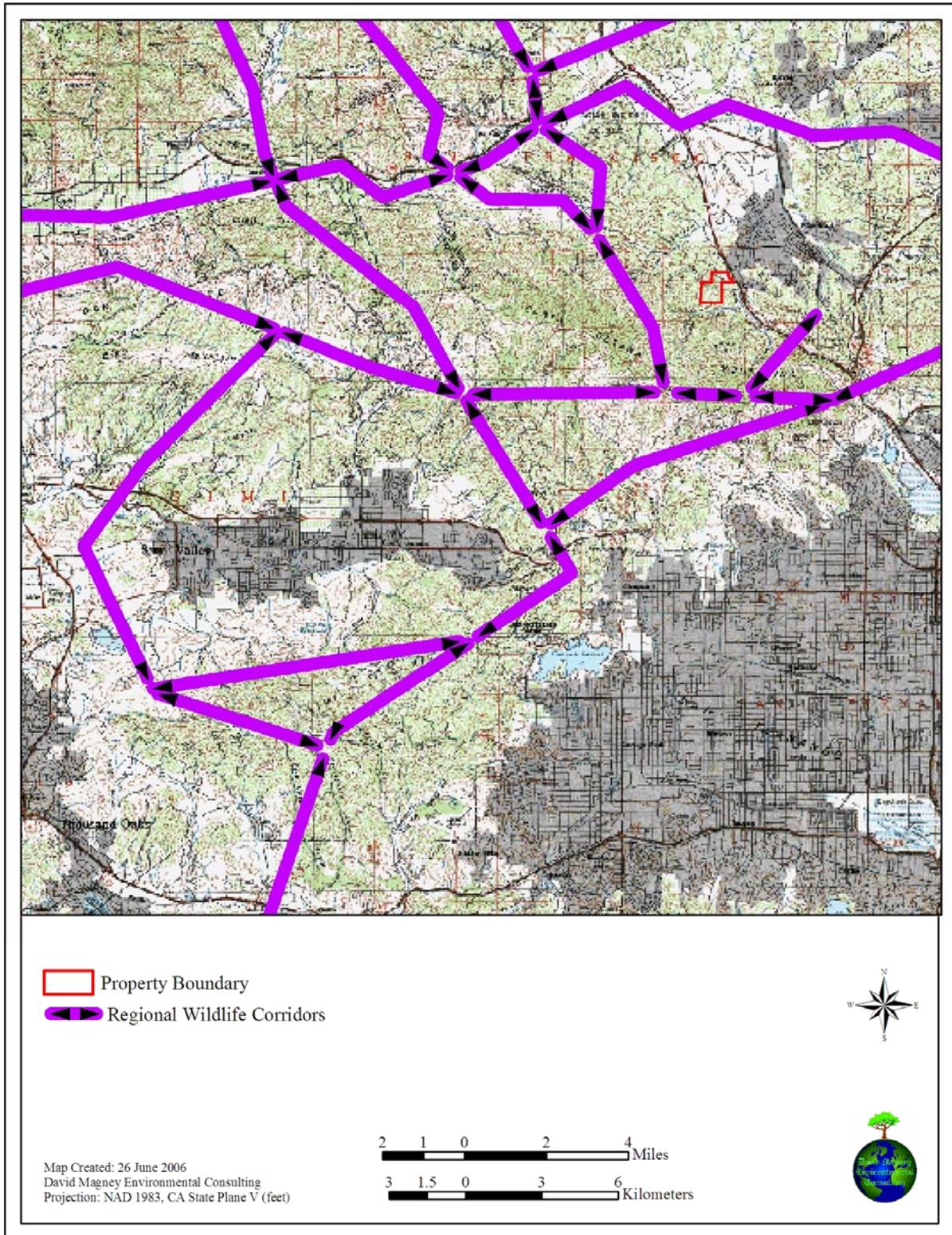
The project site presently provides high quality wildlife habitat that supports numerous travel routes for wildlife movement. In particular, drainages on the project site are natural conduits of wildlife movement whether in a natural setting or surrounded by development. Lyon Canyon Creek and the unnamed 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.

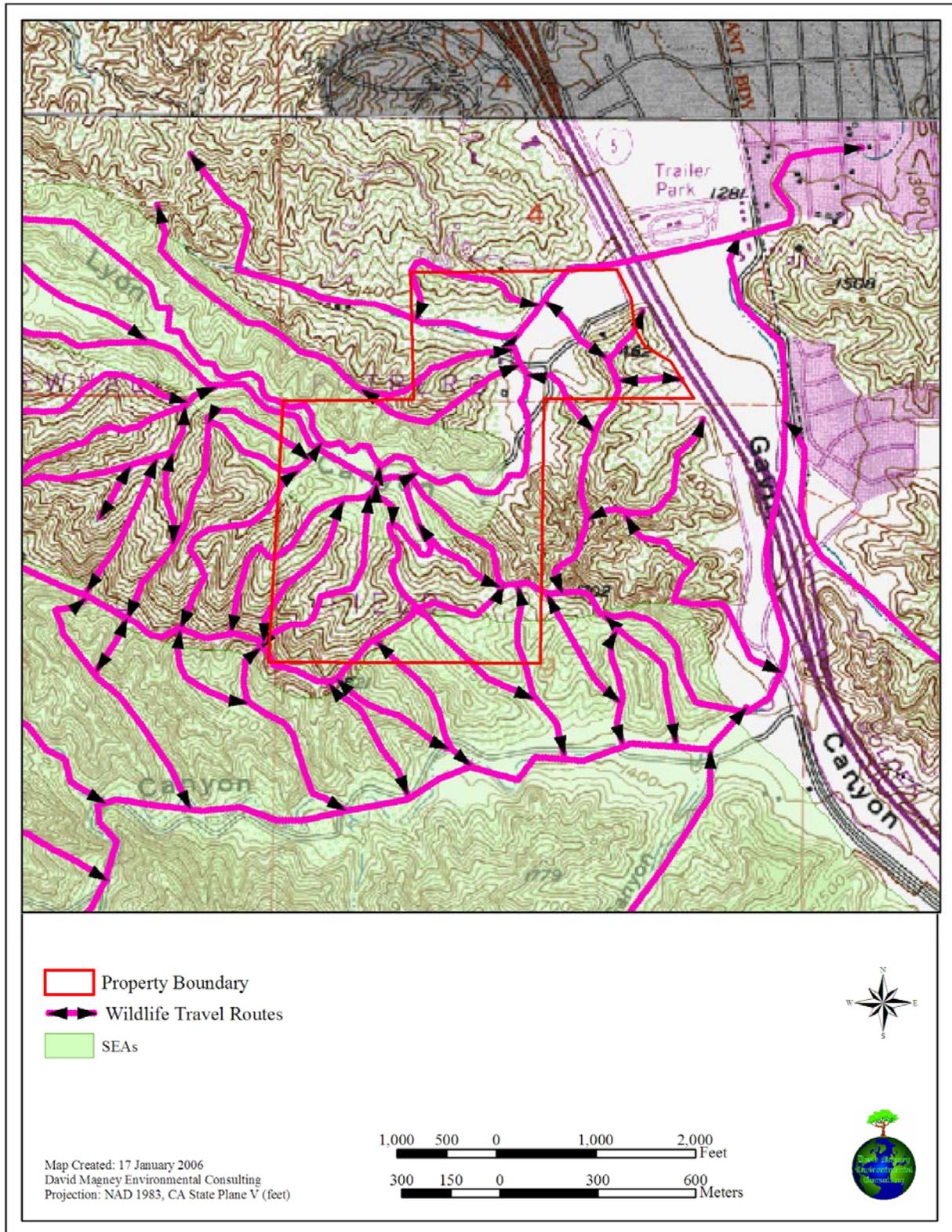
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Exhibit 5.6-16. Wildlife Corridors of the Newhall Region



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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 Consulting<sup>8</sup> 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 approximately 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.

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<sup>8</sup> 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"> <li>• Plants &amp; animals legally protected under the California and Federal Endangered Species Acts or under other regulations.</li> <li>• Plants and animals considered sufficiently rare by the scientific community to qualify for such listing; or</li> <li>• Plants and animals considered to be sensitive because they are unique, declining regionally or locally, or are at the extent of their natural range.</li> </ul>	
Special-Status Plant Species	Special-Status Animal Species
<ul style="list-style-type: none"> <li>• 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).</li> <li>• 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).</li> <li>• Plants that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380).</li> <li>• Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001).</li> <li>• Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 and 4 in CNPS 2001).</li> <li>• 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).</li> <li>• Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).</li> <li>• Plants considered sensitive by other federal agencies (i.e. U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions.</li> <li>• Plants considered sensitive or unique by the scientific community; occurs at natural range limits (<i>State CEQA Guidelines</i>, Appendix G).</li> </ul>	<ul style="list-style-type: none"> <li>• 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).</li> <li>• Animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under Federal Endangered Species Act (54 CFR 554).</li> <li>• Animals that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380).</li> <li>• 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).</li> <li>• Animal species of special concern to the CDFG (Remsen [1978] for birds; Williams [1986] for mammals).</li> <li>• Animal species that are fully protected in California (California Fish &amp; Game Code, Sections 3511 [birds], 4700 [mammals], 5050 [reptiles, amphibians]).</li> </ul>

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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**

<b>Rarity (R)</b>	
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
<b>Endangerment (E)</b>	
1	Not endangered
2	Endangered in a portion of its range
3	Endangered throughout its range
<b>Distribution (D)</b>	
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**

<b>Global Ranking (G)</b>	
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 <b>historic</b> ; the element has not been seen for at least 20 years, but suitable habitat still exists.
GX	All sites are <b>extirpated</b> ; 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><b>Subspecies Level:</b>            Subspecies receive a <b>T-rank</b> 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>	
<b>State Ranking (S)</b>	
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). <b>NO THREAT RANK.</b>
S5	Demonstrably secure to ineradicable in California. <b>NO THREAT RANK.</b>
SH	All California sites are <b>historic</b> ; the element has not been seen for at least 20 years, but suitable habitat still exists.
SX	All California sites are <b>extirpated</b> ; this element is extinct in the wild.
<b>Notes</b>	
<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:

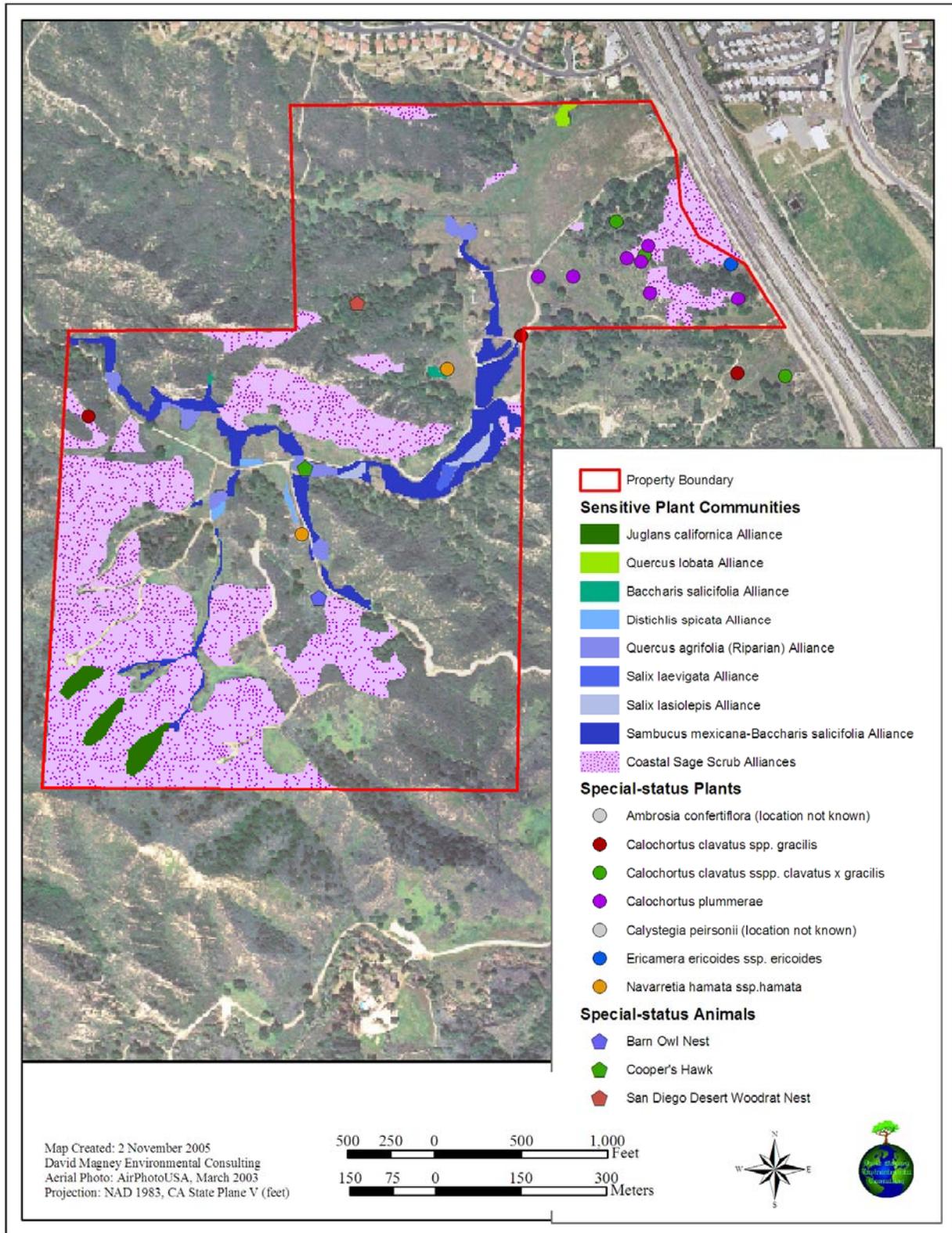
- *Ambrosia confertiflora* (Weakleaf Burweed);
- *Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily);
- *Calochortus plummerae* (Plummer's Mariposa Lily);
- *Calystegia peirsonii* (Peirson's Morning-glory);
- *Ericameria ericoides* ssp. *ericoides* (Mock Heather);
- *Juglans californica* var. *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 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 <sup>9</sup>	Common Name	Federal <sup>10</sup>	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D <sup>11</sup>	Habitat Requirements <sup>12</sup>	Likelihood of Occurrence <sup>13</sup>
<i>Ambrosia confertiflora</i>	<b>Weakleaf Burweed</b>	-	-	-	-	-	Species of local concern	Gr	<b>Known:</b> 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 if limestone substrate present

<sup>9</sup> Bold = special-status plant species known onsite.

<sup>10</sup> 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.

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

<sup>12</sup> 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.

<sup>13</sup> 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 <sup>9</sup>	Common Name	Federal <sup>10</sup>	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D <sup>11</sup>	Habitat Requirements <sup>12</sup>	Likelihood of Occurrence <sup>13</sup>
<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.	<b>Known:</b> 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.	<b>Known:</b> 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.	<b>Known:</b> 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, no appropriate sandstone substrate
<i>Dodecahema leptoceras</i>	Slender-horned Spineflower	E	E	G1	S1.1	1B	3-3-3	Ch, CSS (AFSS).	Unlikely, no sandy drainage terraces

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Scientific Name <sup>9</sup>	Common Name	Federal <sup>10</sup>	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D <sup>11</sup>	Habitat Requirements <sup>12</sup>	Likelihood of Occurrence <sup>13</sup>
<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, found where direct coastal or marine influence present
<i>Dudleya multicaulis</i>	Many-stemmed Dudleya	-	-	G2	S2.1	1B	1-2-3	Ch, CSS, Gr.	Unlikely, site is north of known range
<i>Ericameria ericoides</i> ssp. <i>ericoides</i>	Mock Heather	-	-	-	-	-	Species of local concern	CSS; inland sandy soils.	<b>Known:</b> 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 <sup>9</sup>	Common Name	Federal <sup>10</sup>	State	G-Rank	S-Rank	CNPS List	CNPS R-E-D <sup>11</sup>	Habitat Requirements <sup>12</sup>	Likelihood of Occurrence <sup>13</sup>
<i>Juglans californica</i> var. <i>californica</i>	Southern California Black Walnut	-	-	G3	S3.2	4	1-2-3	Ch, CSS, OW.	<b>Known:</b> 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.	<b>Known:</b> 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))	G-Rank <sup>14</sup>	S-Rank	Observed Onsite?
Southern Calif. Threespine Stickleback Stream	-	G?	S?	Not observed, and highly unlikely to occur onsite.
<b>Cismontane Alkali Marsh</b>	<i>Distichlis spicata</i> Alliance	G2	S2.1	<b>Observed onsite.</b> 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.
<b>Southern Riparian Scrub</b>	<i>Sambucus mexicana-Baccharis salicifolia</i> Alliance	G3	S3.2	<b>Observed onsite</b>
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.
<b>Southern Mixed Riparian Forest</b>	<i>Salix lasiolepis</i> Alliance <i>Salix laevigata</i> Alliance	G2	S2.1	<b>Observed onsite</b>
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.
<b>Southern Coast Live Oak Riparian Forest</b>	<i>Quercus agrifolia</i> Alliance	G4	S4	<b>Observed onsite.</b>
<b>Coast Live Oak Woodland</b>	<i>Quercus agrifolia</i> Alliance	n/a	n/a	<b>Observed onsite.</b>
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.
<b>Coastal Sage Scrub</b>	<i>Sambucus mexicana-Salvia leucophylla</i> Alliance <i>Salvia leucophylla</i> Alliance <i>Salvia apiana</i> Alliance	n/a	n/a	<b>Observed onsite.</b>
<b>California Walnut Woodland</b>	<i>Juglans californica</i> Alliance	G2	S2.1	<b>Observed onsite.</b>
Mainland Cherry Forest	<i>Prunus ilicifolia</i> Alliance	G1	S1.1	Not observed, and unlikely to occur onsite.
<b>Valley Oak Woodland</b>	<i>Quercus lobata</i> Alliance	G3	S2.1	<b>Observed onsite.</b> Emergent Valley Oak trees observed in small stand in northeastern portion of the property.

<sup>14</sup> 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 <sup>15</sup>	Fed. <sup>16</sup>	State	G-Rank	S-Rank	CDFG	Habitat Requirements <sup>17</sup>	Likelihood of Occurrence <sup>18</sup>
<b>FISH</b>								
<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
<b>AMPHIBIANS</b>								
<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

<sup>15</sup> \* = Nesting habitat protected. \*\* = Wintering site protected.

<sup>16</sup> 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.

<sup>17</sup> 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.

<sup>18</sup> 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 <sup>15</sup>	Fed. <sup>16</sup>	State	G-Rank	S-Rank	CDFG	Habitat Requirements <sup>17</sup>	Likelihood of Occurrence <sup>18</sup>
<b>REPTILES</b>								
<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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<b>BIRDS</b>								
<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.	<b>Known:</b> 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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<i>Baeolophus inornatus</i>	Oak Titmouse	-	-	G5	S3?	-	Oak woodlands. Cavity nester.	<b>Known:</b> 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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<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.	<b>Known:</b> reported by Wendy Langhans (pers. comm. 21 July 2005)

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<i>Polioptila 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.
<b>MAMMALS</b>								
<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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<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.	<b>Known/ Detected:</b> 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
<b>INVERTEBRATES</b>								
<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 3<sup>1</sup>/<sub>2</sub> 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](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: 1982]) 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*.

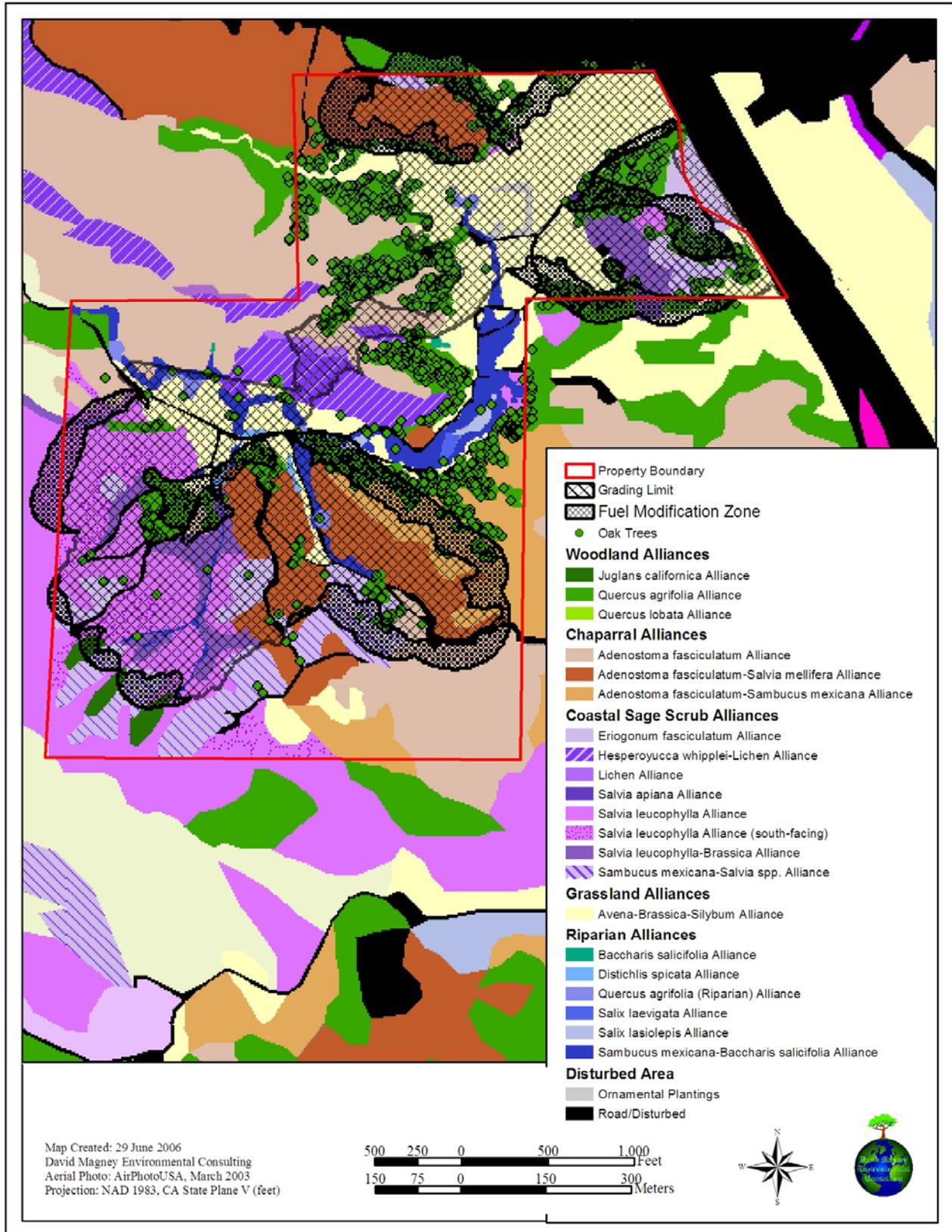
### **5.6.7 PROJECT RELATED IMPACTS**

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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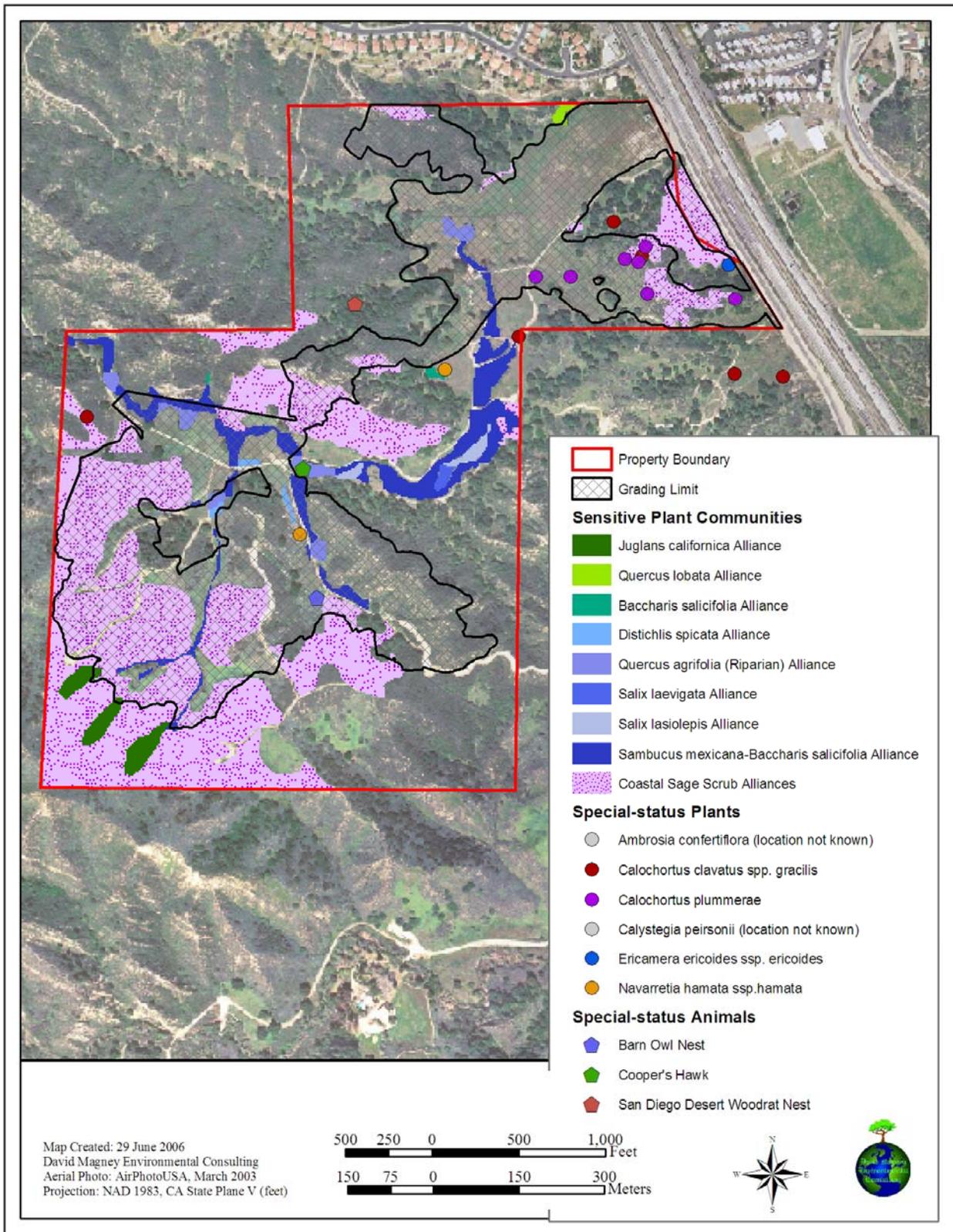
27 special-status plant species, 24 are tracked for the Lyons Canyon Ranch vicinity by CDFG's (2005) CNDDDB RareFind3, while the remaining three (3) are considered species of local concern (Boyd 1999, Magney 2001). Exhibit 5.6-20, Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch, 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 Lyons 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 (now likely extirpated) population is known 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 prior to ground disturbing activities 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 acceptable to the Department of Regional Planning (DRP) and familiar with the flora of the Santa Susana Mountains. Seeds

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shall be gathered when ripe and transferred to a native plant nursery experienced with propagating *Ambrosia confertiflora* or similar species, and grown out to 1-gallon container size. These plants shall be planted in suitable preserved habitat outside fuel modifications areas 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 (see discussion below), shall be obtained from the native trees, shrubs, herbs, and grasses to be 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 to DRP 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 be responsible to 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.

Prior to undertaking any activities within preserve areas, the HOA shall retain the services of a wildlands ecologist acceptable to the DRP and familiar with plants and wildlife native to the Santa Clarita region to provide review and approve of the specific activities in preserve parcels. 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

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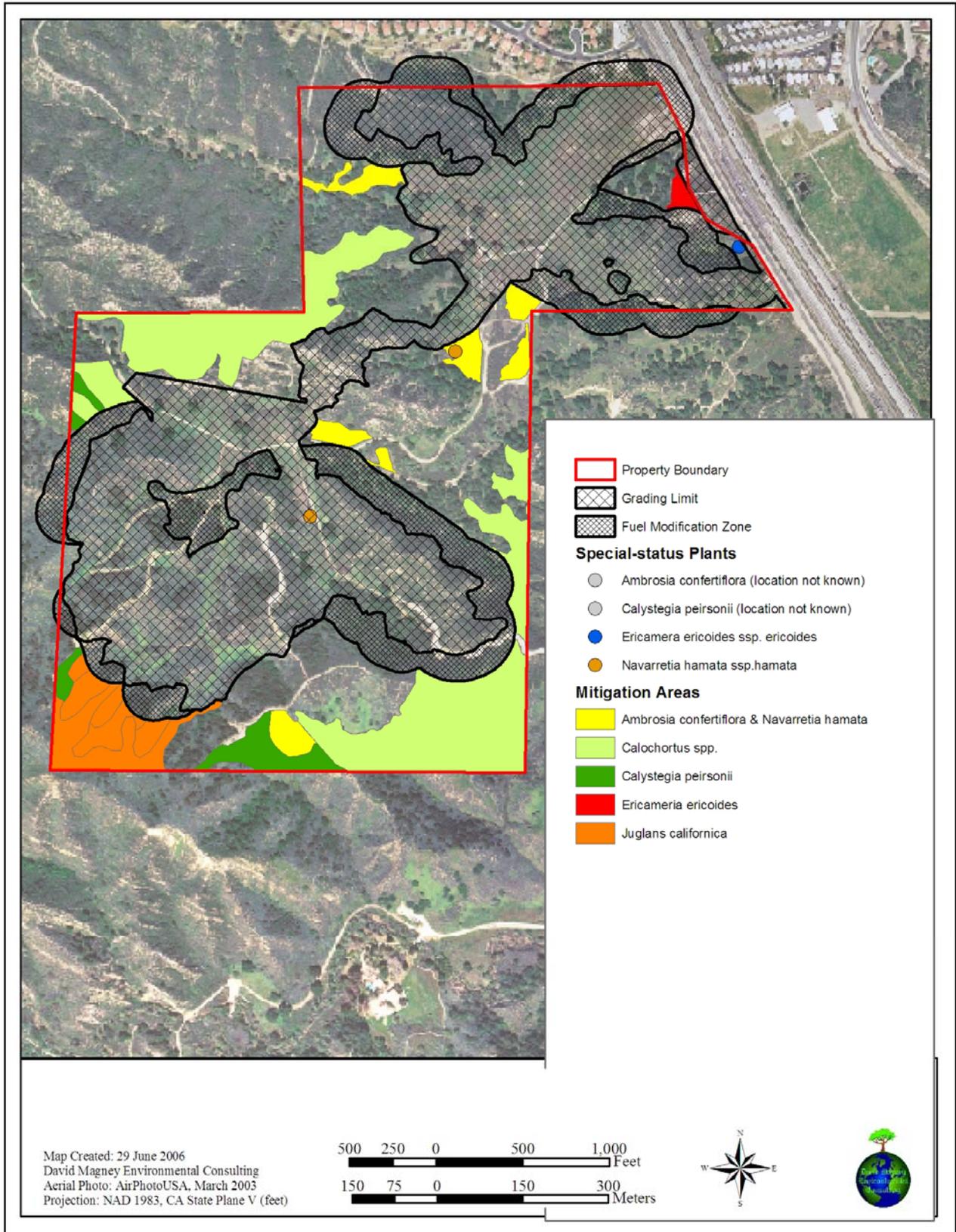
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- Maintenance of privately owned trails.

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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 re-establishment and preservation 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 *State 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 *State 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

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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*.

### **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* shall 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 shall 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 subsequently planted in preserve areas. Rancho Santa Ana Botanic Garden would be an appropriate and County acceptable 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 seed collection, bulb translocation and subsequent 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 DRP, 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. Where high lily concentrations exist onsite, the first ten inches or more 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) acceptable to the DRP within the preserved portions of the project site.

**Seed Collection and Propagation.** *Calochortus* are typically grown from seed for mitigation purposes (Carol Bornstein, pers. comm. 30 January 2006). A seasonal survey

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prior to grading shall be conducted in suitable habitat during and after the flowering season to collect seeds. The survey shall be conducted by a qualified botanist acceptable to the DRP and 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 and acceptable to the DRP 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 prior to bulb collection to determine potential planting areas and to identify the most appropriate mitigation site(s) acceptable to the DRP. A detailed mitigation plan shall be prepared and submitted to the DRP 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 descriptions of maintenance activities appropriate for the site, monitoring requirements, and annual reporting requirements. The project botanist shall have the full authority to

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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 and transplantation 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 backup 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 **BIO2** will also contribute to 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 Measures **BIO1**, specific to *Calystegia peirsonii*, and **BIO2** will mitigate for this impact. Potential *C. 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**, specific to *Ericameria ericoides* ssp. *ericoides*, and **BIO2** will mitigate for impacts to *E. 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* for seed storage and subsequent propagation. Seedlings shall be grown out to 1-gallon container size, preferably in liners rather than 1-gallon pots. Seeds are a viable source for mitigation and will be utilized for some replacement. 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 **BIO2** will also contribute to 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**, specific to *Navarretia hamata* ssp. *hamata*, and **BIO2** will mitigate for impacts to *N. 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 confirmed, seasonal surveys shall be conducted in suitable habitat at a time when positive identifications can be made. The surveys shall be conducted by a qualified botanist acceptable to the DRP and familiar with the flora of the Santa Susana Mountains. If any of these plants are found to be within the project impact area, then, prior to grading, 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 Measures **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 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 be responsible for maintaining 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.

Prior to landscaping installation, the HOA shall retain the services of a licensed landscape architect acceptable to the DRP and familiar with plants native to the Santa Clarita region to provide review and approval of the landscaping of individual parcels 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;
- Maintenance of parks;

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- 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 by a qualified botanist to the County Biologist for review and approval. 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 DRP 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 riparian habitat.

The potential for impacts to aquatic wildlife species inhabiting the riparian 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 (riparian) habitat and aquatic wildlife due to alteration of the riparian 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 riparian system, the following measures shall be implemented to minimize impacts:

- Equipment contact with the active channel should be avoided, and equipment should enter the active channel only within the permitted and demarcated areas;

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- Flows should be diverted from the work area prior to initiating 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 acceptable to the DRP 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 contribute to 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

### **Recommended Mitigation Measure:**

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

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*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 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,

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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 contribute to 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 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

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

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- **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](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*);
- Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*);
- Rosy Boa (*Charina trivirgata*);
- San Diego Banded Gecko (*Coleonyx variegates abbotti*);

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- San Diego Horned Lizard (*Phrynosoma coronatum*);
- Coast Patch-nosed Snake (*Salvadora hexalepis virgulata*);
- 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 acceptable to the DRP 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.

**BIO14 Survey for Nests and Nesting Activity.** Thirty (30) days prior to the onset of construction activities, a qualified biologist acceptable to the DRP shall survey within the limits of project disturbance for the presence of any active raptor and bird nests. Any nest

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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 virgultea*) 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 and DRP 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. 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.
- 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.

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- 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.

**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

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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.

**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

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

**Level of Significance Before Mitigation:** Potentially Significant

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### **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. 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*.

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### **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 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.

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### 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).*

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).

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### *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 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

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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.

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.

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***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. Details of acceptable fencing materials will be included in the project CC&Rs.

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.

***Level of Significance Before Mitigation:*** Potentially Significant

### **Recommended Mitigation Measure:**

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**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. 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.

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

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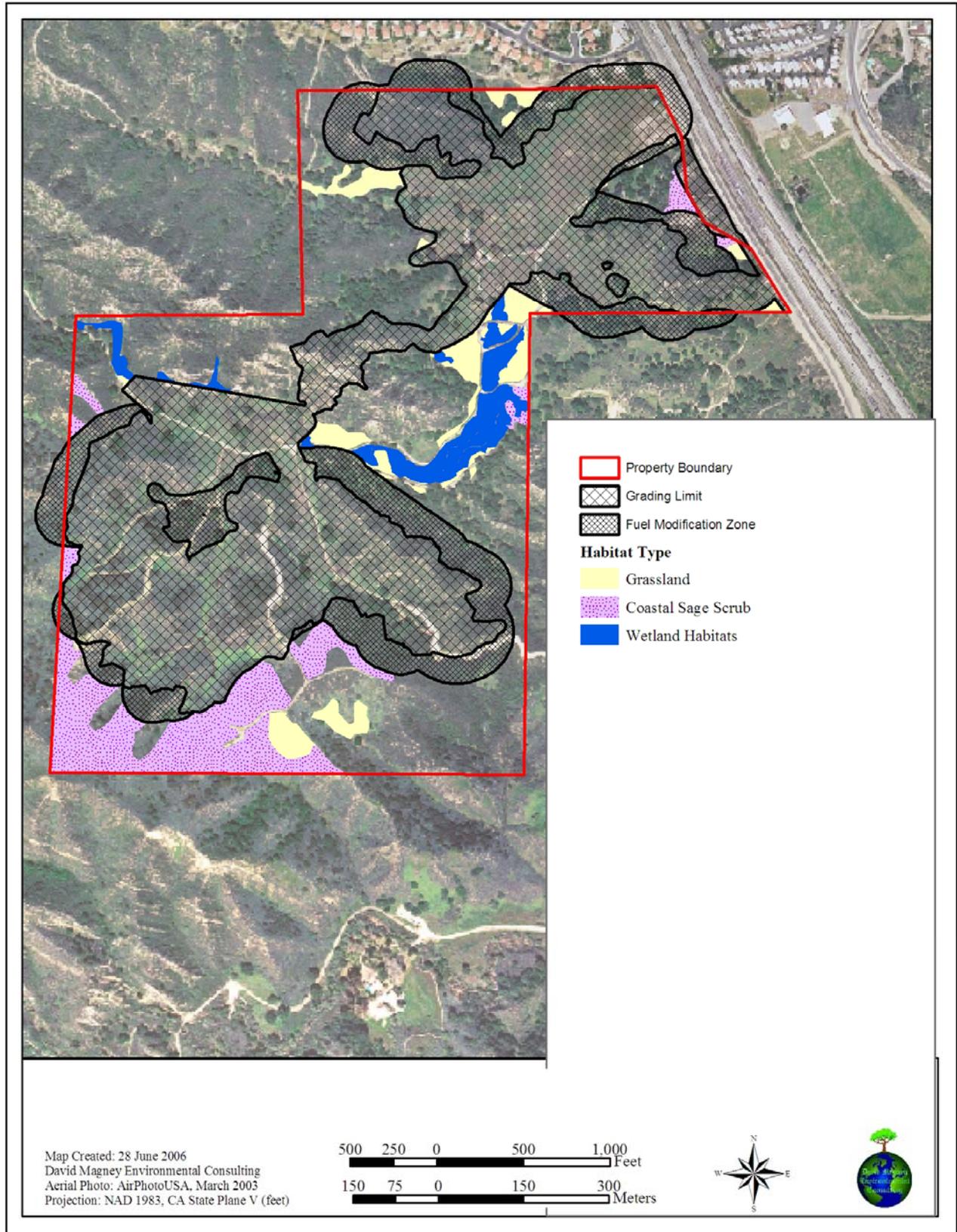
**Table 5.6-13. Project Impact Area for Each Vegetation Type Onsite**

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

<sup>19</sup> 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 for review and approval by the DRP 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 acceptable to the DRP and 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

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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; 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:** With the implementation of mitigation measure **BIO24**, this 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*. 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.

***Level of Significance Before Mitigation:*** Significant

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### 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 prior to issuance of a grading permit 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 the lead 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 installation; erosion control measures (i.e., rice or willow wattles); seed mix application; and container species. Mitigation Measure **BIO1** will aid in planting implementation.

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- *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:*** With implementation of mitigation measure **BIO25**, 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 1,395 oak trees, including 1,355 *Quercus agrifolia* var. *agrifolia* (Coast Live Oak), 21 *Quercus lobata* (Valley Oak), and 19 *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 *Oak Tree Report for Lyons Canyon Ranch* provided as Appendix H of this EIR for a more detailed account of the oak trees existing onsite.)

A total of 1,384 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 1,395 oak trees onsite, the proposed project is expected to directly impact (or result in the loss of) 162 oak trees, and is expected to indirectly impact (encroach upon) 54 oak trees as a result of grading activities onsite. The remaining 1,179 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 Trees<sup>20</sup>**

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	154(38)	49	1,152	1,355(38)
<i>Quercus berberidifolia</i>	Scrub Oak	2	0	17	19
<i>Quercus lobata</i>	Valley Oak	6	5	10(1)	21(1)
<b>Total:</b>		<b>162(38)</b>	<b>54</b>	<b>1,179(1)</b>	<b>1,395(39)</b>

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 (Appendix H). A total of 13 heritage-size Coast Live Oak trees will be lost as a result of the proposed project, and 6 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.

<sup>20</sup> Numbers in parentheses indicate trees that were dead pre-fire and determined dead during surveys completed in September 2006. 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> ssp. <i>agrifolia</i>	Coast Live Oak	13	3	60	76
<i>Quercus berberidifolia</i>	Scrub Oak	0	0	0	0
<i>Quercus lobata</i>	Valley Oak	0	3	2(1)	5(1)
<b>Total:</b>		<b>13</b>	<b>6</b>	<b>62(1)</b>	<b>81(1)</b>

The impact assessment for impacts to 214 oak trees (loss of 162 plus the encroachment of 54) existing onsite (shown above on Exhibit 5.6-19, Grading Impacts to Lyons Canyon Ranch Vegetation, including Trees) is as follows.

- 154 trees are **Coast Live Oaks** that will be lost (including 13 heritage trees), and 49 trees are Coast Live Oaks that will be encroached upon (including 3 heritage trees), totaling 203 Coast Live Oaks to be impacted onsite. Impacts to 203 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.
- 2 individual **Scrub Oaks** will be lost. Impacts to 2 Scrub Oaks is considered a *less than 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 216 oak trees onsite (including the loss of 162 oaks, and the encroachment of 54 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 10:1 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 10:1 (planting 2 or 10 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 1,179 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. Prior to the issuance of a grading permit, the applicant shall have prepared an oak resource management plan to be reviewed and approved by the DRP and County Forester. Only oak trees and oak resource habitat not in private lots will be credited as preserved habitat.

**AND**

**BIO27 Plant 15-gallon Young Oaks Onsite.** To mitigate for the loss of 162, and the encroachment of 54, 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 10:1 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 ten 15-gallon oaks shall be planted for each tree impacted. Therefore, at a 2:1 ratio, 298 15-gallon young oak individuals (including 282 *Q. agrifolia*, 4 *Q. berberidifolia*, and 12 *Q. lobata*) would be required for mitigation for the impacts to 216 *non-heritage* oak trees (including 162 non-heritage lost and 54 non-heritage encroached) onsite. In addition, 130 15-gallon young oak individuals (all *Q. agrifolia*) would be required for mitigation for the impacts to 19 *heritage* oak trees (including 13 heritage lost and 6 heritage encroached) onsite. A total of 428 15-gallon oaks will be required to mitigate for impacts to 216 oak trees, including 19 heritage trees. No existing 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

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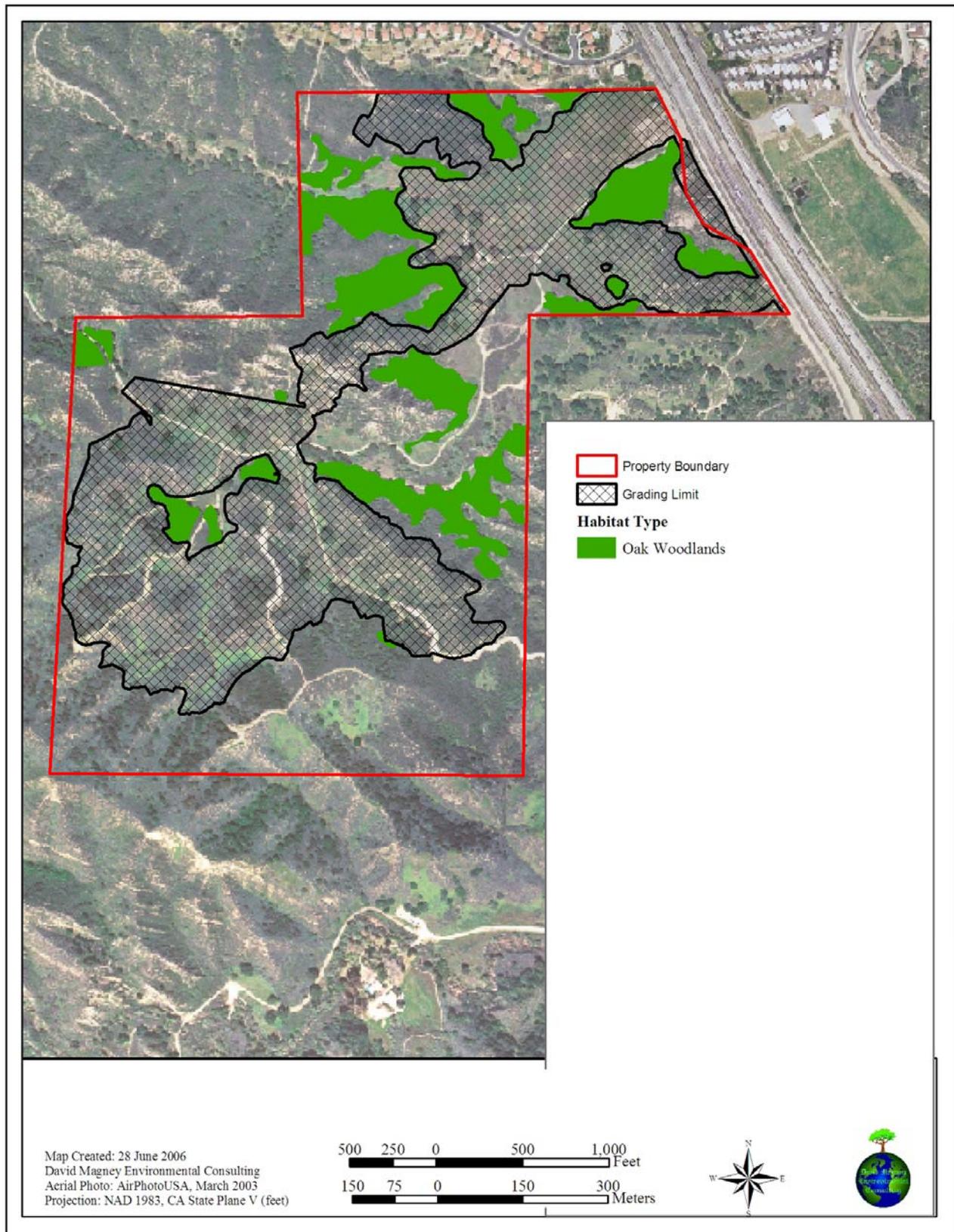
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this mitigation measure will be achieved if 100 percent of the acorns or seedlings survive after 7 years. Implementation of **BIO1** should also mitigate for impacts to oak species and woodland onsite.

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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 **BIO26** and **BIO27**. The economic value of the 164 oak trees to be lost is approximately \$4,211,730. In addition, the economic value of the 54 trees to be encroached is approximately \$2,125,400, totaling \$6,337,130 (including \$4,090,830 for 154 *Q. agrifolia* lost; \$1,865,700 for 49 *Q. agrifolia* encroached, \$12,000 for 2 *Q. berberidifolia* lost, \$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 oak habitat. 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**

**BIO28 Plant Acorns or Oak Seedlings Onsite.** To mitigate for the loss of 162, and the encroachment of 54, 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, 1,080 container seedlings would be required for mitigation for the impacts to 216 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 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:

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- 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 10:1 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 162 Coast Live Oak trees onsite, the encroachment of 54 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 2 Scrub Oaks onsite, as a result of the proposed project, will not significantly contribute to this regional cumulative loss, and is considered a *less than significant cumulatively significant* 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
<b>Total Corps Jurisdiction (Waters and Wetlands)</b>	<b>34,939.8</b>	<b>9.10</b>	<b>2.96</b>
CDFG Riparian Habitats	14,474.5	12.44 <sup>21</sup>	4.38
CDFG stream courses (without riparian vegetation)	19,343.4	3.07	1.36
<b>Total CDFG Jurisdictional Area<sup>22</sup></b>	<b>33,814.9</b>	<b>15.51</b>	<b>5.74</b>

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).

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

<sup>22</sup> 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)
<b>Coast Live Oak Riparian Woodland</b> ( <i>Quercus agrifolia</i> Alliance)	Yes	1.65	0.92	(0.46)	0.92	56	Yes	0.73
<b>Southern Mixed Riparian Forest</b> ( <i>Salix lasiolepis</i> Alliance and <i>Salix laevigata</i> Alliance)	Yes	0.81	0.00	0.09	0.09	11	Yes	0.72
<b>Southern Riparian Scrub</b> ( <i>Baccharis salicifolia</i> - <i>Sambucus mexicana</i> Alliance)	Yes	9.15	3.56	0.19	3.75	41	Yes	5.40
<b>Cismontane Alkali Marsh</b> ( <i>Distichlis spicata</i> Alliance)	Yes	0.34	0.26	0.08	0.34	100	Yes	0.00
<b>Totals:</b>	-	<b>11.95</b>	<b>4.74<sup>23</sup></b>	<b>0.36<sup>24</sup></b>	<b>5.10</b>	<b>43%</b>	Yes	<b>6.85</b>

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

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

<sup>24</sup> 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 retardant and drought tolerant plant material.
- Zone C-Thinning Zone
  - Purpose:

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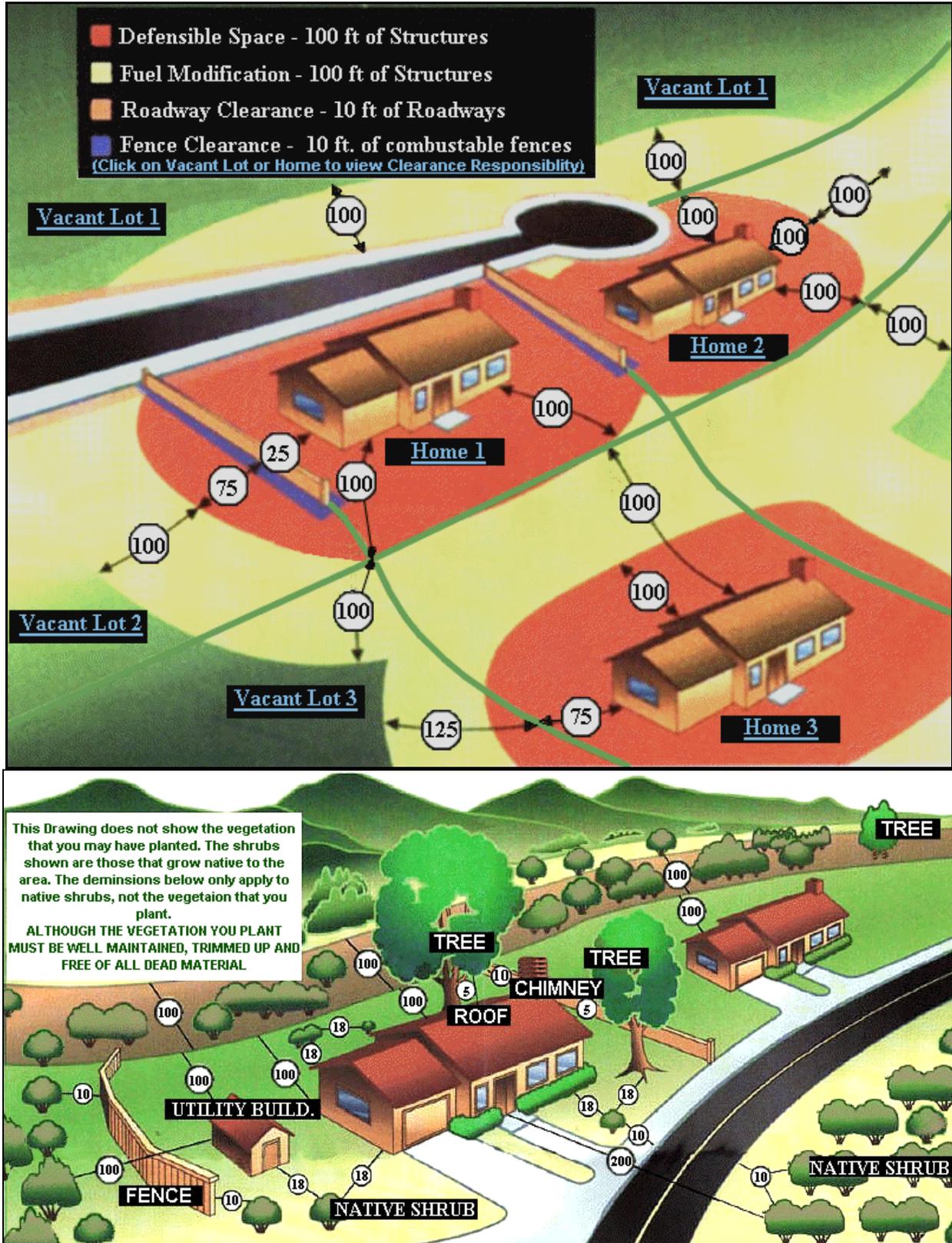
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- Designed to slow the rate of spread, reduce flame lengths, and intensities of the fire prior to reaching the irrigated area.
- Designed to eliminate the spread of fire from one plant to another via ladder fuels and eliminate horizontal continuity 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.

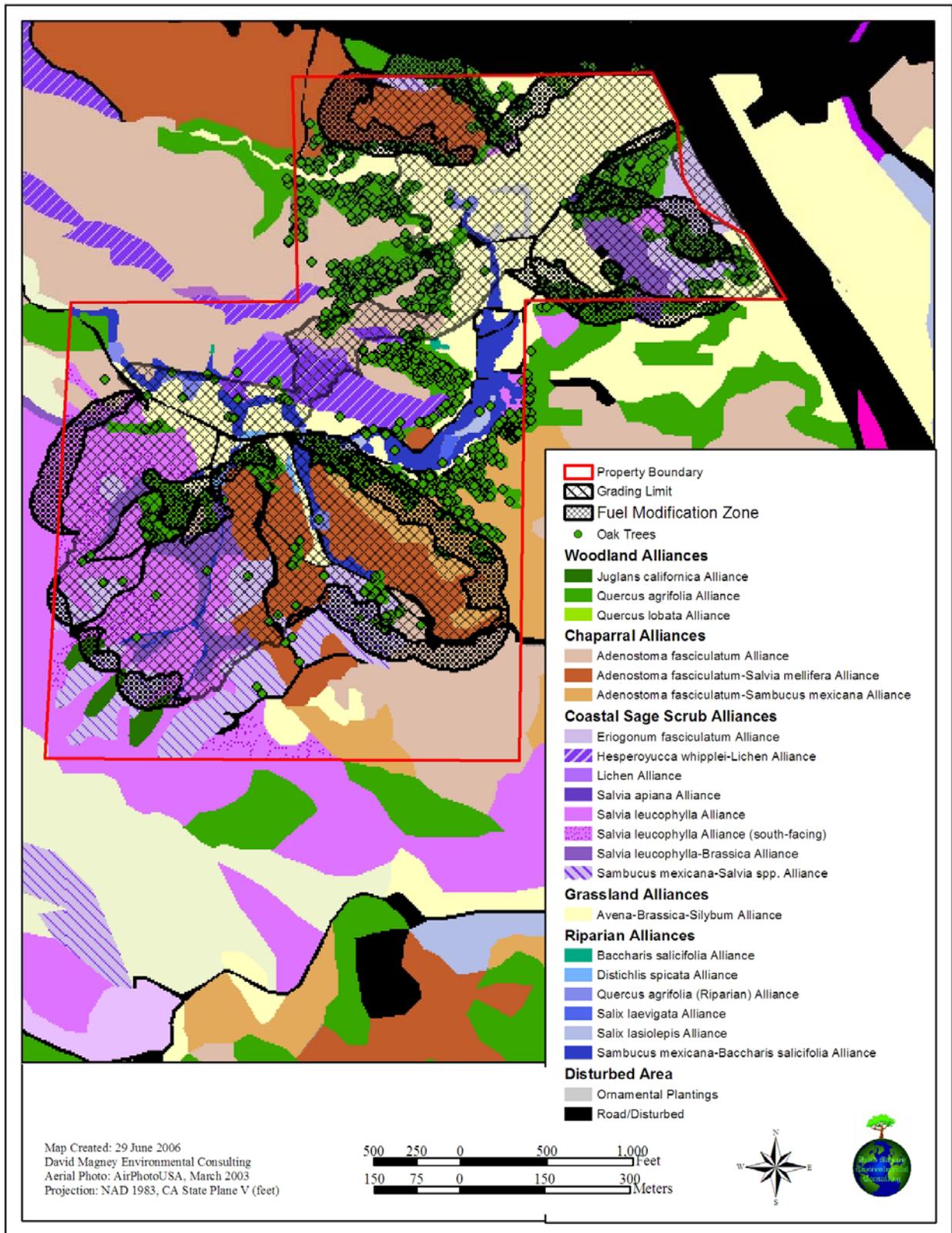
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**Exhibit 5.6-24. Example of Los Angeles Fire Department  
Fuel Modification Unit Requirements**



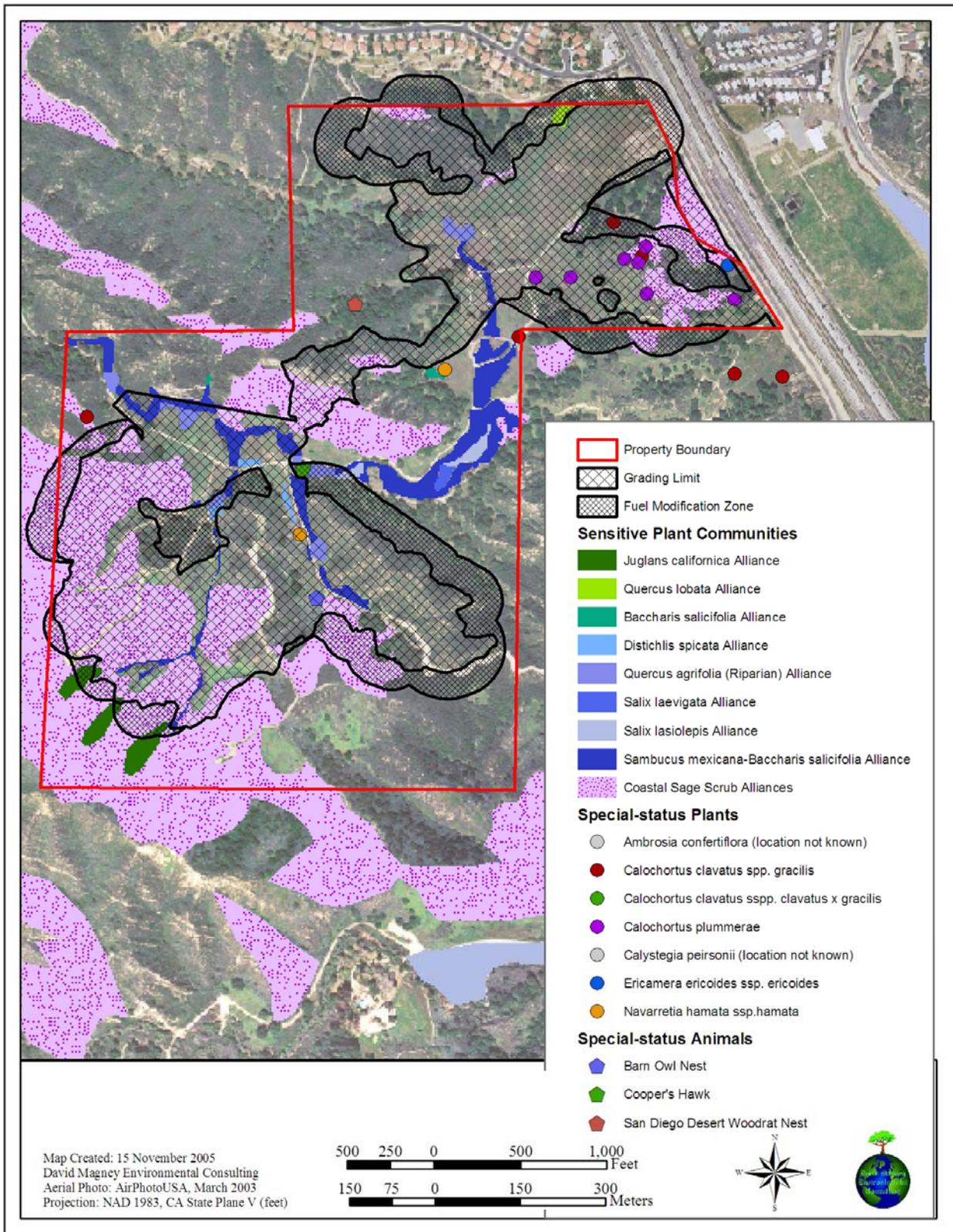
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**Exhibit 5.6-25. Impacts of Grading and Fuel Modification to Lyons Canyon Ranch Vegetation**



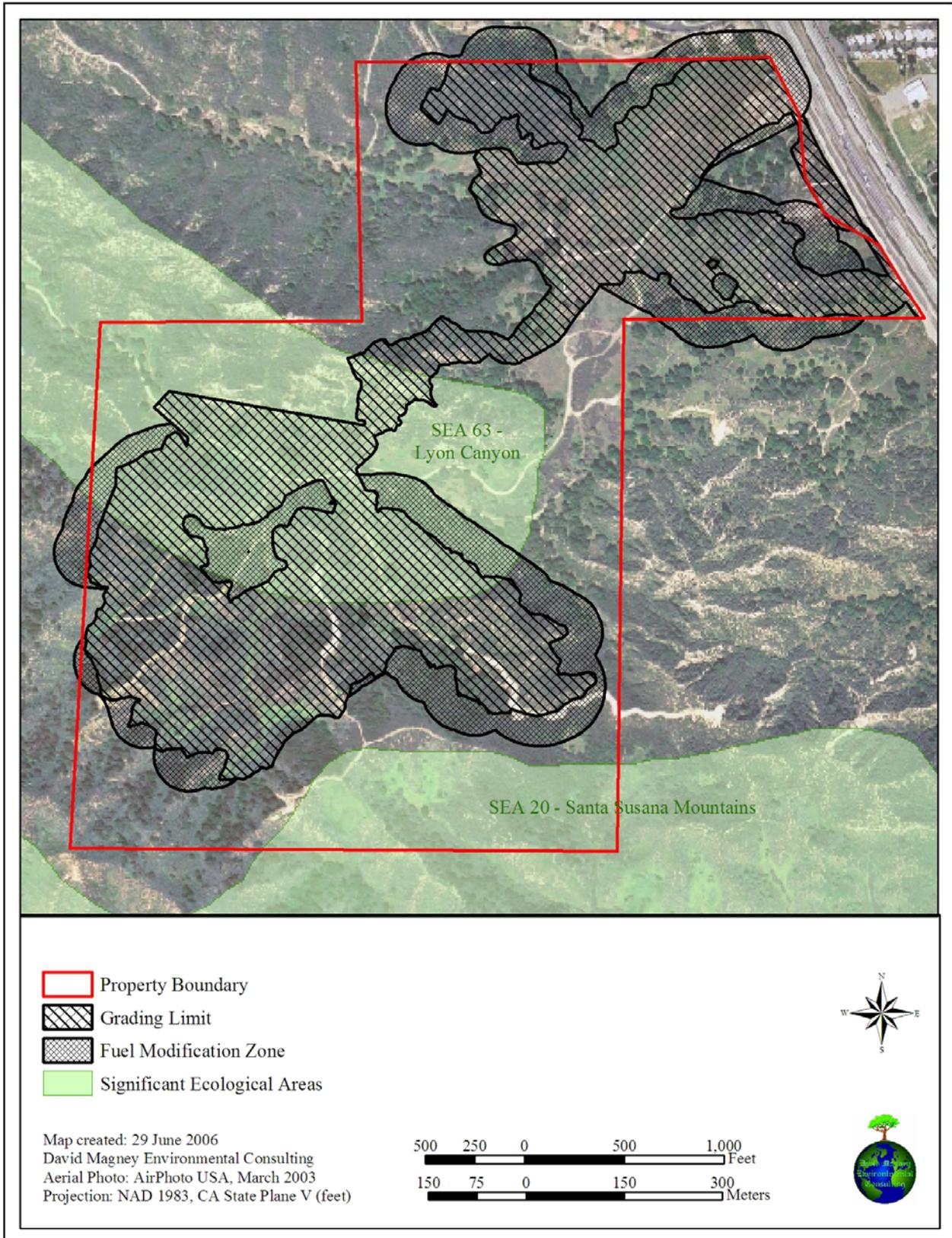
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**Exhibit 5.6-26. Impacts of Grading and Fuel Modification to Lyons Canyon Ranch Special-Status Species**



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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
<b>Riparian</b>				
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
<b>Upland</b>				
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
<b>Total Area of Natural Vegetation (not including oak woodlands) Impacted by Fuel Modification<sup>25</sup>:</b>		<b>19.88</b>	<b>2.62</b>	<b>22.50</b>
<b>Total Area of Natural Vegetation (including oak woodlands) Impacted by Fuel Modification<sup>26</sup>:</b>		<b>30.70</b>	<b>5.44</b>	<b>36.14</b>
<b>Urban</b>				
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

<sup>25</sup> 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.

<sup>26</sup> 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
<b>Total Area of Natural Vegetation Impacted by Grading &amp; Fuel Modification:</b>		<b>12.04</b>	<b>1.88<sup>27</sup> or 5.88<sup>28</sup></b>

**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.

<sup>27</sup> 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.

<sup>28</sup> 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 greater surrounding areas have 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, all but one of which are more than a half mile from the project site. This increase in habitat diversity probably reflects an increase in elevation and an increase in community diversity of the further 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 Lyon 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.

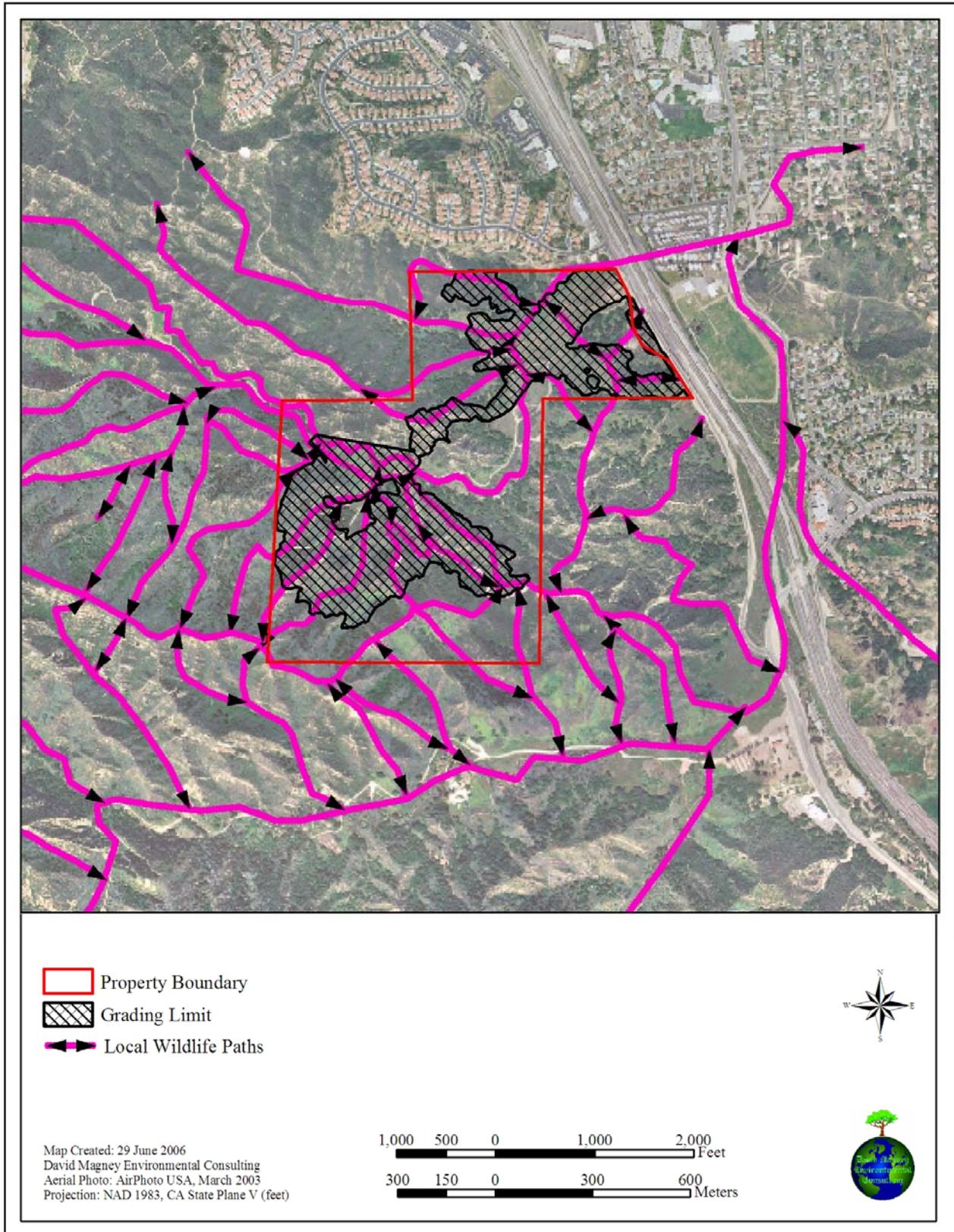
***Level of Significance After Mitigation:*** Significant

### **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

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## 5.7 CULTURAL RESOURCES

This section of the EIR evaluates the impacts of the proposed project on historical, archaeological, and paleontological resources. The analysis provided below is based on the proposed project's *Cultural Resources Assessment*, performed by BonTerra Consulting (November 2004), which is contained in its entirety in Appendix J.

### 5.7.1 ENVIRONMENTAL SETTING

BonTerra Consulting conducted a Phase I cultural resources assessment for the proposed project. The overall project site is presently undeveloped but portions have been used previously for ranching or farming, and as a filming locale for television and films.

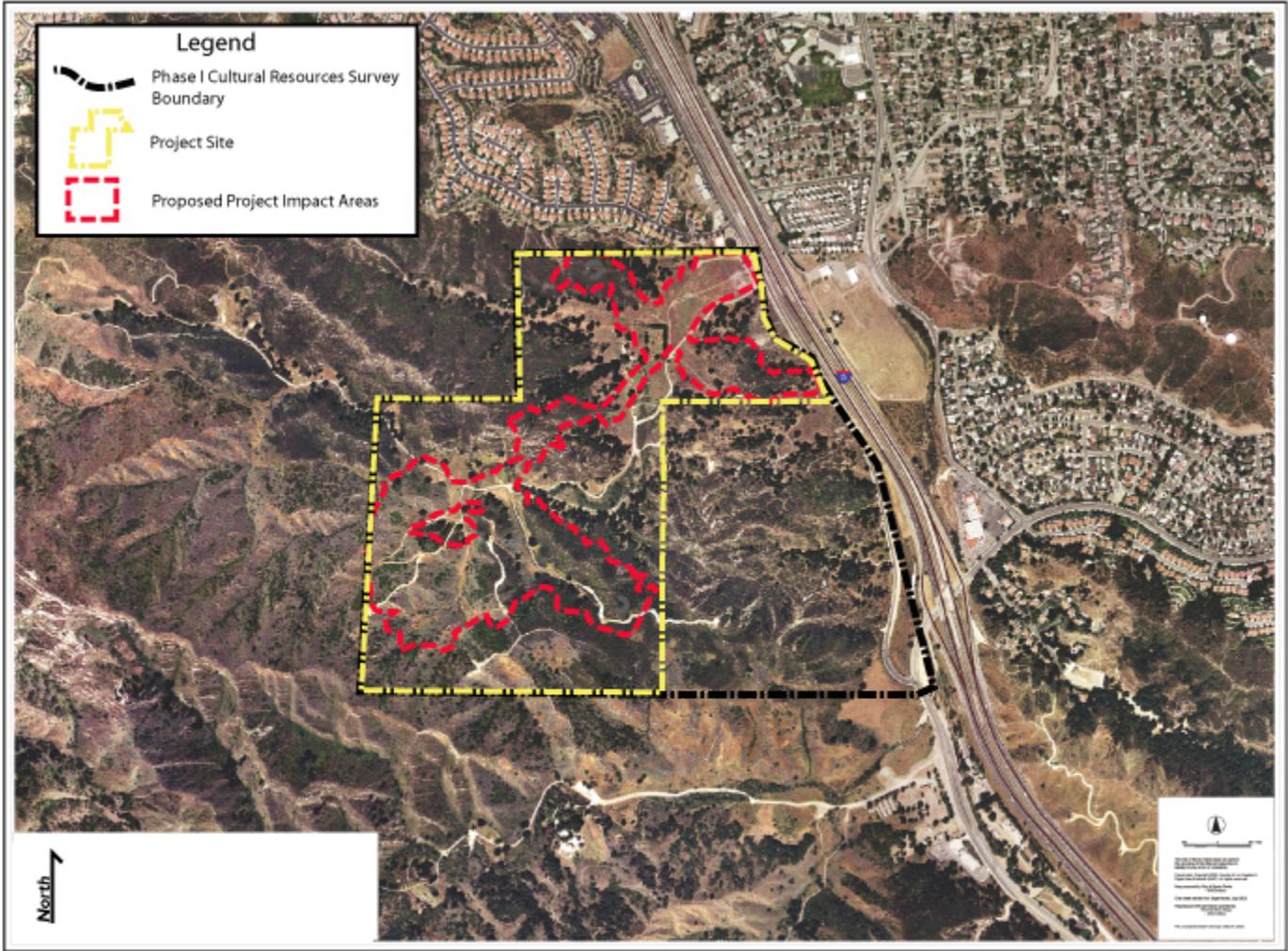
The proposed project is subject to the California Environmental Quality Act (CEQA) Guidelines. Impacts to drainages in the project area will require a Section 404 nationwide permit under the Clean Water Act (CWA) of 1977, which authorizes the U.S. Army Corps of Engineers (ACOE) to issue permits regulating impacts to waters and wetlands of the United States. To issue a Section 404 permit, the ACOE must comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, which requires federal agencies to consider the potential of a project to adversely affect cultural resources. In compliance with CEQA and Section 106, therefore, this study was conducted to identify whether any cultural (archaeological or historic) or paleontological (faunal or floral fossil) resources might be adversely affected by the proposed project.

#### LOCATION AND SETTING

The project site is located in the unincorporated Stevenson Ranch area near Santa Clarita in northwestern Los Angeles County. The specific location is best described as the northern half of Section 9, southeast quarter of the southwest quarter of Section 4, and southwest quarter of the southeast quarter of Section 4 in Township 3 North, Range 16 West (San Bernardino Base and Meridian), excluding minor portions along the eastern side of this area reduced by the Interstate 5 freeway corridor and The Old Road. The project site appears on the U.S. Geological Survey (USGS) *Oat Mountain 7.5'* Quadrangle. The 97-acres within the impact "footprint" include lowland areas as well as hills and ridgelines (refer to Exhibit 5.7-1, *Cultural Resource Survey Boundary and Impact Areas*).

The project site is characterized by hilly topography on either side of the site's central feature, the east-west trending Lyon Canyon drainage. This and an unnamed drainage just to the north have relatively flat bottoms, while others in the project site are V-shaped, cut by the erosion of steep slopes and sharp ridgelines.

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**Cultural Resource Survey Boundary and Impact Areas**

Exhibit 5.7 -1

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Elevations in the project site range from about 1,654 feet above mean sea level (msl) at the southwest corner to about 1,300 feet at the northeast corner. Lyon Canyon drains eastward into the South Fork of the Santa Clara River, which leads to the Santa Clara River (proper) 3.75 miles northeast of the project site. Following a wide, flat valley to the Pacific Ocean, the Santa Clara River is chiefly a shallow, multi-channel or “braided” streambed of sand and silt that has been utilized for quarry material and as productive farmland.

The Santa Clarita area is situated in the northern Transverse Ranges between the westernmost reaches of the San Gabriel Mountains to the east and Santa Susana Mountains to the west. Geologically, bedrock in this area is composed primarily of the Saugus Formation (non-marine). Within the project site, the Pico Formation (marine) also occurs. Both formations contain fossil materials. Alluvial lowlands in the project site have been disturbed, and vegetation is now dominated by intrusive species such as Slender Wild Oats (*Avena barbata*), brome grasses (*Bromus* sp.), pigweed (*Amaranthus albus*), mustards (*Brassica nigra*, *Hirschfeldia incana*), and filarees (*Erodium* spp.). Canyons burned in recent wildfires exhibit recovering chaparral growth, with Coast Live Oak (*Quercus agrifolia* var. *agrifolia*) and a few Valley Oak (*Quercus lobata*) surviving along the base of slopes.

### CULTURAL BACKGROUND

#### Prehistoric Background

The project’s *Cultural Resources Assessment* includes a detailed discussion of the history of the Santa Clarita area as relates to cultural resources. However, the most relevant discussion pertains to the most recent Native American residents of the Santa Clarita Valley, the Tataviam. The greatest potential for archaeological resources in the area, including burial sites, would be related to Tataviam settlements in the Valley.

The Tataviam were hunter-gatherers that spoke a variant of the indigenous Takic language. Takic-speakers are believed to have migrated into southern California from the Great Basin sometime between 1,000 and 3,000 years ago, an event some archaeologists believe interrupted the long-standing Millingstone way of life. Tataviam subsistence centered upon the seasonal gathering of plant foods (yucca, acorns, sage seeds, and juniper berries) and hunting (rabbit, rodents, deer, and antelope). Acorns, the staple food of most Late Period groups in California, may have been less important to the Tataviam, who utilized yucca more extensively. The plant was roasted in stone-lined earth ovens, often identified archaeologically.

With the Santa Clara River Valley and Antelope Valley acting as east-west corridors between the deserts and coast, the Tataviam likely participated in “down the line” long-distance trade. Shell beads found in the western Mojave Desert, for example were acquired by the Takic-speaking Kitanemuk through a trade network in which the Tataviam may have been linked with Hokan-speaking Chumash on the coast. Although the Tataviam and Chumash differed linguistically, some aspects of their material culture, such as ritual objects and pictographs, were quite similar.

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A number of Tataviam villages have been identified through historic registers at Mission San Fernando, including *tsawayung* at the original Mexican-era Rancho San Francisco headquarters near Castaic Junction, *akure'eng* near the spring at the Newhall townsite, and *tochonanga* southeast of the Newhall townsite.

### Historic Background

Historical accounts of development of the Santa Clarita Valley are most substantial following the California gold rush, during which time ranching and agriculture gave way to railroad development and oil speculation. During the winter of 1861-1862, relentless rains in southern California produced catastrophic floods that washed away buildings, crops, and livestock by the thousands. The floods were followed by two years of catastrophic drought that dealt another crippling blow to crops and livestock. Land values fell dramatically, and most ranchers were forced to sell their holdings. The crisis opened the door to speculators and entrepreneurs from the East Coast who envisioned profitable new developments on cheap land. One of these was Thomas A. Scott of the Pennsylvania Railroad. Scott sent Thomas Bard to California to purchase land in the quest for oil, and Bard purchased Rancho San Francisco in 1865. The enterprise was unsuccessful, and Bard sold Rancho San Francisco to rancher Henry Mayo Newhall in 1875. Oil speculation in the region, however, continued at a brisk pace as discoveries were made in other locations.

On 6 September 1876, the Southern Pacific Railroad was completed through Soledad Canyon and crossed Newhall's Rancho San Francisco along the upper Santa Clara River. The golden spike driven at Lang Station represented a critical link between Los Angeles, northern California, and transcontinental routes to the east. The site of Lang Station is designated California Historical Landmark No. 590. A station aptly named Newhall was established on 28 October 1876, but was renamed Saugus two years later when the original name was transferred to a new station constructed two miles to the south.

The earliest attempts to commercialize oil in southern California occurred during the 1850s. The region was already well known to Native Americans and early explorers for tar seeps and petroleum springs, but the first saleable petroleum-based products were lamp fuels such as camphene and kerosene (made to replace the more expensive alternative, whale oil), and lubricants. Crude petroleum for these products was skimmed or dipped from pools on the surface or in pits or shafts. According to Hutchinson, the first "true" oil well in southern California was drilled in 1865 near Piru.

Oil speculation in Rancho San Francisco had commenced under Thomas Bard in 1865. However, Henry Mayo Newhall, who had acquired the ranch from Bard ten years later, was not interested in the oil business and concentrated instead on traditional ranching pursuits – raising cattle, sheep, and horses – and agricultural endeavors, such as growing wheat and fruit trees and improving irrigation. Even so, he allowed speculation by "wildcatters" to continue. In 1875, Well No. 4 in Pico Canyon struck oil, becoming the state's first successful well and establishing the Newhall Field. "Pico No. 4" is designated California Historical Landmark No. 516. All

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other speculation efforts on the ranch failed, however, and as late as 1934 Newhall's son William declared that, "there is no indication that this ranch is an oil property." It wasn't until 1936 – more than 60 years after the strike at Pico No. 4 – that oil was struck on the ranch again, in Potrero Canyon. By 1940, however, most pools in the Greater Newhall Field had been exhausted, and the majority of operations in the Newhall area were shut down. The Castaic Junction and Honor Rancho fields were discovered in 1950, but did not produce substantial yields.

In 1914, construction began on a more direct roadway over the Liebre Mountains between the Newhall-Saugus area and Gorman. Originally a graded dirt surface called the Tejon Route, the road was opened to vehicles in 1915. The roadway was finished with concrete in 1919 and eventually became known as the Ridge Route. To better handle the increasing volume of traffic, the more streamlined Highway 99 was constructed in 1933, now superceded by the modern Interstate 5 freeway.

## METHODOLOGY

### Cultural Resources

#### *Records Search*

A cultural resources records search for the Lyons Canyon Ranch project was conducted by staff of the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on 14 October 2004. The SCCIC is the designated branch of the California Historical Resources Information System (CHRIS) maintaining records on archaeological and built-environment resources located in Los Angeles County. The records search provided information on all cultural resources and previous studies that have been recorded within one mile of the project site. The SCCIC reviewed archaeological records, Archaeological Determinations of Eligibility (DOE) listings, historic maps, the California Historic Resources Inventory (HRI) for Santa Clarita and vicinity, and the City of Los Angeles inventory of Historic-Cultural Monuments. The HRI contains listings for the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), State Historical Landmarks (SHL), and California Points of Historical Interest (PHI).

#### *Section 106 Consultation*

In compliance with Section 106 of the NHPA, the resource identification effort included consultation with the Native American Heritage Commission (NAHC) in Sacramento regarding the possibility of special Native American sites in the project vicinity. On 13 October 2004, the NAHC reviewed the sacred lands file and prepared a list of local representatives who could be contacted in regard to the project. On 15 October 2004, a Native American representative directly associated with the Santa Clarita area was contacted in regards to the proposed project.

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Also in compliance with Section 106, the identification effort included consultation with local historical groups regarding the possibility of non-Native American historic-era sites or resources in the vicinity of the project that might not be identified in state or county inventories. The following agencies were also contacted:

- ◆ Historical Society of Southern California, Los Angeles
- ◆ San Fernando Valley Historical Society, Mission Hills
- ◆ Santa Clarita Valley Historical Society, Newhall
- ◆ William S. Hart County Park and Museum, Newhall

### *Archaeological Field Survey*

A systematic archaeological field survey of the project site was conducted by Richard Shepard, M.A. of BonTerra Consulting on 11 and 13 October and 3 November 2004. Mr. Shepard is a Registered Professional Archaeologist (RPA) qualified under CEQA and Secretary of the Interior Standards. The project site was walked in parallel transects averaging 15 meters in width and oriented east-west in flat areas near the mouth of Lyon Canyon and north-south in the canyon's narrow upper reaches. Ridgelines exhibiting a possibility of retaining archaeological materials were walked according to their axes. Steep slopes were not surveyed because gravity and erosion prevent retention of archaeological materials on such landforms. Ground visibility ranged from good (on ridgelines) to poor (in canyon bottoms) because of variable vegetation. A Magellan Meridian Global Positioning System (GPS) unit was carried to accurately map any resources encountered, and a Canon EOS 2000 35-millimeter camera was used for general-purpose photographs.

## PALEONTOLOGICAL RESOURCES

### Records Search and Literature Review

To meet additional requirements under CEQA in the general category of Cultural Resources, a paleontological resources records search and literature review for the project site was conducted by Samuel McLeod, Ph.D., a qualified paleontologist in the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County (NHMLAC) on October 5, 2004. The NHMLAC is the designated repository for records concerning fossil resources and localities in Los Angeles County. The records search and literature review provided data on fossil types and localities recorded within a wide radius of the project.

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## RESULTS OF THE CULTURAL RESOURCES ASSESSMENT

### Cultural Resources

#### *Records Search Results*

##### Previous Research

The SCCIC reported that at least 16 previous studies have been conducted within one mile of the project site. Six of these consisted of archaeological surveys that covered various portions of the project site, summarized in Table 5.7-1, *Previous Surveys Within the Project Site*.

**Table 5.7-1  
Previous Surveys Within the Project Site**

SCCIC Report No.	Author(s) and Year	Total Coverage, Relative Portion of the Current Project Site, and Resources Identified
LA-23	Nelson (no date)	175 acres (approx.), northernmost edge of the project site, no resources
LA-103	Singer 1975	50 acres (approx.), southeast corner of the project site, no resources
LA-1062	Schliz 1981	470 acres, western and northern areas of the project site, no resources
LA-2950	Peak and Associates 1992	172 acres, eastern edge of the project site, no resources (in the vicinity of the project site)
LA-3000	Simon and Whitley 1993	225 acres, western and northern areas of the project site, unspecified resources
LA-5533	Smith 2000	1 linear mile, eastern side of the project site, no resources

The data in Table 5.7-1 show that even though various portions of the project site were examined by a number of previous surveys, no resources were identified within the Lyons Canyon Ranch project area. Based on these results, one would predict that few or no resources would be identified in unsurveyed areas of the project site as a result of this investigation.

### PREVIOUSLY RECORDED RESOURCES

The SCCIC reported that four archaeological sites and four isolated features have been recorded within one mile of the project site, all within Towsley Canyon south of the project site. The four archaeological sites are summarized below in Table 5.7-2, *Archaeological Sites Recorded Within One Mile of the Project Site*.

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**Table 5.7-2  
Archaeological Sites Recorded Within One Mile of the Project Site**

SCCIC Designation	Year Recorded	Site Description
CA-LAN-802	1977	Prehistoric site consisting of two lithic artifacts
CA-LAN-1592H	1989	Historic site consisting of wood and metal structural debris, abandoned appliances, and other refuse; materials appeared to be more recent than historic, probably post-World War II
CA-LAN-1593H	1989	Historic site consisting of large concrete slab and sparse scatter of glass, ceramic, and metal artifacts; possibly associated with oil exploration activities
CA-LAN-1598	1989	Historic <sup>1</sup> Native American site consisting of a sandstone rockshelter containing black and red pictographs (rock paintings) depicting historic-era themes (e.g., buildings); no artifacts
<p>Notes:</p> <p>1) This site has not been confirmed as being historic or prehistoric (i.e., prior to European colonization). The pictographs at the site were described as being representative of rectangular-shaped buildings, which were only found after arrival of European settlers, although cave painting is typically considered a prehistoric tradition. As such, it is not clear if the paintings predate European arrival (prehistoric) or following European settlement (historic). However, given the depiction in the paintings, the site is listed as historic.</p>		

The four isolated features include wooden bridge remnants and refuse scatter, large metal water tank, subsurface well lined with sandstone boulders, and an unknown feature. It is not known whether these features are still present in their recorded locations.

The nearest of these resources is CA-LAN-802, recorded 500 feet south of and well downslope from the south-central edge of the project, along the northern side of Towsley Canyon. The site was described in 1977 as consisting of only two artifacts (basalt core and chalcedony blade). It is not known whether these artifacts are still present in their recorded location.

The SCCIC reported that the current edition of the Los Angeles County HRI (3 August 2004) lists only two historic properties within one mile of the project site: “Old Road Bridge” and “Oak of the Golden Dream”. It was concluded that Old Road Bridge is not located on the segment of The Old Road between Pico Canyon Road/ Lyons Avenue north of the project site and Calgrove Boulevard south of the project site. While the commemorative plaque for Oak of the Golden Dream is positioned at the southeast corner of Interstate 5 and Lyons Avenue (0.5 mile north of the project), the actual site of the historic tree, which marks the spot where gold was discovered in 1842, is located in Placerita Canyon State Park/Natural Area some four miles east of the project site.

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### ARCHIVAL MAPS

The following archival maps in which the project area appears were reviewed by the SCCIC and/or BonTerra Consulting for evidence of early development within the site:

- ◆ 1903 USGS *Camulos* 30' Quadrangle, surveyed 1893 and 1900-1901
- ◆ 1903 USGS *Santa Susana* 15' Quadrangle, surveyed 1900
- ◆ [no date] USGS *Newhall* 6' Quadrangle, surveyed 1925-1929 (pre-1933 advance sheet)
- ◆ 1933 USGS *Newhall* 6' Quadrangle, surveyed 1925-1929
- ◆ 1941 USGS *Santa Susana* 15' Quadrangle, aerial photos 1940-1941
- ◆ 1952 USGS *Oat Mountain* 7.5' Quadrangle, aerial photography 1947
- ◆ 1969 USGS *Oat Mountain* 7.5' Quadrangle, revision of 1952 edition (aerial photos 1969)

The 1903 quadrangles show no circa 1900 development (structures, roads, wells, or other cultural features) within the project site. No roads are shown in or adjacent to the project site, or are there any indications of 19th century oil speculation by Sanford Lyon.

The 1933 quadrangle (based on surveys in 1925-1929) shows three structures and a drainage feature within the project site. These include a structure near the confluence of the two main drainages in the project site (SE ¼ of SE ¼ of SE ¼ of SE ¼ of Section 4), two structures roughly 1,400 feet south of that point (SE ¼ NE ¼ of NW ¼ of Section 9), and a small check dam roughly 1,250 feet northwest of the second point (NW ¼ of NE ¼ of NW ¼ of NW ¼ of Section 9), all linked by an unimproved road through Lyon Canyon. U.S. Highway 99, constructed in 1930, is shown as a single-width roadway passing by the eastern side of the project site. The highway is not paralleled in this location by a secondary road where The Old Road is today.

The 1941 quadrangle (based on aerial photos taken in 1940-1941) shows the unimproved road within the project site as indicated by the previous quadrangle, but the circa 1925-1929 structures no longer appear. Two different structures are shown next to the western edge of U.S. Highway 99 (single-width roadway) along the eastern periphery of the project site. No secondary road appears next to the highway where The Old Road is today.

The 1952 quadrangle (based on aerial photos taken in 1947) shows that the two structures along the eastern periphery of the project site had been removed, probably as a result of improvements to U.S. Highway 99, which had by this time been widened to a divided roadway. Other structures are shown in the approximate locations of those depicted in the 1933 quadrangle, as well as a structure on a hillside near the northeast corner of the project site. Again, no secondary road appears next to the highway where The Old Road is today. The Old Road does not appear in its current alignment next to the project site until revisions to the quadrangle were made in 1969. Several additional structures had appeared within the project site by that time.

### SECTION 106 CONSULTATION RESULTS

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The NAHC reported that the sacred lands file did not indicate any special Native American sites or resources in the vicinity of the project site. Local Native American representative John Valenzuela stated that he has general concerns about this and other projects in the Santa Clarita-Canyon Country area, but did not identify any specific sites or resource locations nor indicate that the project would affect any such locations.

No responses were received from any of the local historical groups contacted in regard to the possibility of locally important or unrecorded historic-era sites in the project vicinity.

### FIELD SURVEY RESULTS

No archaeological sites or potentially significant resources were identified within the project site during the field survey. No standing buildings are present in the project site. No evidence of prehistoric or historic-era archaeological deposits was observed. Although the check dam shown in the 1933 quadrangle remains in place, no evidence of any early buildings could be identified. The only visible structure-related remains consist of the following:

- ◆ Generic concrete slabs, small concrete shed, asphalt road surfaces, wire fencing, and power poles (charred by recent wildfires) in the area near the confluence of the two main drainages (SE ¼ of SE ¼ of SE ¼ of Section 4);
- ◆ Generic wire fencing, livestock watering trough, and power poles (charred by recent wildfires) in the area south of the first location (SE ¼ of NE ¼ of NW ¼ of Section 9);
- ◆ Check dam constructed of poured concrete with square steel “re-bar” and a steel outlet valve embossed with WALWORTH, situated in a small V-shaped side canyon (NE ¼ of NW ¼ of NW ¼ of Section 9); and
- ◆ Graded, asphalt-covered pad and small diameter water pipe in the location of a structure shown by the 1952 quadrangle on a hillside near the northeast corner of the project site (SE ¼ of NW ¼ of SW ¼ of SE ¼ of Section 4) – probably a pump shed or water tank.

The only observed evidence of early activity in the project site consists of the concrete check dam, which dates to the 1920s according to USGS quadrangles. Lengths of exposed “re-bar” across the top edge indicate that an additional upper portion or tier was present but is now missing. The cavity behind the dam is heavily silted in. The check dam is generic in design and materials and as an incomplete isolated feature is not a potentially significant resource.

The Old Road along the eastern side of the project site, by virtue of its name, is suggestive of a historic-era feature, but USGS quadrangles show that it did not exist in its present alignment until after World War II and perhaps not until the 1960s. The name appears to memorialize a road that was built through Weldon Canyon/Gavin Canyon during 1929 as an alternative to “the old road” (San Fernando Road, at the time the main link between Los Angeles, Newhall, and areas to the north). The alternate route was needed because a narrow tunnel on San Fernando

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Road south of Newhall caused bottleneck traffic congestion. The Weldon Canyon cut-off road, as it was known, was only 20 feet wide and was erased, as indicated by USGS quadrangles, when overlain in 1933 by U.S. Highway 99 (known as the Ridge Alternate because it provided a streamlined alternative to the original Ridge Route of 1915). By 1972, U.S. Highway 99 itself had been overlain in this area by Interstate 5, the Golden State Freeway. Thus, The Old Road adjacent to the project site is a relatively recent feature.

## PALEONTOLOGICAL RESOURCES

### Records Search and Literature Review Results

According to the NHMLAC, flatlands and canyon floors within the project site are composed primarily of relatively recent alluvium, and these areas, therefore, are not likely to contain significant fossil resources. However, uplifted slopes, ridges, and associated bedrock within the project site are composed of either the non-marine Saugus Formation (roughly the northeastern two-thirds of the project site) or slightly older marine Pico Formation (roughly the southwestern one-third of the project site). Both formations originated during the Pliocene epoch some five million years ago, and both have been known to contain significant vertebrate fossil remains at other nearby sites.

The NHMLAC reported that two fossil localities, LACM 6145 and 6146, occur near the southeastern corner of the project site. These localities produced fossilized shark and fish characteristic of the marine Pico Formation, including Bull Shark (*Carcharhinus*), Basking Shark (*Cetorhinus*), Guitarfish (*Rhinobatos*), Sheepshead (*Semicossyphus*), and Eagle Ray (*Myliobatis*). Other fossil localities from the Pico and Saugus Formations are also recorded in the general area and are summarized in Table 5.7-3, Fossil Localities Recorded in the Vicinity of the Project Site.

**Table 5.7-3  
Fossil Localities Recorded in the Vicinity of the Project Site**

NHMLAC Designation	General Area of Discovery	Geologic Formation and Description of Fossil(s)
LACM 1931	Santa Susana area	Pico Formation: rare Right Whale, <i>Balaenidae</i>
LACM 5456	Brown's Canyon	Pico Formation: Bonito Shark, <i>Isurus planus</i> , White Shark, <i>Carcharocles</i>
LACM 6145	Project site	Pico Formation: Bull Shark, <i>Carcharhinus</i> , Basking Shark <i>Cetorhinus</i> , Guitarfish <i>Rhinobatos</i> , Sheepshead <i>Semicossyphus</i> , Eagle Ray, <i>Myliobatis</i>
LACM 6146	Project site	Pico Formation: Bull Shark, <i>Carcharhinus</i> , Basking Shark <i>Cetorhinus</i> , Guitarfish <i>Rhinobatos</i> , Sheepshead <i>Semicossyphus</i> , Eagle Ray, <i>Myliobatis</i>
LACM 6601	San Fernando area	Saugus Formation: deer and rare tapir, <i>Tapirus merriami</i> (scientific paper)
LACM 6803	Saugus area	Saugus Formation: dog, <i>Canidae</i> , horse, <i>Equus</i> , camel, <i>Camelidae</i>
LACM 6804	Saugus area	Saugus Formation: dog, <i>Canidae</i> , horse, <i>Equus</i> , camel, <i>Camelidae</i>

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LACM 6871	Saugus area	Saugus Formation: dog, <i>Canidae</i> , horse, <i>Equus</i> , camel, <i>Camelidae</i>
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The NHMLAC concluded that excavations within the project site in areas other than canyon floors, where relatively recent alluvium predominates, are likely to encounter significant vertebrate fossil resources. DMEC has observed and mapped marine fossil beds onsite. Exhibit 5.7-2, Fossil Beds at Lyons Canyon Ranch, illustrates three specific locations where marine fossil beds were exposed.

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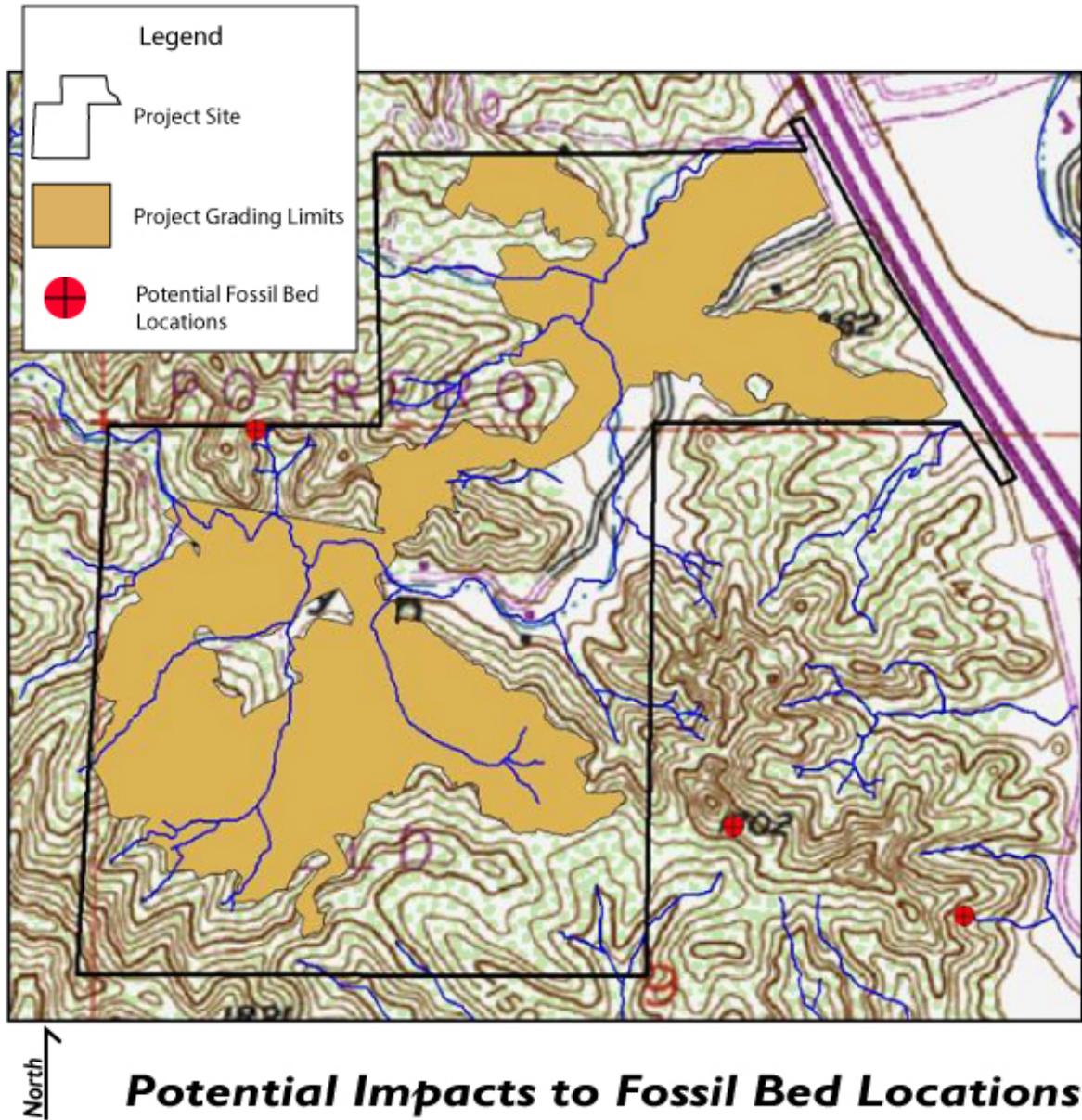


Exhibit 5.7-2

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### 5.7.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to cultural resources. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- ◆ Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5;
- ◆ Disturb any human remains, including those interred outside of formal cemeteries; and
- ◆ Directly or indirectly destroy or impact a unique paleontological resource or site or unique geologic feature.

### 5.7.3 IMPACTS AND MITIGATION MEASURES

#### HISTORIC RESOURCES

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT WOULD HAVE THE POTENTIAL TO ADVERSELY AFFECT THE SIGNIFICANCE OF HISTORIC RESOURCES ON, OR IN THE VICINITY OF, THE PROJECT SITE.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** A review of historic USGS quadrangles showed that the earliest constructed features in the project site consisted of three structures and a drainage feature (small check dam) in Lyon Canyon during the 1920s, decades after oil speculation by pioneer Sanford Lyon. All three structures were removed by 1941, with later buildings placed in these areas after World War II.

No archaeological sites or potentially significant resources were identified within the project site as a result of the field survey. No standing buildings are present in the project site, and no evidence of historic-era archaeological deposits was observed. No evidence of oil speculation by Sanford Lyon was observed. The small check dam, constructed of poured concrete and reinforced with steel “re-bar”, remains in place but is missing an upper tier. As an incomplete isolated feature that is generic in design and materials, the *Cultural Resources Assessment* concluded that the check dam does not have a potential to yield important historical information

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and is therefore not significant as an *historical resource* according to CEQA. Under CEQA, *historical resources* are defined as buildings, structures, districts, sites, or objects that are eligible for the California Register of Historic Resources (*CEQA Guidelines* §§15064.5.a.3, PRC §§5020.1.j, 5024.1.c). The eligibility criteria for the California Register are similar to those for the National Register, under which a resource must be shown to be important in American prehistory or history (i.e. national-level significance). The check dam is not eligible for either the California Register of National Register. Therefore, any project-related impacts to it would not constitute an adverse effect on a significant resource as defined under CEQA or the National Register.

According to USGS quadrangles, The Old Road along the eastern side of the project site is not an historic feature, the present alignment dating to after World War II and as late as the 1960s. Therefore, realignment and other project-related improvements to the roadway would not constitute an adverse effect on a significant resource as defined under CEQA or the National Register.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### ARCHAEOLOGICAL RESOURCES

◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT WOULD HAVE THE POTENTIAL TO ADVERSELY AFFECT THE SIGNIFICANCE OF ARCHAEOLOGICAL RESOURCES AT THE PROJECT SITE.***

**Level of Significance Before Mitigation:** Potentially Significant Impact.

**Impact Analysis:** The cultural resources records-search showed that even though portions of the project site were examined during six previous surveys, no resources were identified or recorded within the project site. The NAHC, local Native American representative, and local historical groups consulted did not identify any sites or resources in the immediate vicinity of the project.

Grass and leaf cover and recent alluvial soils onsite may be obscuring evidence of prehistoric or early historic activities on the floor of Lyon Canyon. A narrow hillside cleft near the southeast corner of the project site exhibits a buildup of colluvium in front of the natural feature. Such areas have a higher potential to contain previously undiscovered archaeological resources than the remainder of the project site. Nonetheless, the *Cultural Resources Assessment* recommends monitoring of grading activities to reduce the potential for adverse impacts to any such resources existing onsite to a less than significant level.

**Mitigation Measures:**

- CR1      A project archaeologist shall be retained to provide training to construction crew members and onsite monitors. A pre-meeting shall be conducted in which the

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project archaeologist shall explain the procedures necessary to protect and safely remove potentially significant cultural materials when such resources are found during construction grading, primarily excavation.

- CR2 A cultural resource monitoring program shall be instituted during the initial vegetation clearance and soil disturbance for the project. The purpose of this monitoring program is to determine if any significant deposits not identified during the Phase I cultural resources survey exist within the project boundary. The monitoring shall be limited to the initial vegetation clearance and soil disturbance phases of the construction grading. If cultural deposits are found and meet the significance criteria defined in Public Resources Code Section 21083.2(g), limited data recovery shall be conducted consistent with present financial and research limitations established in *CEQA Guidelines*. Native Americans shall be actively involved in the monitoring and any subsequent phases of the project mitigation program. Native American participation shall include monitoring of archaeological investigations, construction monitoring, and data analysis. The County shall retain control over the selection and participation of Native Americans in any program required for the project.

*Public Resources Code Section 21083.2(i) and implemented in CEQA Guidelines Section 15064.5 make allowances for the evaluation of accidental discovery of archaeological deposits encountered during construction. The recommended procedures involve testing the unexpected remains using conventional archaeological techniques, determining the significance of the deposits, and recommending a mitigation program (or excavation plan, as such programs are referred to in CEQA). The procedure provides a fair and reasonable method for protecting the resources involved while avoiding unnecessary costs and delays which would result from the necessity of reopening a case for environmental and development review. In essence, under the "Discoveries during Construction" portions of Public Resources Code Section 21083.2(i) and CEQA Guidelines Section 15064.5 mandate evaluation of significance and determination of proper mitigation proceeds in an expedited manner (since the project has already been approved) while meeting the intents of the law.*

***Level of Significance After Mitigation:*** Less Than Significant Impact.

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT WOULD HAVE THE POTENTIAL TO ADVERSELY AFFECT THE SIGNIFICANCE OF UNDISCOVERED HUMAN REMAINS AT THE PROJECT SITE.***

***Level of Significance Before Mitigation:*** Potentially Significant Impact.

***Impact Analysis:*** Although there is no indication that human remains are interred on the project site, such resources potentially exist that could be disturbed during grading activities.

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### ***Mitigation Measures:***

- CR3 If human remains are discovered during grading activities, the Los Angeles County Coroner's Office shall be notified immediately, per state law, and all activities in the immediate area shall cease, until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are Native American, the NAHC shall also be contacted. The NAHC shall designate a Most Likely Descendent (MLD) who will make recommendations concerning the disposition of the remains in consultation with the property owner and project archaeologist. Those recommendations shall be implemented.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

### **PALEONTOLOGICAL RESOURCES**

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT WOULD HAVE THE POTENTIAL TO ADVERSELY AFFECT THE SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES AT THE PROJECT SITE.***

***Level of Significance Before Mitigation:*** Potentially Significant Impact.

***Impact Analysis:*** A paleontological resources records search and literature review showed that the project site is composed of relatively recent alluvium in canyon bottoms and the fossil-bearing Saugus and Pico Formations in adjacent hillsides and ridges. Two fossil localities are recorded in or near the southeast corner of the project site, and significant fossils have been recovered from the Saugus and Pico Formations at other localities in the general vicinity. Fossilized marine shell material is currently visible in some areas of the project site (as shown on Exhibit 5.7-2), particularly in the south. The project site has a relatively high potential to contain paleontological resources. As such, the *Cultural Resources Assessment* recommends monitoring of grading in hillsides, ridges, and associated bedrock to reduce impacts to significant fossil resources to a less than significant level.

### ***Mitigation Measures:***

- CR4 A qualified paleontologist shall be designated and retained to conduct training and supervise onsite monitoring. A pre-construction meeting shall be conducted in which the project paleontologist shall explain the procedures necessary to protect and safely remove potentially significant fossil materials for study and curation at the NHMLAC.
- CR5 Monitoring of grading activities shall be conducted by a qualified paleontologist, or monitor(s) supervised by a qualified paleontologist, and shall include periodic screening of sediment samples to identify potential macro and microfossil

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materials. Sediment samples may be removed in bulk and screened in a designated area onsite to minimize interference with grading operations. The monitoring program shall be directed by a qualified paleontologist and shall consist of the recovery, preparation (to a point of identification), and cataloguing of fossil materials.

- CR6 Fossil beds impacted by the proposed project should be excavated by a qualified paleontologist to gather and record which species of vertebrate and macroinvertebrate fauna existed onsite during the Pliocene. The fossil record should be preserved in an appropriate museum, such as the Natural History Museum of Los Angeles County, and the results published for the benefit of the scientific community and general public.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### 5.7.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO CULTURAL RESOURCES.***

*Level of Significance Before Mitigation:* Potentially Significant Impact.

**Impact Analysis:** Impacts related to cultural resources are limited to physical changes to such resources on the project site. Accordingly, since cultural resources impacts are site-specific, impacts to resources located offsite could not occur as a result of project implementation. Therefore, impacts resulting from the proposed project and other related projects would not be cumulatively considerable.

**Mitigation Measures:** Refer to mitigation measures CR1 through CR6. No additional mitigation measures are required.

*Level of Significance After Mitigation:* Less Than Significant Impact.

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## **5.8 MINERAL RESOURCES**

This section addresses the potential impacts of the proposed project on mineral resources (i.e., sand, gravel and petroleum). The analysis describes the regulatory setting and the existing physical conditions of the proposed project site as related to such mineral resources. Impacts are addressed in terms of whether implementation of the proposed project would result in the permanent loss of, or loss of access to, any such resources occurring within the proposed project site.

### **5.8.1 ENVIRONMENTAL SETTING**

#### **EXISTING CONDITIONS**

##### **Regional Conditions**

Mineral resources in California are regulated by the state Department of Conservation's California Geological Survey (CGS), formerly known as the Division of Mines and Geology. Mineral Resource Zone areas containing notable sand, gravel, or other mineral deposits, as designated by the CGS, are not located in, or near, the proposed project site.

##### **Local Conditions**

The geologic makeup at the project site consists of artificial fill, alluvium, colluvium, Saugus Formation, and Pico Formation. The fill soils consist of locally generated soil and rock material and range in thickness depending on location.

Although some sand and gravel is found within the geologic materials below the project site, the area has not been recognized as having a significant potential for mineral extraction, and is not designated a Mineral Resource Zone by the CGS. Furthermore, the *County of Los Angeles General Plan Open Space and Conservation Element* indicates that significant sand and gravel resources are not present on the project site.<sup>1</sup>

Historically, oil exploration has occurred in the vicinity of the project site. However, petroleum resources (i.e., fossil fuels) beneath the project site, if any, are not known to be substantial.

### **5.8.2 SIGNIFICANCE THRESHOLD CRITERIA**

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to mineral resources. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

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<sup>1</sup> City of Santa Clarita. *City of Santa Clarita General Plan, Open Space and Conservation Element Amendment*. Exhibit OS-5, Mineral Resources. February 23, 1999.

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- ◆ Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- ◆ Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

### 5.8.3 IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN THE LOSS OF AVAILABILITY OF KNOWN MINERAL RESOURCES OR A LOCALLY IMPORTANT MINERAL RESOURCE RECOVERY SITE.***

*Level of Significance Prior to Mitigation:* Less Than Significant Impact.

#### *Impact Analysis:*

##### **On-Site Impacts**

The project site is not located in a designated Mineral Resource Zone or other known or potential mineral resource area, including those areas noted in the *City of Santa Clarita General Plan Open Space and Conservation Element* or in the *County of Los Angeles Santa Clarita Valley Area Plan* as being of local importance. Development associated with the proposed project would not result in permanent loss of, or loss of access to, any mineral resource that is located within a designated Mineral Resource Zone or other known or potential mineral resource area, including those noted in the as being of local importance. As such, no on-site mineral resource impacts would occur.

##### **Off-Site Impacts**

Construction of proposed uses would require the use of mineral resources such as sand and gravel, as well as various refined forms of petroleum resources, such as gasoline and diesel fuels. Inasmuch as the construction of the proposed project would require mineral resources from off-site areas, the proposed project would result in the reduction of mineral resource supplies on a regional basis. However, based on the incremental demand that a typical construction project similar to the proposed project in size and intensity would create, it is anticipated that the mineral construction material and petroleum fuel requirements for the proposed project would not result in a substantial reduction in available supplies relative to demand. The proposed project would not result in the permanent loss of, or loss of access to, a mineral resource area. As such, a less than significant impact is anticipated relative to mineral resources.

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**Mitigation Measures:** No mitigation measures are required.

*Level of Significance After Mitigation:* Not applicable.

#### **5.8.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES**

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVE IMPACTS TO ON- AND OFF-SITE MINERAL RESOURCES AND MINERAL RESOURCE RECOVERY AREAS.***

*Level of Significance Prior to Mitigation:* Less Than Significant Impact.

**Impact Analysis:** Based on the fact that there are no designated Mineral Resource Zones or other known or potential mineral resource areas in or near the proposed project site, including those noted in the *City of Santa Clarita General Plan Open Space and Conservation Element or in the County of Los Angeles Santa Clarita Valley Area Plan* as being of local importance, implementation of the proposed project, in conjunction with all related projects, would not result in a permanent loss of, or loss of access to, mineral resources within such areas.

With respect to off-site mineral resources (e.g., sand and gravel, and petroleum), the consumption of such resources for the construction of other projects in the local vicinity is expected to be typical of new development, as provided for by the building materials and transportation fuels industries. The consumption of natural resources associated with the proposed project is relatively small, compared to the overall amount of resources that the market provides.

The proposed project, in conjunction with other related projects, is not anticipated to have a significant cumulative impact to a mineral resource that is located in a designated Mineral Resource Zone, or other known or potential mineral resource area, and there are no mineral resources at or near the proposed project site that are noted as being of local importance.

**Mitigation Measures:** No mitigation measures are required.

*Level of Significance After Mitigation:* Less Than Significant.

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## **5.9 AESTHETICS AND VISUAL RESOURCES**

Visual resources information for this section was compiled from photographs and site surveys conducted by RBF Consulting in April 2004 and follow-up site surveys completed by David Magney Environmental Consulting in July 2005 and Diamond West Engineering in August 2005. The purpose of this section is to describe the existing aesthetic environment and analyze potential project impacts to the aesthetic character upon project implementation. Consideration of public scenic vistas and views, impacts to scenic resources and the introduction of new sources of light and glare are also included in this section. Visual simulations were prepared in order to assist in determining aesthetic impacts. The viewpoints for the visual simulations were chosen after reviewing the comments received during the Notice of Preparation and consultations with the County of Los Angeles Planning Department. The view locations illustrate the project's visibility from public and private spaces. The photographs of locations were reviewed and the final selections were made by the County of Los Angeles Planning Department prior to completing the visual simulations. Please refer to Exhibit 5.9-1, Site Photographs Key Map.

### **5.9.1 ENVIRONMENTAL SETTING**

Elevations in and around project site range from approximately 1,325 feet above mean sea level (msl) to approximately 1,654 feet amsl and the topography consists of gradual to very steep slopes. The project site is characterized by hilly topography on either side of the site's central feature, the southeast-northwest trending Lyons Canyon drainage.<sup>1</sup> Lyons Canyon trends easterly across the southwesterly portion of the project site and turns northerly in the central and northern portions. Numerous tributary canyons "branch" out from Lyon Canyon and extend to the southerly property boundary. The southerly portion of the project site encompasses the northern ridges and canyons of Towsley Canyon.<sup>2</sup> The Simi Fire burned the entire project site in October 2003.

#### **VIEWS NORTH ONTO PROJECT SITE**

The primary views northward from the Old Road are obstructed by the northern ridgelines of Towsley Canyon and privately owned undeveloped parcels adjacent to the project site (refer to Exhibit 5.9-2, Photos 1 and 2). The ridgelines are vegetated with Chaparral, Coastal Sage Scrub, Southern California Walnut Woodland and Non-Native Grassland.

A view from the central portion of Towsley Canyon Park is shown in Exhibit 5.9-3, Photo 3. From this vantage point along the primary roadway/trail in Towley Canyon Park, the existing topography effectively screens the majority of the subject site's southern property boundary. As one travels east on this primary roadway, an existing vacant property not part of the proposed development effectively screens the southern boundary of the subject site.

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<sup>1</sup> *Phase I Cultural Resources Assessment for Lyons Canyon Ranch Specific Plan*, BonTerra Consulting, November 5, 2004.

<sup>2</sup> *Preliminary Geotechnical Report*, Pacific Soils Engineering, Inc. March 10, 2004.

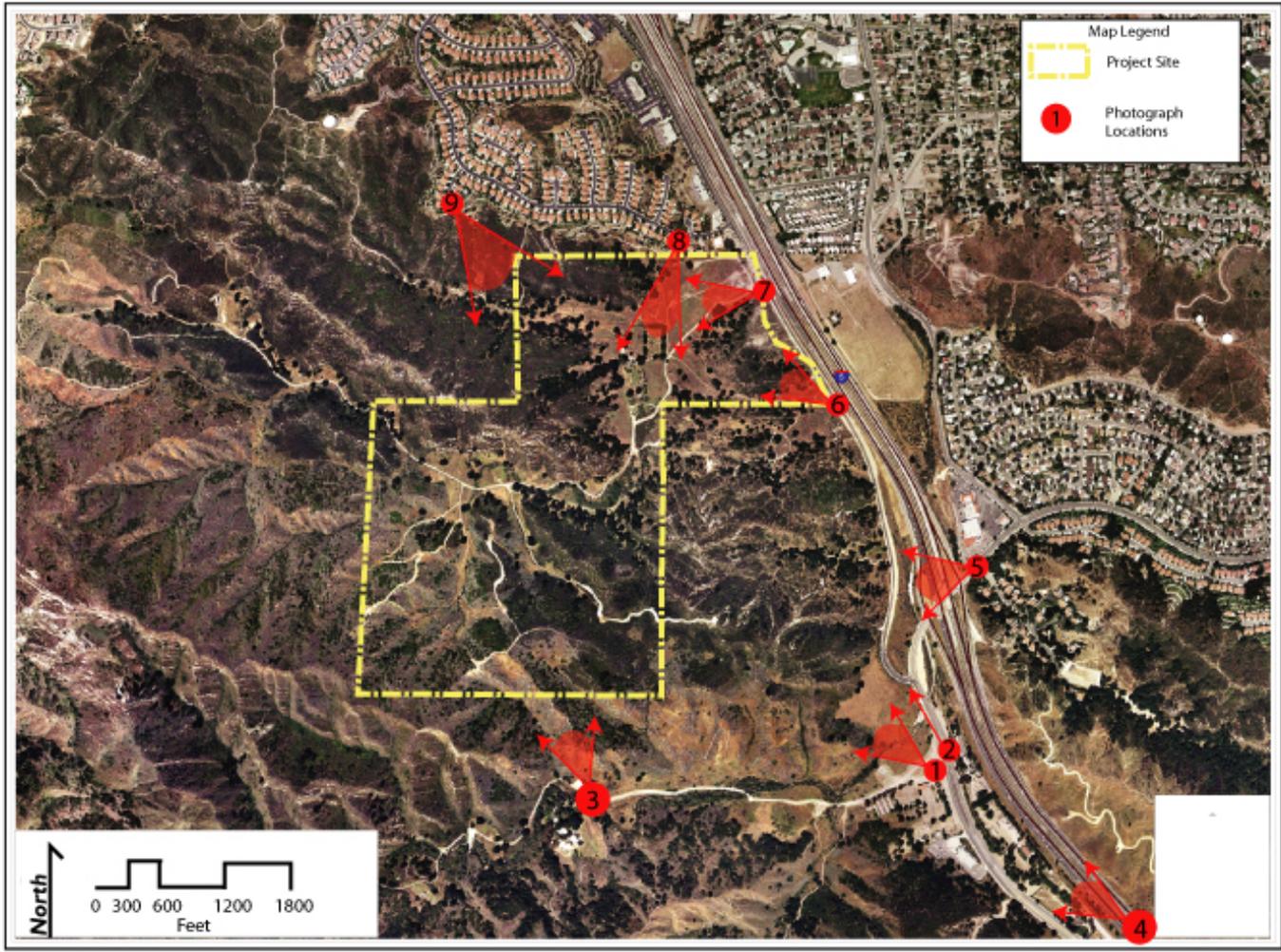
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A third northern view of the subject site is depicted in Exhibit 5.9-4, Photo 4. From this vantage point along the northbound lanes of the I-5 Freeway, the southern portions of the subject site are visible. This photograph also depicts the surrounding hillsides and ridgelines that comprise the western rim of the Santa Clarita Valley.

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**Site Photographs Key Map**

Exhibit 5.9-1

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1



2

**Views North From Old Road and Towsley Canyon Park**

Exhibit 5.9-2



..... Approximate Project Site Boundary

3

**View North From Towsley Canyon Park**

Exhibit 5.9-3



----- Approximate Project Boundary

4

**View North from I-5 Freeway Towards Project Site**

Exhibit 5.9-4

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### VIEWS WEST ONTO PROJECT SITE

The project site cannot be viewed from east of the I-5 Freeway along Calgrove Blvd. due to intervening ridgelines on the adjacent property to the east (refer to Exhibit 5.9-5, Photo 5). This property consists primarily of hilly terrain vegetated with Non-Native Grassland, Coastal Sage Scrub, Coast Like Oak Woodland and Chaparral.

Some relatively flat areas exist on the northeast portion of the project site and thus provide view opportunities for vehicles traveling along The Old Road and the I-5 Freeway (refer to Exhibit 5.9-5, Photos 6 and 7). Between the southern and northern portions of the property, a primary ridgeline that extends north-south just east of the project site obstructs westward views from The Old Road.

### VIEW SOUTH ONTO PROJECT SITE AND BEYOND

Views southward of the project site and beyond, from Sagecrest Circle look down as the elevation decreases down to the Lyon Canyon drainage. The northern ridges of Towsley Canyon partially obstruct views further south (refer to Exhibit 5.9-6, Photo 8). The ridgelines are vegetated primarily with Chaparral and Coast Live Oak Woodland with pockets of Coastal Sage Scrub and Non-Native Grassland located at the northeast portion of the project site.

### VIEWS SOUTHEAST ONTO PROJECT SITE

Views eastward from the northern portion of the project site contain hilly topography that decreases in elevation down to the Lyons Canyon drainage, the Old Road and the I-5 freeway. Areas of Southern California Walnut Woodland and Oak Woodlands are visible on the hillsides. The ridgelines east of the I-5 freeway are also visible from then northern portion of the project site (refer to Exhibit 5.9-6, Photo 9). The primary ridgeline has sparse vegetation, consisting primarily of Chaparral and Coastal Sage Scrub with pockets of Southern California Walnut Woodland and Coast Live Oak Woodland within the western portion of the project site.



5



**Views West Into Project Site from The Old Road.**

Exhibit 5.9-5



8



9

----- Approximate Project Boundary

**Views South and Southeast Into Project Site**

Exhibit 5.9-6

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### LIGHT AND GLARE

The project site is currently vacant and therefore, there are no sources of light or glare. Light sources visible from the project site include headlight glare from traffic along Interstate 5 and The Old Road located east of the site. Sources of light affecting the project site include the single-family residential development along Sagecrest Circle (Sunset Pointe) and commercial uses, located north of the project site. Areas west and south of the project site are undeveloped and therefore do not impact the project site with any sources of light or glare.

### RIDGELINE PROTECTION

The County of Los Angeles Santa Clarita Valley Area Plan (SCVAP) and the County of Los Angeles Development Code include provisions that are designed to preserve ridgelines. The SCVAP includes land use classifications such as the “Hillside Management” land use category under the “Special Management Areas” Section of the SCVAP. Development within Hillside Management Areas requires adherence to special precautions that are intended to limit development to the most suitable and least environmentally sensitive areas. In addition, it is intended that the scale and intensity of development be proposed in a manner that is compatible with the natural resources and character of the area.

Although the project site is not located within the City of Santa Clarita and thus is not subject to the City’s Ridgeline Preservation and Hillside Development Ordinance, the southern portion of the project site is located adjacent to the city boundary and this discussion is provided for that reason. The City of Santa Clarita General Plan identifies significant ridgelines as ridgelines that are visually dominant and important within the community.<sup>3</sup> The City of Santa Clarita General Plan specifies that “Development should be strictly regulated in these areas [significant primary, secondary, and landmark ridges within the planning area] and significant ridgelines should generally not be graded nor construction placed upon them.” In order to protect these formally designated significant ridgelines, the Santa Clarita Municipal Code includes Section 17.80, Ridgeline Preservation and Hillside Development Ordinance.

## 5.9.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the State CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of a project Initial Study. The Initial Study of Los Angeles County for this project is contained in Appendix A of this EIR. The Initial Study includes questions relating to aesthetics and visual resources. The issues presented in the Initial Study Checklist are also utilized as thresholds of significance in this EIR. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Have a substantial adverse effect on a scenic vista?

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<sup>3</sup> Development on significant ridgelines is regulated by Chapter 17.80, Ridgeline Preservation and Hillside Development Ordinance of the City’s Municipal Code.

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- ◆ Substantially damage scenic resources, including, but not limited to, primary/secondary ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?
- ◆ Substantially degrade the existing visual character or quality of the site and its surroundings?
- ◆ Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

### 5.9.3 IMPACTS AND MITIGATION MEASURES

#### COMMUNITY DESIGN CONCEPT

The Lyons Canyon Ranch community design concept was designed to create the community aesthetic and define a framework for the design of the individual projects (neighborhoods).

##### **Community-Wide Landscaping**

The Landscape Concept Plan is intended to provide a common thread throughout the project site, and distinguish the residential neighborhoods from the natural areas.

The Landscape Concept Plan also includes management guidelines, a fuel modification zone plan (consistent with the Los Angeles County Fire Department Fuel Modification Plan Guidelines) and a description of the project entries.

##### **Hardscaping and Lighting**

###### *Fencing*

Walls and fences within the project site would serve as an important component of the community design theme. The basic fence/wall designs that are envisioned would be rural “equestrian-style” theme fence, privacy wall or the open theme/view fence.

###### *Lighting*

No formal lighting plans have been developed as of the preparation of this EIR; however, certain basic lighting elements can be anticipated. Project lighting will likely include street lighting, building and landscape accent lighting. Three basic principals are considered in the provision of lighting:

- ◆ Streetlights should provide a safe and desirable level of illumination for both motorists and pedestrians without intruding into residential areas.
- ◆ Lighting fixtures should relate to the human scale especially in pedestrian areas.

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- ◆ Lighting and lighting fixtures should complement the design and character of the environment in which they are placed.
- ◆ Lighting and lighting fixtures shall be designed to avoid light spillover into adjacent properties and the night sky.

The project would ensure that all street lighting conforms to County standards or an approved theme lighting program, which would be approved by the appropriate County department. Any lighting for recreation areas would be considered as an element of final development plan review. Any such lighting, would not illuminate a recreational area past the hour of 10:00 PM per the project C,C,&R's. In addition, timers shall be installed on all proposed lighting for common recreational structures to ensure these areas will not be illuminated after 10:00 PM. Illuminated entries are required to direct lighting low to the ground and be limited to only the immediate vicinity of the entry.

### Site-Specific Architecture

Architecture is a critical component to the appearance of the Lyons Canyon finished environment. The goal of the design guidelines is to provide general design criteria and guidance to promote both visual compatibility and variety in a community setting achieved by utilizing a variety of compatible styles through architectural innovation.

### SHORT-TERM CONSTRUCTION AESTHETIC IMPACTS

- ◆ ***THE PROPOSED PROJECT WOULD RESULT IN GRADING AND CONSTRUCTION ACTIVITIES THAT WOULD TEMPORARILY ALTER THE EXISTING VISUAL CHARACTER/QUALITY OF THE PROJECT SITE***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Project construction activities would alter views across the northern and southwestern portions of the project site from surrounding locations. In these areas, the primary impact would be the grading of manufactured slopes with a maximum 2:1 (horizontal to vertical) gradient and heights up to 150 feet. Within these areas, construction materials and construction equipment would also be visible. Soil would be stockpiled and equipment for grading activities would be staged at various locations throughout the project site. These visual impacts can be considered significant unless mitigated. With implementation of the recommended mitigation pertaining to equipment staging areas and the use of screening, impacts in this regard are concluded as less than significant. Further, construction-related activities are not considered significant as they are anticipated to be experienced only during the estimated 12-month site preparation phase.

Short-term light and glare impacts associated with construction activity would likely be limited to nighttime lighting necessary for security purposes. Relative to potential short-term construction impacts, lighting from construction activities may pose a nighttime lighting impact

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to the residences located north of the project site. Although this is considered a short-term impact, mitigation is identified to reduce the significance of impact to a less than significant level.

### **Mitigation Measures:**

- AES1 Construction equipment staging areas shall be located a minimum of 500 feet from existing residential uses and appropriate screening (i.e., temporary fencing with opaque material), shall be used to buffer views of construction equipment and material. Staging location shall be indicated on project Final Development Plans and Grading Plans. Equipment staging areas shall be located in the least environmentally sensitive areas, as determined by the County of Los Angeles Planning Department.
- AES2 All construction-related lighting shall be located and aimed away from adjacent residential areas and consist of the minimal wattage necessary to provide safety at the construction site. A construction safety lighting plan shall be submitted to the County of Los Angeles for review concurrent with Grading Permit applications for the subdivision of the lots.
- AES3 The project biologist shall review the construction staging and construction safety lighting plans and determine the most appropriate location for the staging of construction equipment and construction lighting so that impacts to wildlife are minimized. The project biologist shall provide written certification of his/her approval of these plans to the County of Los Angeles Biologist prior to issuance of a grading permit.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### **LONG-TERM AESTHETIC IMPACTS**

- ◆ ***THE PROPOSED PROJECT WOULD HAVE A SUBSTANTIAL EFFECT ON A SCENIC VISTA AND PERMANENTLY ALTER THE EXISTING VISUAL CHARACTER AND VIEWSHED FROM SURROUNDING LOCATIONS.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** The alteration of the project site from an undeveloped condition to suburban uses would be permanent. Currently, the project site consists of undeveloped hillsides with vegetative cover including Coast Live Oak Woodland, Southern California Walnut Woodland, Mule Fat Scrub, Coastal Sage Scrub, Chaparral and Non-Native Grassland.

The existing visual characteristics of the project site and viewshed from surrounding locations would be altered with implementation of the Lyons Canyon Ranch project. Construction of the proposed project will require the grading of manufactured cut and fill slopes in the northern,

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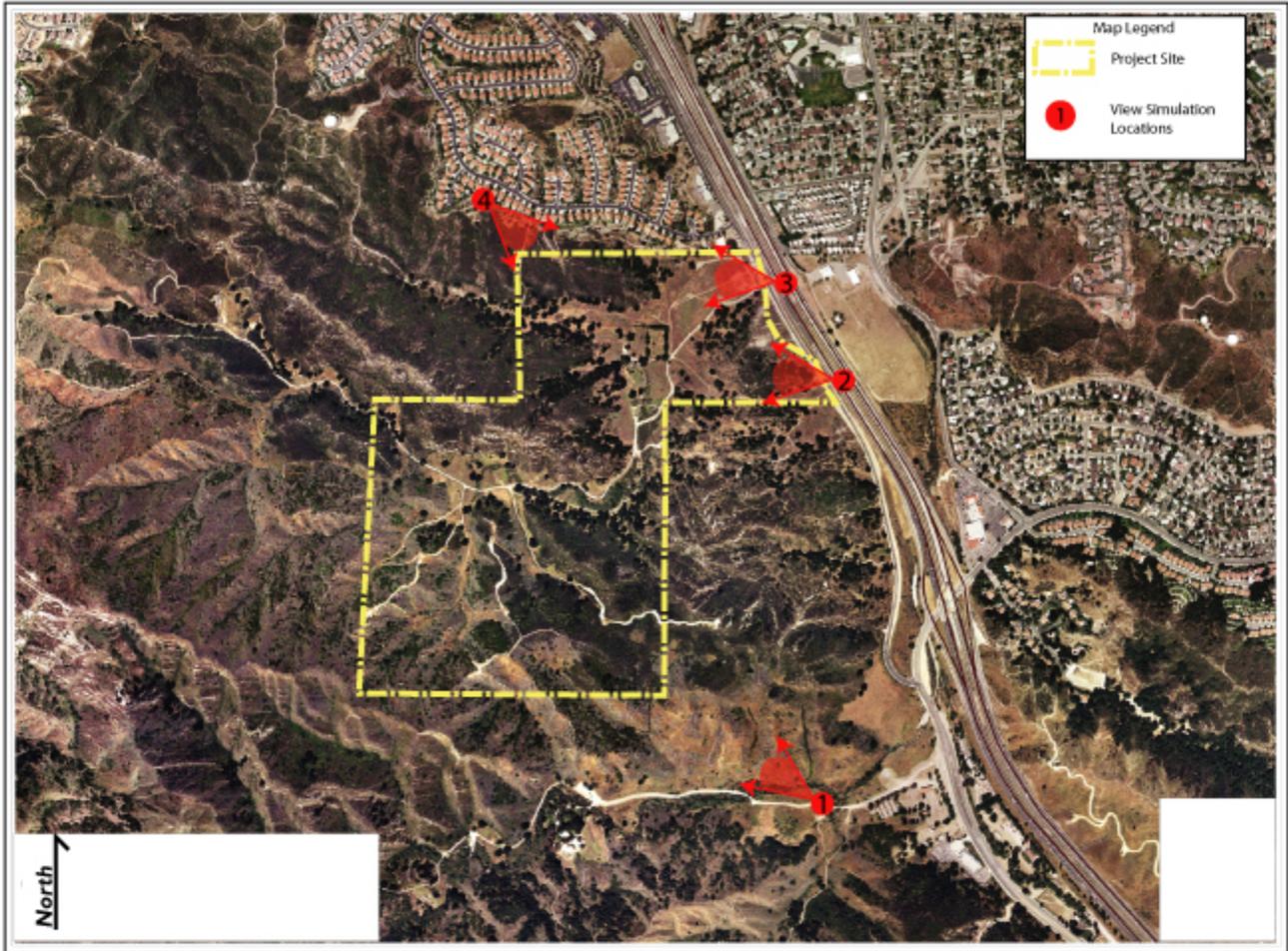
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central, and southern portions of the site. On-site grading, combined with development of the proposed residential structures, local streets and associated infrastructure, will have a substantial effect on scenic vistas and would permanently modify the existing visual character and viewshed from surrounding locations.

Visual simulations were prepared in order to assist in determining the project's aesthetic impacts (refer to Exhibit 5.9-7, *Visual Simulation Site Locations*).

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**Visual Simulation Key Map**

Exhibit 5.9-7

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### **VIEWS TO THE NORTHWEST FROM TOWSLEY CANYON PARK**

Currently, views of the project site from the northeastern portion of Towsley Canyon Park and the entrance to Towsley Canyon Park from The Old Road are obstructed by the ridgelines of Towsley Canyon (Please refer to [Exhibit 5.9-8](#)). These ridgelines obstruct views north across the site. Foreground views from this location are of the adjacent property to the east. Further west along the primary access road within Towsley Canyon Park, a small portion of the subject site is visible (Please refer to [Exhibit 5.9-3](#)).

After project development, views from these vantage points would continue to include the visible ridgelines as undeveloped open space. This is achieved by locating the graded lots for single-family residential units and flood control purposes a minimum of 700 feet north of the southern property line in a “bowl” configuration. The siting of lots in this configuration creates a ridgeline buffer where the highest pad elevation is approximately 75 feet below the nearest on-site or off-site ridgeline. As a result, none of the lots proposed for residential development or flood control purposes can be seen from these vantage points. [Exhibit 5.9-8, Site 1 Visual Simulation](#), illustrates the extent of project visibility from the eastern portion of Towsley Canyon Park.

### **VIEWS TO THE WEST FROM THE OLD ROAD AND I-5 FREEWAY**

Currently views from vehicles traveling along Interstate 5 and The Old Road are of rolling hills with sparse vegetation and of primary ridgelines that obstruct views further westward. Implementation of the proposed project would result in development of single-family lots and senior housing in the form of attached condominiums which would be surrounded by open space areas in Lots A,B,C and D. Vehicles traveling along The Old Road and Interstate 5 along the project frontage will not be able to view the southern portion of the development, as the topography present on the undeveloped property to the east effectively screens the project.

Portions of the project will be visible from the central and northern portions of the site (refer to [Exhibit 5.9-9](#) and [Exhibit 5.9-10](#)). Grading of the proposed secondary access road (“E” Street) will require grading on an existing ridgeline. Consequently, both the roadway and the residential structures proposed on Lots 73-87 will be visible from The Old Road and the I-5 Freeway at this location (refer to [Exhibit 5.9-9](#)). The most prominent views of the proposed project along the Old Road and the I-5 Freeway would be from the northern portions of the project site at the intersection of the primary access road (“A” Street) and The Old Road. From this vantage point, the fire station and the senior condominiums located at northeast corner of the project site will be prominent (refer to [Exhibit 5.9-10](#)).

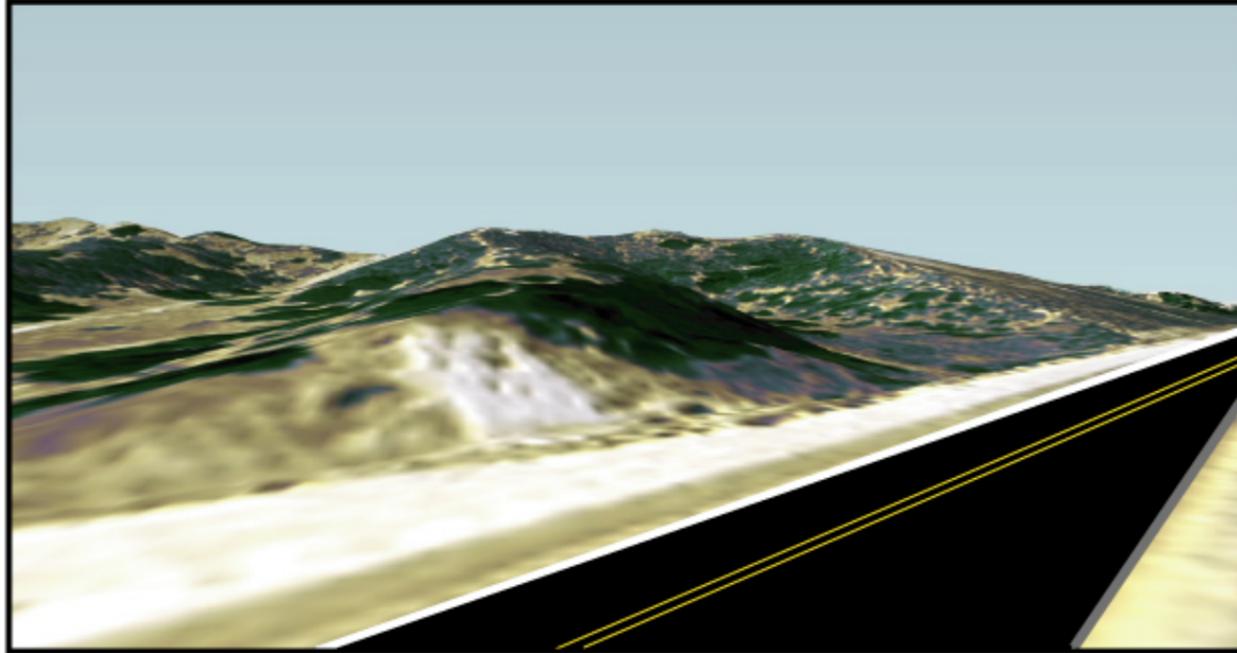


**View of Project Site From Location #1**

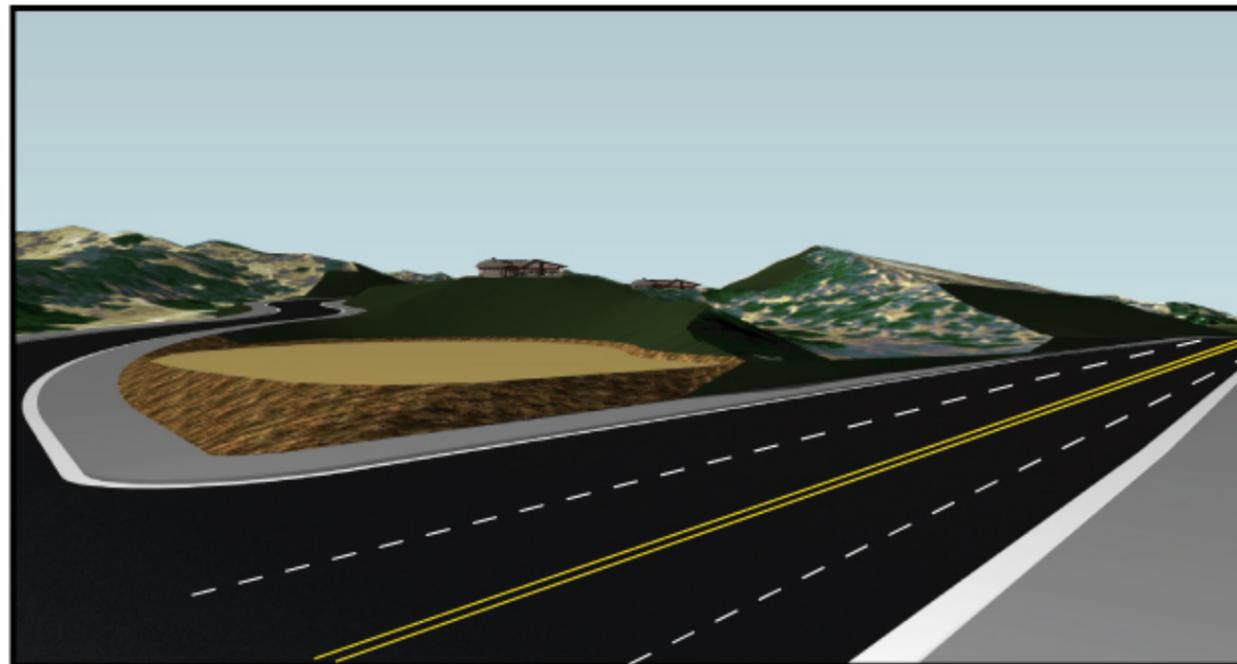
Exhibit 5.9-8

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3D Terrain Model - Existing Condition



3D Terrain Model - Proposed Condition



Map Key



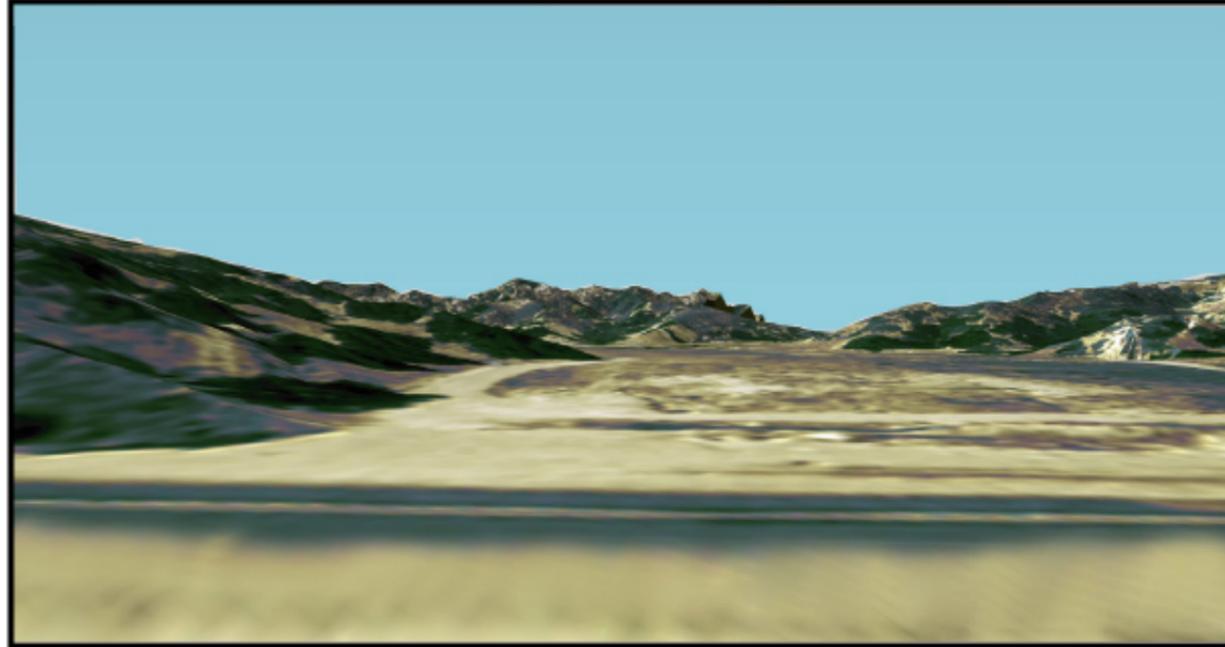
Site Photograph - Existing Condition

**View of Project Site From Location #2**

Exhibit 5.9-9

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3D Terrain Model - Existing Condition



3D Terrain Model - Proposed Condition



Map Key

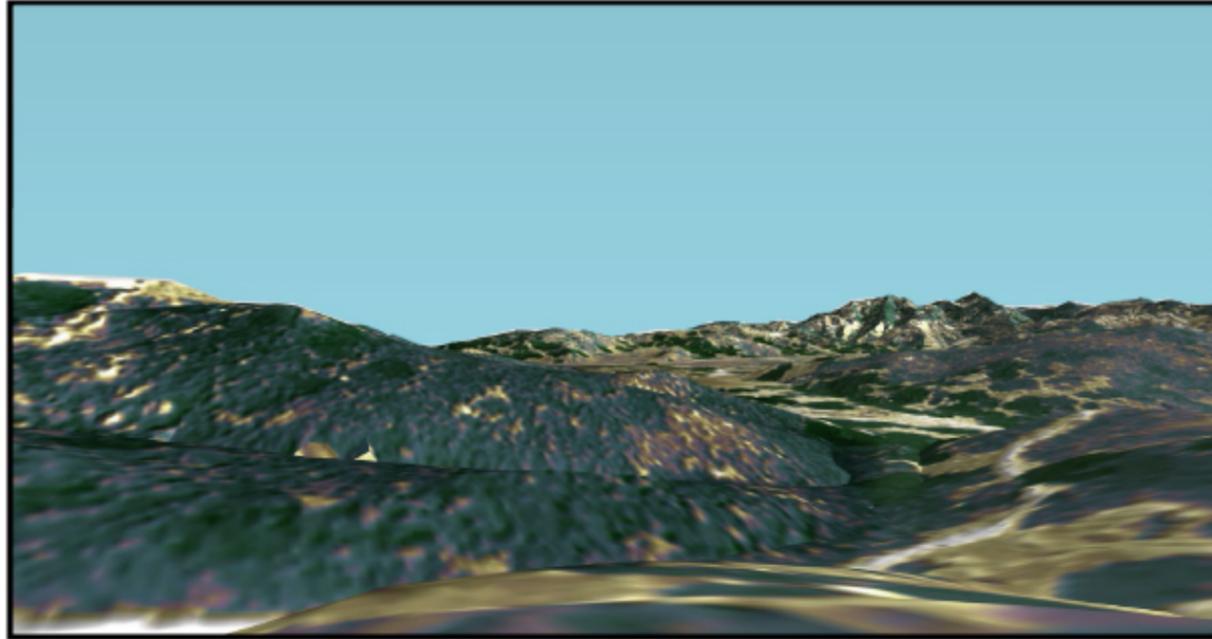


Site Photograph - Existing Condition

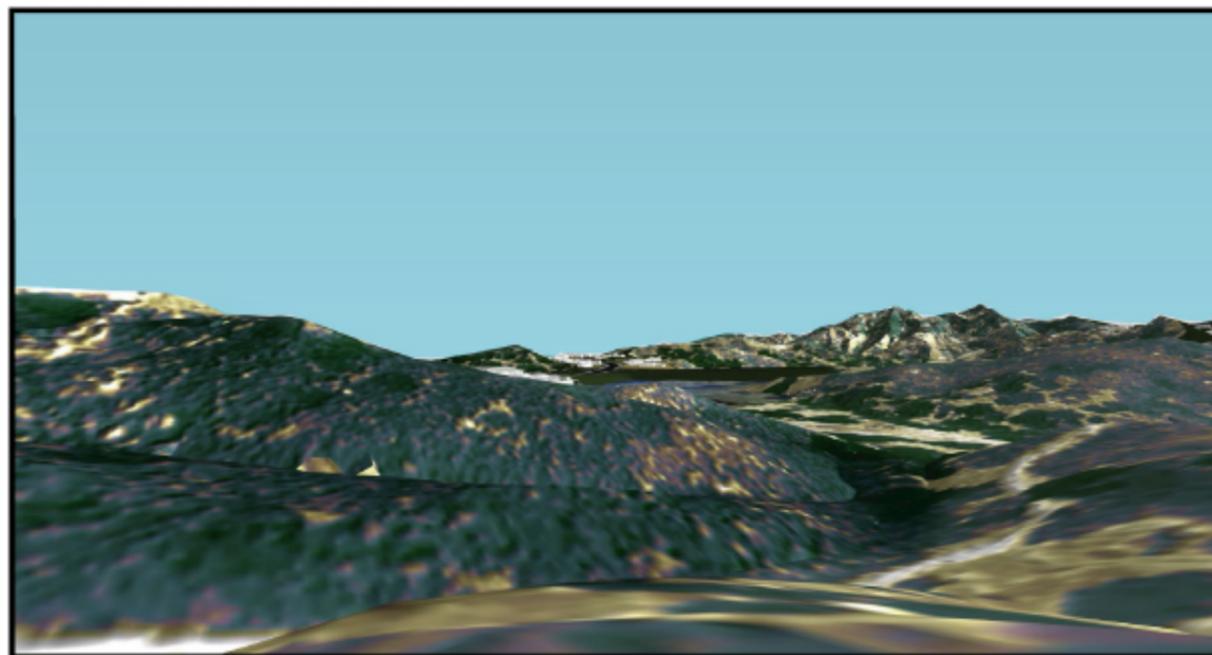
**View of Project Site From Location #3**

Exhibit 5.9-10

3D Terrain Model - Existing Condition



3D Terrain Model - Proposed Condition



Map Key



Site Photograph - Existing Condition

**View of Project Site From Location #4**

Exhibit 5.9-11

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### VIEWS TO THE SOUTH AND EAST FROM RESIDENTIAL LOTS ALONG SAGECREST CIRCLE

Currently, views from an undeveloped area west of existing homes along Sagecrest Circle are of vegetated hillsides that include ridgelines, which partially obstruct views to the east. Implementation of the proposed project would maintain the majority of the western portion of the project site as disturbed or natural open space (Open Space Lot "A"), and passive recreation areas (trails). However, single-family residential units (portions of Lots 73-87 and 88-91), the senior housing area, the fire station site, and "A" Street would be partially visible from this location (refer to Exhibit 5.9-11).

#### Impact Conclusion

The development of the proposed project would permanently alter the views of and across the project site. Project grading would convert approximately 100 acres of natural open space to suburban residential uses, flood control facilities, recreational uses, and an institutional use, which would obstruct or alter current views of and through the project site. Therefore, implementation of the Lyons Canyon Specific Plan would result in significant long-term aesthetic impacts.

**Mitigation Measures:** No mitigation measures are recommended that could feasibly reduce the significant impacts referenced.

**Level of Significance After Mitigation:** Significant and Unavoidable.

◆ ***THE PROPOSED PROJECT MAY SUBSTANTIALLY DEGRADE SCENIC RESOURCES, INCLUDING BUT NOT LIMITED TO, PRIMARY/SECONDARY RIDGELINES, TREES, AND ROCK OUTCROPPINGS.***

**Level of Significance Prior to Mitigation:** Significant Impact.

**Impact Analysis:** Portions of the proposed development are adjacent to and visible from the Old Road and the I-5 freeway, both routes with scenic qualities. Both of these highways were thus designated by the County of Los Angeles because of the high quality of the scenic vistas within their viewsheds. Within the vicinity of the project site, those resources include (but are not limited to) scenic vistas of the Newhall Pass and nearby undeveloped hillsides, Towsley Canyon Park and the steep and complex topography of the mountains that form a visual backdrop for the project site.

The proposed project would introduce a residential development into the scenic vistas afforded by the I-5 Freeway, The Old Road, and Sagecrest Circle, resulting in a substantial alteration of existing vistas. In some places, the existing terrain would be altered and the natural forms of the hillsides reshaped into horizontal planes to support the proposed development. Portions of the new residential development would be clearly visible from both northbound and southbound

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traffic on both the I-5 Freeway and the Old Road. Therefore, the proposed project would have a significant impact on scenic vistas as viewed from the I-5 Freeway and the Old Road.

Within the vicinity of the project site, scenic resources include (but are not limited to) expanses of undeveloped hillsides, steep and complex topography, rugged rock outcroppings, a meandering water course, and undisturbed native vegetation. Concentrating the proposed homes in two distinct enclaves assists in preserving open space on the project site. The proposed site plan, utilizing previously disturbed land to the maximum extent possible, will minimize the impacts to the most sensitive scenic resources on the project site. For example, there would be minimal grading of visible ridgelines in and around the project site. In addition, the project will preserve approximately 67 percent of the on-site wetlands and 63 percent of the riparian habitat within Lyons Canyon Creek. However, the proposed project would cause landform alterations to approximately 104.76 acres (or 45% of the project site), due to on-site grading. Fuel modification for fire prevention purposes would result in view alterations to approximately 64 acres of currently undisturbed native habitat. The native vegetation of the project site and the surrounding open space constitutes a major scenic resource. Within the proposed development areas, grading would transform the complex terrain of the hillsides into more regular ordered patterns of horizontal planes. Notwithstanding that the proposed project would preserve approximately 163 acres of the project site as either disturbed or undisturbed open space, substantial portions of the development "footprint" would involve the removal or alteration of existing scenic resources such as major landforms and undisturbed native vegetation, which would substantially impact scenic resources. Therefore, the proposed project's impacts on scenic resources would be considered significant.

The project applicant has prepared a 3-dimensional computer model which illustrates the proposed project's impacts on primary and secondary ridgelines. As depicted in Exhibit 5.9-12 and 13, 3-Dimensional "Bird's Eye Views of Proposed Project" the majority of the two primary ridgelines and two secondary ridgelines would be preserved. Nevertheless, some modification of these ridgelines is necessary to establish the proposed vehicle circulation system and the proposed residential development areas. Nevertheless, for the purposes of this analysis, the proposed development would substantially affect the existing visual character or quality of the project site and its surroundings. Therefore, project impacts with respect to significant ridgelines and the existing visual character would be considered significant.

### **Mitigation Measures:**

- AES4 The project applicant/developer/builder shall prepare and implement a Landscape Plan that provides planting and maintenance guidance for common landscaped areas, slopes, and undeveloped building pads. The project applicant/developer/builder shall be responsible for the Plan's implementation until such time as a homeowners' association is prepared to take over landscape maintenance responsibilities. The Landscape Plan shall be subject to the review and approval by the Los Angeles County Fire Department and Regional Planning, prior to issuance of the grading permit. To ensure its implementation, the Landscape Plan shall be incorporated into the project's Conditions, Covenants,

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and Restrictions (CC&Rs) to be recorded prior to final map recordation. Major features of the landscape plan shall include:

- ◆ A listing of plant species appropriate for use for both temporary slope stabilization purposes and long-term landscaping designs for common slope and private yard areas. The plan shall use drought-tolerant, fire retardant, locally indigenous plant species. Only non-invasive native plant species shall be included in the listing of acceptable planting materials. In addition, wherever practical, plants which are relatively pest resistant and which require a minimum of added nutrients shall be utilized in landscaping;
- ◆ Requirements that all proposed private residential landscape plans conform to the project's landscape plan requirements for plant material selection, irrigation systems, and the use of pesticides, herbicides, and fertilizers;
- ◆ Retention of a landscape contractor thoroughly familiar with the provisions of the Landscape Plan, by the project's homeowners' association, for ongoing implementation of the Landscape Plan; and
- ◆ The project's Homeowner's Association shall be responsible for the preservation and protection of existing trees and shrubs. Procedures for the care and maintenance of native trees retained on private properties shall be specified in the project's CC&R's which is to be reviewed by the County of Los Angeles Department of Regional Planning prior to its recordation.

In addition, the following measures are required:

- ◆ Exterior buildings finishes shall be non-reflective and use natural subdued tones.
- ◆ Vines and/or other clinging plant material shall be used to soften views of exposed walls where space or fuel modification requirements may preclude the use of other larger plant materials.
- ◆ Drainage devices (terrace drains, benches and intervening terraces) visible from surrounding areas shall be bermed and placed in swales.
- ◆ Concrete drains and all other drainage devices shall be tinted with an appropriate earth tone to effectively conceal them from surrounding views.
- ◆ Lighting standards shall employ fixtures with cut-offs that focus the light directly onto streets and shoulders, and shall be redesigned and placed in such a manner as to prevent ambient illumination beyond the boundaries of the project site.
- ◆ Project street lighting shall be the lowest intensity necessary for security and safety purposes, while still adhering to the recommended levels of the Illuminating Engineering Society of North America. All lighting sources shall be shielded to avoid light spill-over onto adjacent properties, and directional lighting shall be used.

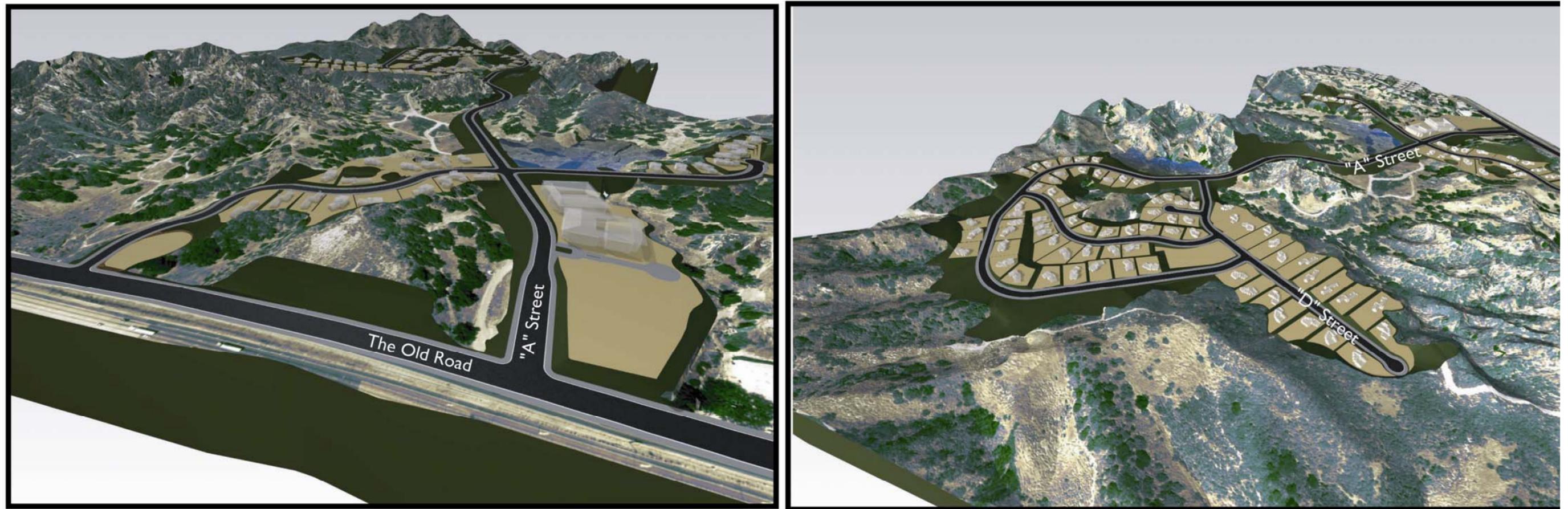
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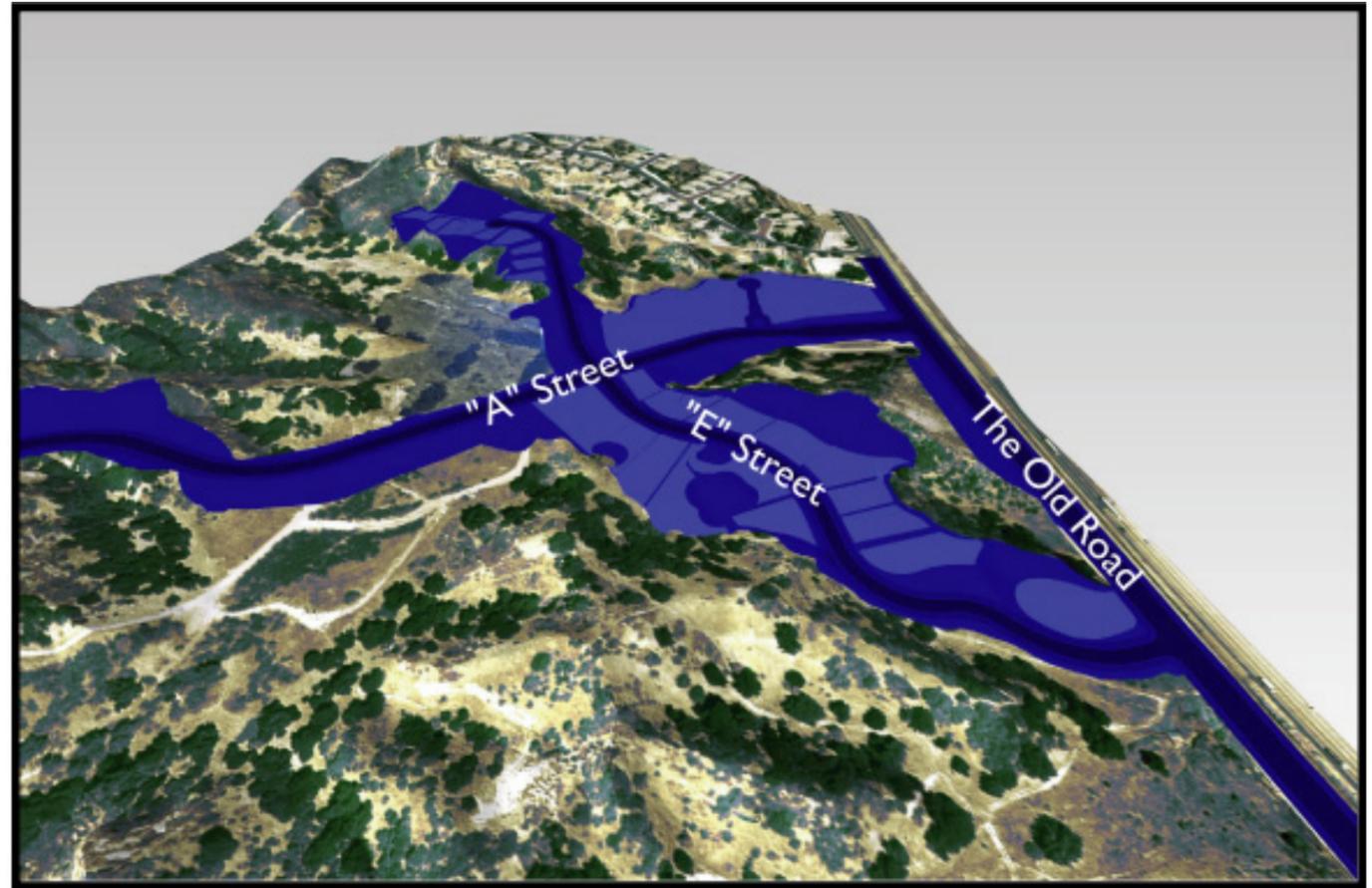
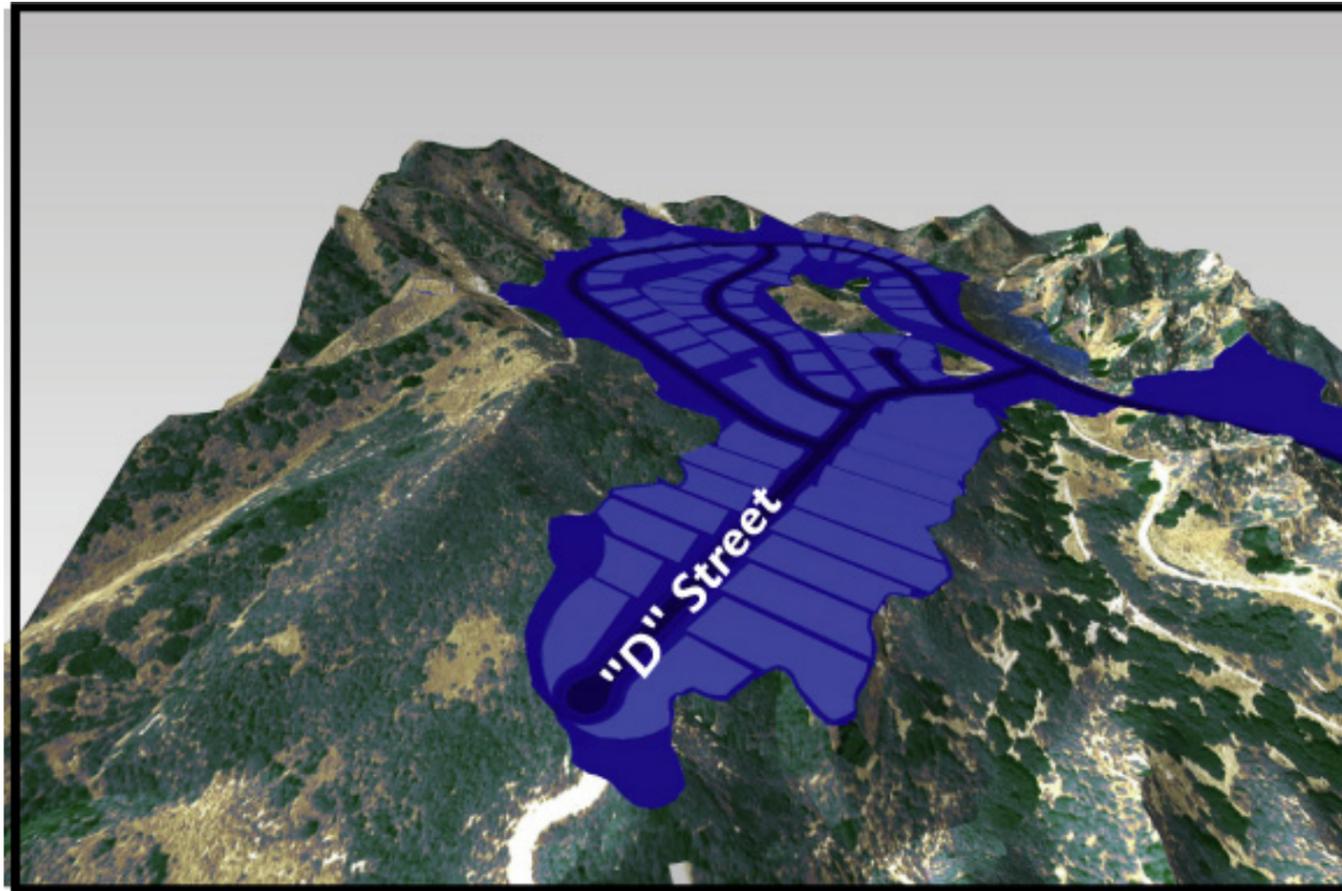
- ◆ Atmospheric light pollution shall be minimized by utilizing street lighting fixtures that cut-off light directed to the sky.
- ◆ Low level bollards rather than tall lighting standards shall be deployed to minimize lighting levels.

*Level of Significance After Mitigation:* Significant and Unavoidable Impact.



**3-Dimensional "Bird's Eye" Views of Proposed Project**

Exhibit 5.9-12



 = Graded Areas

**3-Dimensional "Bird's Eye" Views of Proposed Project**

Exhibit 5.9-13

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◆ ***THE PROPOSED PROJECT WOULD INTRODUCE NEW SOURCES OF LIGHT/GLARE INTO THE PROJECT AREA.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Currently, there are no sources of light and glare within the project site. Implementation of the Lyons Canyon Ranch may result in light/glare impacts to off-site uses and introduce new sources of lighting into the project area impacting adjacent residential areas located to the north and roadways. The proposed project would include lighting for activity areas involving nighttime uses, parking, lighting around the structures (security lighting, walkways) and lighting for interiors of buildings.

As previously described, the project includes requirements for lighting. Specifically, the project would ensure that all street lighting conforms to County standards or an approved theme lighting program, which would be approved by the appropriate County department. Any lighting for recreation areas, which would illuminate a residential area past the hour of 10:00 PM, would be required to be clearly identified on the submitted plans and illuminated entries would be required to direct lighting low to the ground and be limited to only the immediate vicinity of the entry and would not be distracting, create visual hot spots or glare. In addition, recommended mitigation, which includes providing low-intensity lighting that is shielded from adjacent sensitive receptors would reduce light and glare impacts to a less than significant level.

**Mitigation Measures:**

AES5 Prior to issuance of building permits, 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. Low-intensity street lighting and low-intensity exterior lighting shall be used throughout the development, as permitted by the Los Angeles County Public Works Department. Lighting fixtures shall use shielding, if necessary to prevent spill lighting on adjacent off-site uses;
- ◆ Design and placement of site lighting shall minimize glare affecting adjacent properties, buildings, and roadways by utilizing “cut-off” fixtures on all street and parking lot lighting;
- ◆ All exterior lighting intended for security shall utilize motion sensors to reduce unnecessary usage.
- ◆ 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;

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- ◆ Development projects shall use minimally reflective glass and all other materials used on exterior building and structures shall be selected with attention to minimizing reflective glare; and
- ◆ Automatic timers on all lighting fixtures within any on-site recreational structures shall included in the building design to maximize personal safety during nighttime use while saving energy and reducing light pollution. The timers shall be set so that structure lighting within common areas is turned off at 10:00 PM.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### 5.9.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT, IN CONJUNCTION WITH RELATED PROJECTS IN THE CITY OF SANTA CLARITA, WOULD RESULT IN SIGNIFICANT CUMULATIVE AESTHETIC AND VISUAL RESOURCES IMPACTS.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** The proposed project, in combination other development identified in Section 4.0, would contribute to the alteration of the aesthetic character of the southern end of the Santa Clarita Valley from rural to more suburban. The project and other development in the unincorporated portions of Los Angeles County and the City of Santa Clarita would transform the character of the area by adding urban uses in currently undeveloped hillside areas. The aesthetic impacts of individual development projects can often be mitigated through careful site design, avoidance of significant visual features, and appropriate building and landscape standards. Despite the mitigation that can be applied to individual development projects, the overall change in visual character associated with the proposed project and cumulative projects is considered an unavoidable significant cumulative impact.

**Mitigation Measures:** No mitigation measures are recommended that could feasibly reduce the impacts referenced to the less than significant level.

*Level of Significance After Mitigation:* Significant and Unavoidable Impact.

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## **5.10 TRAFFIC AND CIRCULATION**

This section of the EIR evaluates the impacts of the proposed project on the local traffic system in the project vicinity. This analysis summarizes the findings of a traffic report prepared for the proposed project by Austin-Foust Associates, Inc., dated July 2005. This report has been reviewed and approved by the Los Angeles County Department of Public Works – Traffic and Lighting Division, and the City of Santa Clarita Traffic Department. The California Department of Transportation was forwarded a copy of the Traffic Impact Study for review, but declined to render a formal written decision on the adequacy of the Traffic Impact Report until it completes a review of the Draft EIR. Because the traffic report is technical in its subject and language, this section presents a summary intended for the non-technical reader. For a detailed discussion of assumptions, calculations, and conclusions utilized in the traffic analysis, refer to the traffic report, included in its entirety in Appendix D of this EIR.

### **5.10.1 TRAFFIC STUDY METHODOLOGY**

#### **STUDY AREA**

The project study area includes the roadways and intersections in proximity to the project site and those locations where project-generated traffic could cause a significant impact. Exhibit 5.10-1, Project Study Area, illustrates the intersections selected for study based on the distribution of project generated traffic.

#### **METHODOLOGY**

The traffic analysis performed by Austin-Foust Associates, Inc. evaluates the proposed project in accordance with the guidelines of the County of Los Angeles Department of Public Works, Traffic and Lighting Division. The project is evaluated for project only impacts (existing plus ambient growth conditions) and for cumulative impacts (existing plus ambient growth, plus project, plus related project conditions).

To derive project only impacts, background conditions are based on existing traffic counts (measured traffic volumes) plus an ambient annual growth rate specified by County staff. To derive cumulative impacts, related projects are added to the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) to forecast future cumulative conditions. The SCVCTM is a travel demand model developed jointly by the City of Santa Clarita and the County of Los Angeles, and is the primary tool used for forecasting traffic volumes for the Santa Clarita Valley. The SCVCTM does utilize a comprehensive list of County of Los Angeles and City of Santa Clarita approved cumulative projects to determine background (existing + future) traffic levels within the Santa Clarita Valley.

The SCVCTM has the ability to forecast traffic volumes for an Interim Year horizon, which generally corresponds to the year 2015, and for long-range buildout conditions, which is generally referred to as year 2030.

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The cumulative impact analysis utilized in this traffic report has been developed utilizing the Interim Year SCVCTM model since it includes all known approved and pending projects within the entire Santa Clarita Valley. Project related traffic impacts are then calculated by determining the appropriate study area and analyzing the project related trips combined with the cumulative projects potentially impacting the same study area, plus the background cumulative traffic from the entire Santa Clarita Valley.

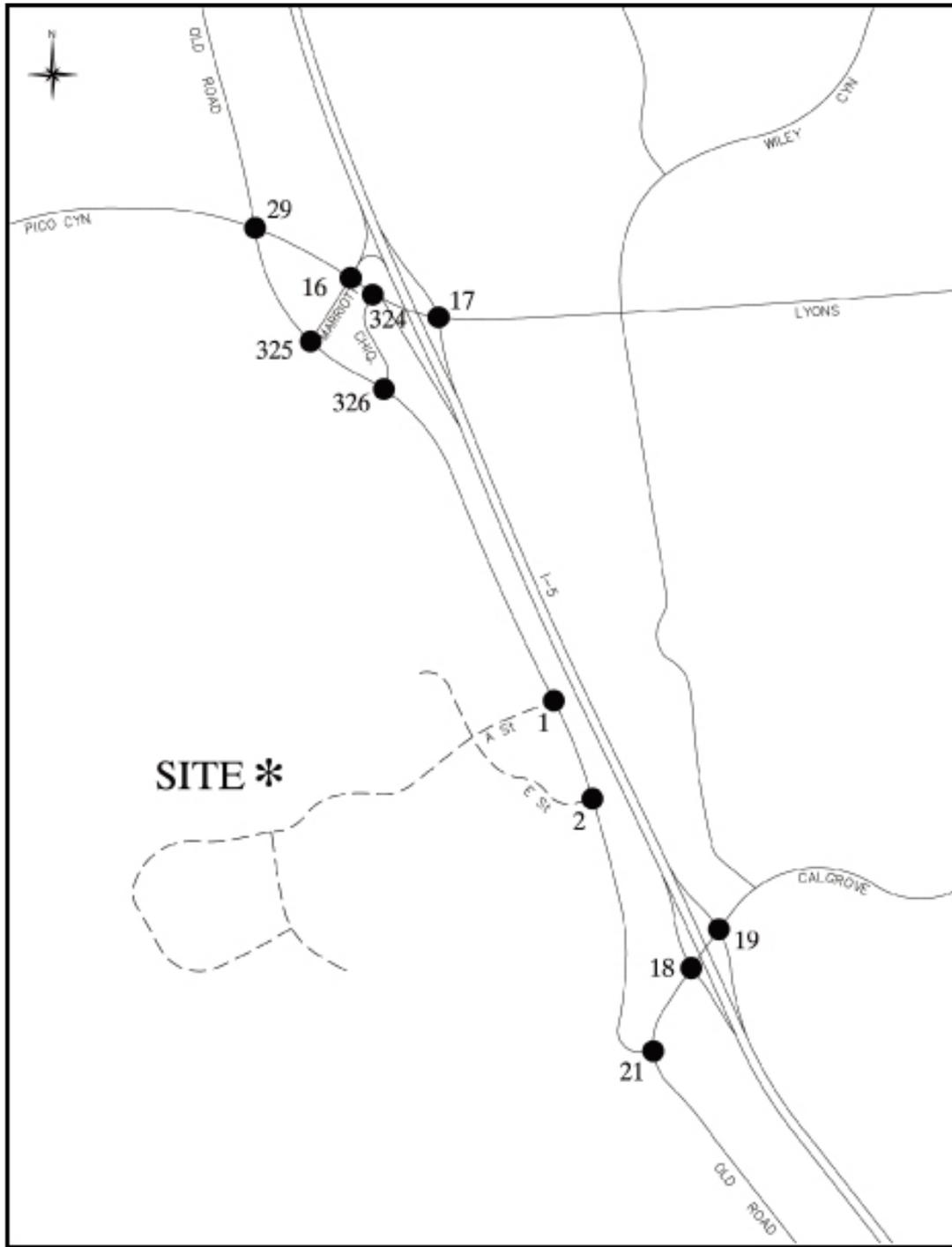
Since the project does not represent a change to the General Plan land use designations for the project site, a separate long-range analysis is not needed since the project traffic is already accounted for in the County's established long-range General Plan traffic forecasts.

As part of the development of this traffic impact analysis, the SCVCTM land use database was reviewed and verified by the County of Los Angeles and the City of Santa Clarita in March 2005. <sup>1</sup>Please see Section 2.2 of the Traffic Impact Analysis included in Appendix D for related project information obtained from the SCVCTM).

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<sup>1</sup> "Santa Clarita Valley Consolidated Traffic Model 2004 Update and Validation." City of Santa Clarita and County of Los Angeles Department of Public Works, March 2005.

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**Project Traffic Study Area**

Exhibit 5.10-1

# Lyons Canyon Ranch

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### 5.10.2 EXISTING CONDITIONS

The following describes existing traffic conditions in the study area. It includes a description of the study area roadway system, existing traffic volumes and corresponding levels of service.

#### EXISTING ROADWAY SYSTEM

The existing roadway network in the study area is illustrated in Exhibit 5.10-2, Existing Roadway Network – Intersection Lane Configurations, in the form of mid-block lanes and intersection lane configurations for the intersections being studied. Major arterial streets near to the project site consist of The Old Road, Pico Canyon Road, Lyons Avenue, Calgrove Boulevard and Wiley Canyon Road.

The I-5 Freeway provides regional access for residents of the site and is located just east of the project site. The I-5 Freeway can be accessed from the project site via interchanges at Calgrove Blvd as well as Pico Canyon Road/Lyons Avenue.

#### EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

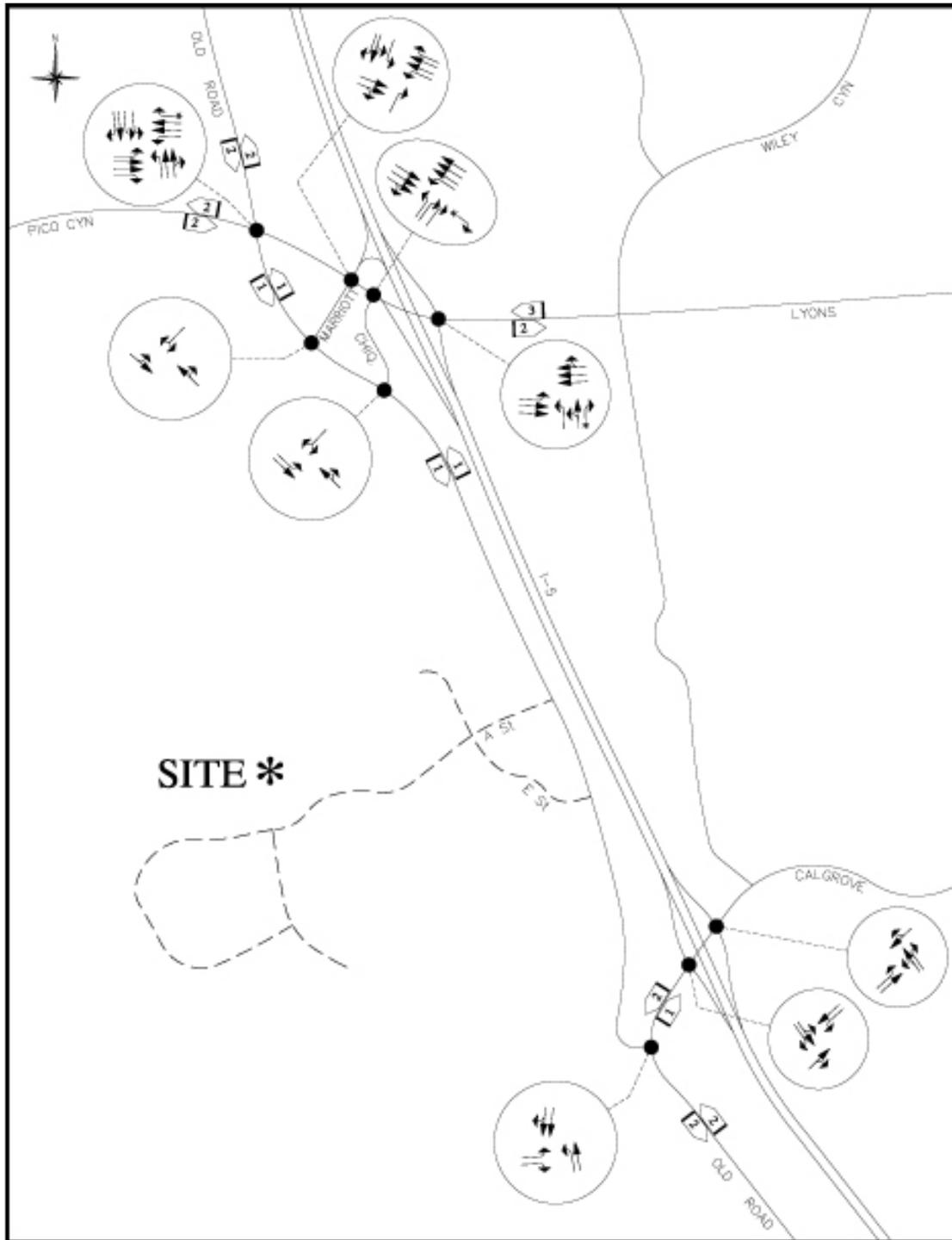
The existing average daily traffic (ADT) volumes on the study area roadway system are illustrated in Exhibit 5.10-3, Average Daily Traffic Volumes – Existing Counts. Illustrations of peak hour turning movement volumes for each study area intersection can be found in Exhibit 5.10-4, AM Peak Hour Turning Movement Volumes – Existing Counts, and Exhibit 5.10-5, PM Peak Hour Turning Movement Volumes – Existing Counts, for the AM and PM peak hours, respectively. The peak hour counts were generally collected during March and April, 2004.

Level of service (LOS) is a concept developed to quantify the degree of comfort afforded to drivers as they travel on a given roadway. The degree of comfort includes such elements as travel time, number of stops, total amount of stopped delay, etc. As defined in the HCM 2000, six grades are used to denote the various LOS. The six are denoted A through F and a discussion on these as given in Section 5.10.3.

The results of the ICU/LOS analyses for project area intersections are shown in Table 5.10-1, ICU Summary – Existing (2004) Conditions. The table shows how each intersection currently meets the performance standard of the respective jurisdiction.

As noted in Table 5.10-1, a number of intersections in the study area are not currently controlled by a traffic signal. For those locations, the ICU provides an indication of the level of service based on traffic signal control and provides a benchmark for comparison of future conditions with the proposed project.

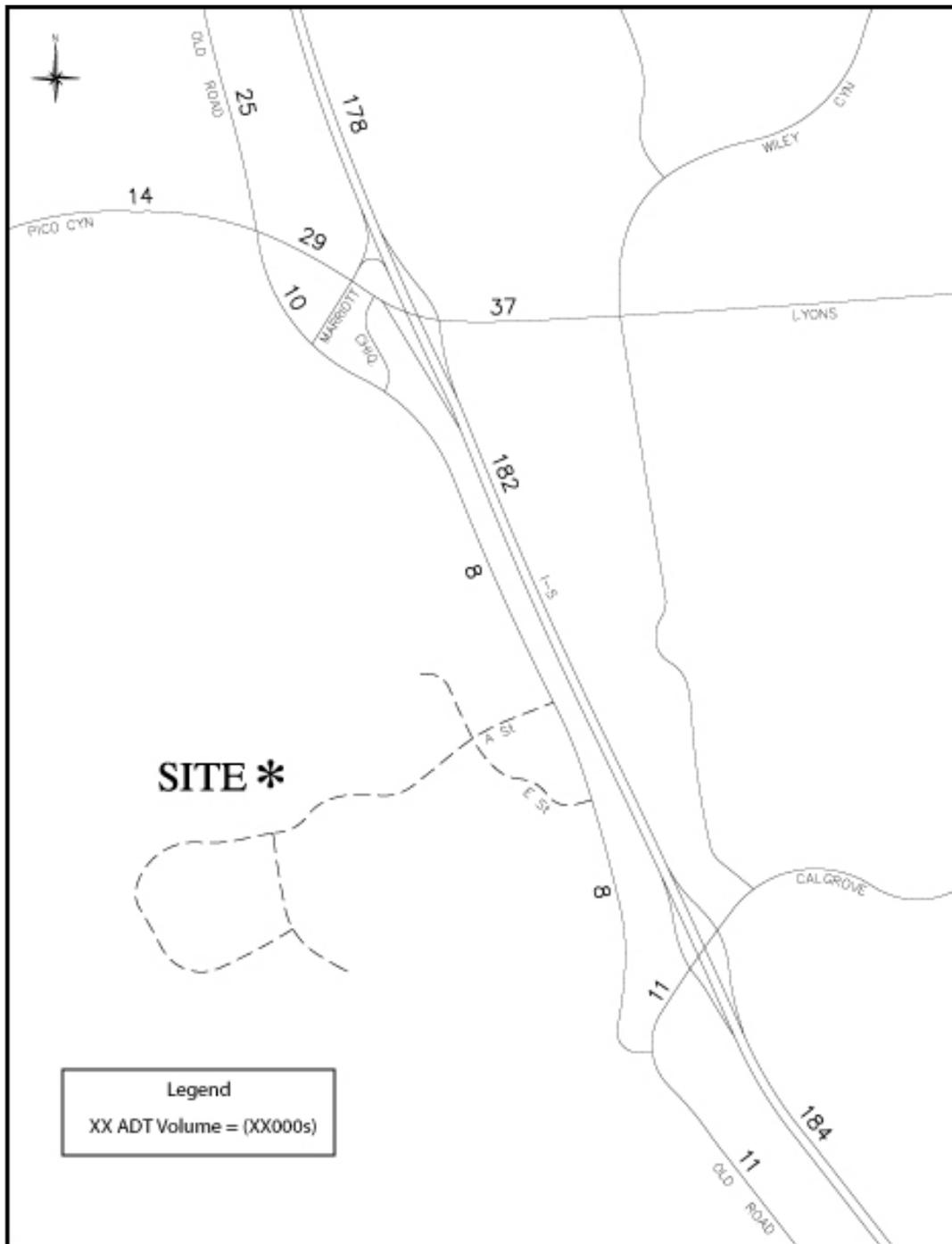
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**Existing Roadway Network - Intersection Lane Configurations**

Exhibit 5.10-2

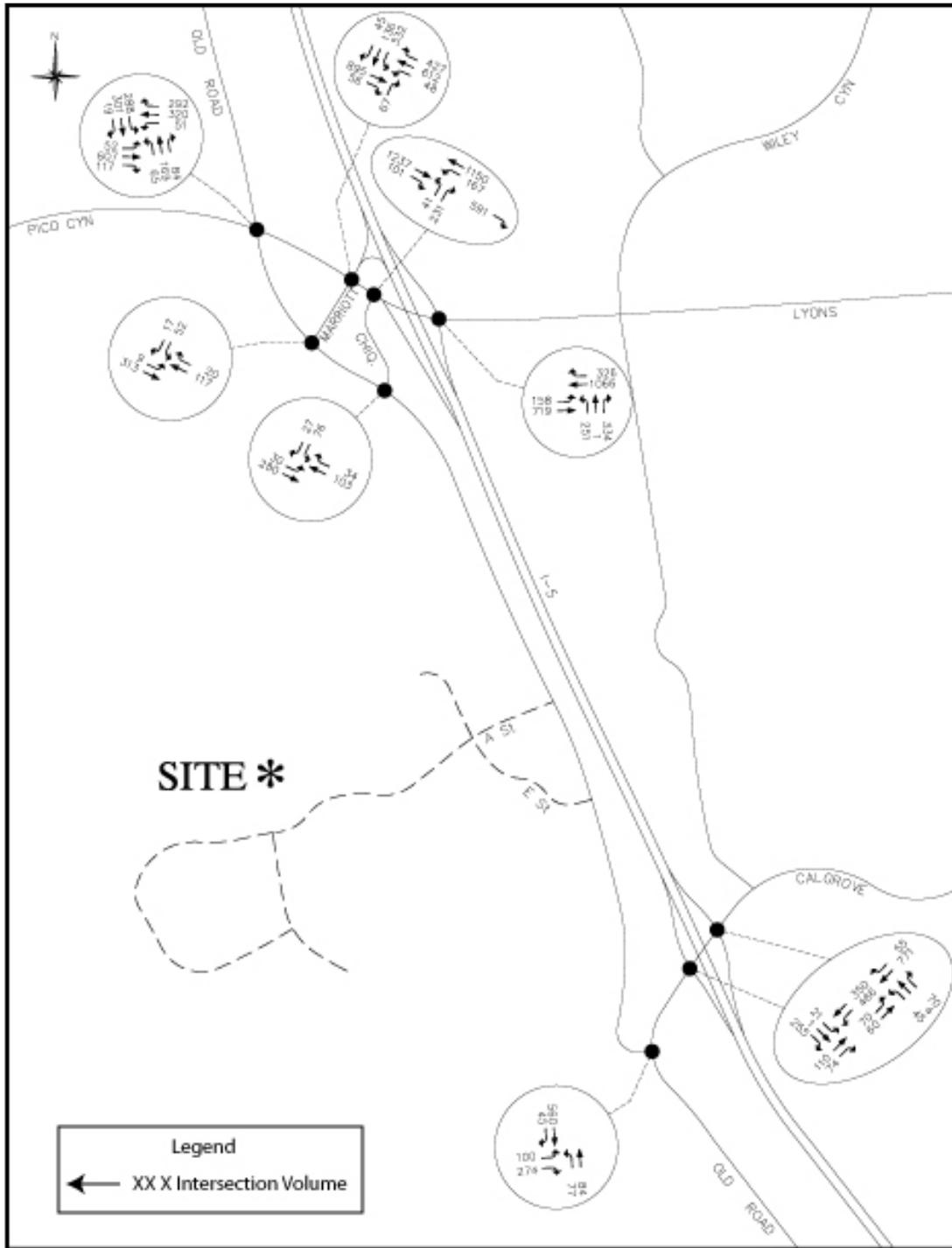
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**Average Daily Traffic Volumes - Existing Counts**

Exhibit 5.10-3

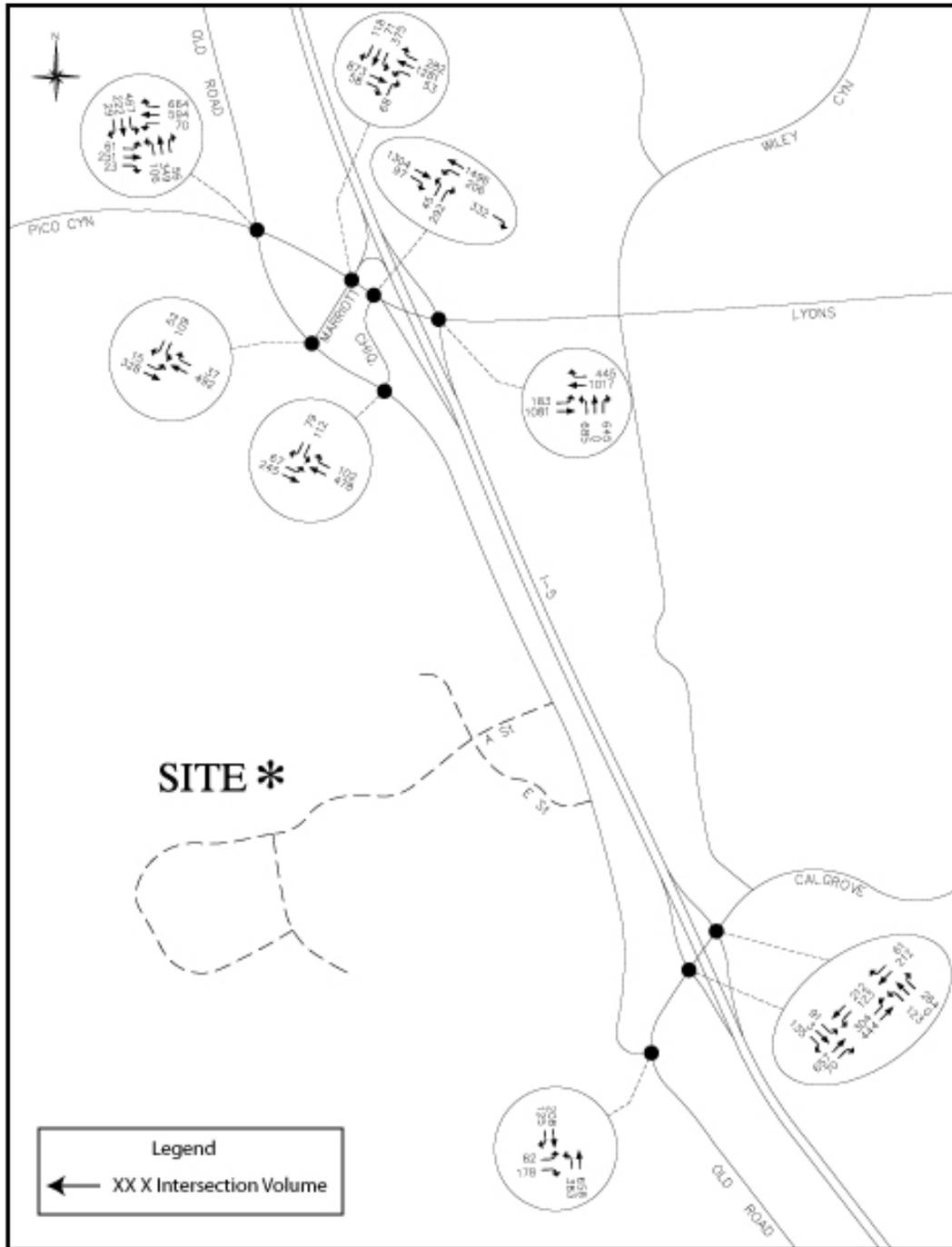
# Lyons Canyon Ranch Draft Environmental Impact Report



**AM Peak Hour Turn Movements - Existing Counts**

Exhibit 5.10-4

# Lyons Canyon Ranch Draft Environmental Impact Report



**PM Peak Hour Turn Movements - Existing Counts**

Exhibit 5.10-5

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**Table 5.10-1  
ICU Summary – Existing (2004) Conditions**

Location	AM Peak Hour		PM Peak Hour		Count Date						
	ICU	LOS	ICU	LOS							
<b>Freeway On/Off Ramp Intersections</b>											
I-5 SB/Marriott & Pico Cyn Rd	.55	A	.60	A	March 2004						
I-5 NB Ramps & Lyons Ave (City of Santa Clarita)	.53	A	.68	B	March 2004						
I-5 SB Ramps & Calgrove Blvd <sup>1</sup>	.49	A	.64	B	April 2004						
I-5 NB Ramps & Calgrove Blvd <sup>1</sup>	.64	B	.52	A	April 2004						
<b>Intersections</b>											
Calgrove and The Old Road	.47	A	.56	A	April 2004						
The Old Rd & Pico Canyon	.55	A	.73	C	March 2004						
Chiquella Ln & Pico Cyn Rd	.51	A	.55	A	April 2004						
Marriott Wy & The Old Rd <sup>1</sup>	.34	A	.54	A	April 2004						
Chiquella Ln & The Old Rd <sup>1</sup>	.34	A	.62	B	April 2004						
<sup>1</sup> Unsignalized, stop-sign control <sup>2</sup> Unsignalized, no conflicting movements  Level of service ranges: (See Sect 5-10.3 for LOS definitions) <table style="margin-left: 100px; border: none;"> <tr> <td style="padding-right: 20px;">A = .00 - .60</td> <td style="padding-right: 20px;">D = .81 - .90</td> </tr> <tr> <td>B = .61 - .70</td> <td>E = .91 - 1.00</td> </tr> <tr> <td>C = .71 - .80</td> <td>F = Above 1.00</td> </tr> </table>						A = .00 - .60	D = .81 - .90	B = .61 - .70	E = .91 - 1.00	C = .71 - .80	F = Above 1.00
A = .00 - .60	D = .81 - .90										
B = .61 - .70	E = .91 - 1.00										
C = .71 - .80	F = Above 1.00										

## Public Transportation

Santa Clarita Transit (SCT) currently does not provide fixed-route transit immediately adjacent to the project site. The nearest fixed-route transit line is for Routes 5 and 6, which passes through the intersection of The Old Road and Pico Canyon Road, which is just over one mile north of the project site. Routes 5 and 6 provide service to the Stevenson Ranch Area, Hart High School, the Valencia Town Center and Canyon Country.

The nearest fixed rail transit center is the Newhall Metrolink station, which is located approximately three miles northeast of the project site.

## INTERIM YEAR (2015) TRANSPORTATION SYSTEM

The Interim Year transportation system consists of roadway improvements and future infrastructure consistent with the related projects assumed for 2015, based on anticipated Santa Clarita Valley growth rates from sources such as the Southern California Association of Governments (SCAG). While this time period does not coincide specifically with the buildout of the project site, it represents the best time frame for planning purposes since it includes a comprehensive set of cumulative development projects (as determined jointly by the City of Santa Clarita and the County of Los Angeles) that have been incorporated into the SCVCTM as background traffic levels. With this, a conservative scenario is established for analyzing the impacts of the proposed project within the project study area combined with projected and approved growth on a reasonably expanded circulation system.

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Interim Year (2015) land use is based on data provided by the County of Los Angeles and the City of Santa Clarita and includes approved, pending and planned development projects. For this analysis, the recently updated Interim Year land use database was utilized since it includes the most recent data from the County and the City regarding these future projects. Table 5.10-2, Land Use and ADT Summary – Santa Clarita Valley Existing and Future, summarizes the total land use and trip generation statistics for cumulative projects in the entire Santa Clarita Valley area for existing (2004), Interim Year (2015) and Long-Range General Plan (2030) conditions<sup>2</sup>. Table 5.10-3, Cumulative Projects Within or Close to the Project Study Area – Interim Year (2015) Database, lists the cumulative projects included with the Interim Year scenario that are within or close to the project study area.

**Table 5.10-2  
Land Use and ADT Summary – Santa Clarita Valley  
Existing And Future**

Land Use Type	Units	Existing (2004)		Interim Year (2015)		Long-Range General Plan (2030)	
		Amount	ADT	Amount	ADT	Amount	ADT
Single Family Residential	DU	51,307	501,000	72,700	713,000	90,300	886,000
Multi-Family Residential	DU	25,627	203,000	42,100	320,000	49,400	386,000
Commercial Retail, Office & Industrial	MSF	31.8	696,000	67.0	1,183,000	82.6	1,581,000
Other	--	--	171,000	--	228,000	--	247,394
<b>TOTAL</b>	--	--	<b>1,570,000</b>	--	<b>2,444,000</b>	--	<b>3,100,000</b>
Notes: DU = Dwelling Units MSF = Million Square Feet							

<sup>2</sup> Please note that Table 5.10-4 is a summary of all cumulative project traffic from existing and future projects analyzed as part of this traffic impact study. The full list of existing and future projects is contained within the Santa Clarita Valley Consolidated Traffic Model.

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**Table 5.10-3  
Cumulative Projects Within or Close to the Project Study Area\***

Location	Description**
TR 33608 - North of Pico Canyon Road/West of The Old Road (TAZ 147)	Stevenson Ranch Phase III 140 Single Family Residential DU 667 Multi-Family Residential DU
TR 48208 - South of Pico Canyon Road/West of Stevenson Ranch Pkwy (TAZ 161)	51 Single-Family DU
TR 52905 – South of Pico Canyon, west of Stevenson Ranch Road (TAZ 161)	23 Single-Family DU
New Commercial/Infill – South of Pico Canyon Road/West of the Old Road (TAZ 161)	83,000 SF of Commercial Retail 221,000 SF of Commercial Office
Sources:  Santa Clarita Valley Subdivision Activity Map (City March 2005, County June 2004) SCVCTM 4.0 Land Use Database (2004) Aerial Topography (April 2004) ** Descriptions were provided during Traffic Impact Report preparation (2005) Notes: TAZ = Traffic Zone per the SCVCTM DU = Dwelling Unit sq. ft. = Square Feet	

\*Note: The SCVCTM database contains other projects outside of this study area, which are used to calculate baseline trip forecasts

## LONG-RANGE TRANSPORTATION SYSTEM

The County Highway Plan includes significant future roadway projects throughout the valley that will affect traffic patterns of both existing and future trips. Near to the project site, The Old Road will be expanded from its existing two-lane configuration to a four-lane roadway.

The I-5 freeway is part of a recent study prepared by the Los Angeles County Metropolitan Transportation Authority (MTA), and Caltrans, in which it was determined that the I-5 corridor, between SR-14 and SR-126 West, will ultimately double from the current four lanes in each direction to eight lanes in each direction. Two of the eight lanes would be for high occupancy vehicles (HOVs), two lanes for trucks, and four lanes for general use. The increase in the number of lanes would accommodate that study's forecast of a doubling of I-5 travel demand by 2025.

### 5.10.3 SIGNIFICANCE THRESHOLD CRITERIA

#### GENERAL CEQA TRAFFIC STUDY GUIDELINES AND PERFORMANCE CRITERIA

For the purposes of CEQA, defined performance criteria are utilized if a proposed project causes a significant impact. In most traffic studies, performance criteria are based on two primary measures. The first is "capacity," which establishes the vehicle carrying ability of a roadway, and the second is "volume." The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. The ratio between the volume and the capacity gives a volume/capacity (V/C) ratio, which defines a corresponding level of service (LOS).

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Traffic LOS is designated A through F with LOS A representing free-flow conditions and LOS F representing severe traffic congestion. Traffic flow quality for each LOS is described in Table 5.10-4, Level of Service Descriptions.

Both the V/C ratio and the LOS are used in determining impact significance in the traffic study. Certain LOS values are deemed unacceptable by the County of Los Angeles, and increases in the V/C ratio which cause or contribute to the LOS being unacceptable are defined as a significant impact in the evaluation of traffic impacts in the traffic study.

In establishing V/C-based performance criteria, there are certain items that need to be addressed to obtain suitable V/C estimates and relate them to LOS. For instance, while average daily traffic (ADT) is a useful measure to show general levels of traffic from a facility, and to provide data for other related aspects such as noise and air quality, highway/intersection congestion is largely a “peak hour” or “peak period” occurrence and ADT does not reflect peak period conditions very effectively. Because of this, ADT is not used in the traffic study as the basis for capacity evaluation, but instead the evaluation focuses on those parts of the day when such congestion occurs, specifically the AM and PM peak hours.

**Table 5.10-4  
Level of Service Descriptions**

LOS	Arterial Roads/Intersections	Freeway Segments
A (0.0-0.60 V/C Ratio)	Describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.	Describes free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.
B (0.61-0.70 V/C Ratio)	Describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.	Represents reasonably free flow, and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C (0.71-0.80 V/C Ratio)	Describes stable operations; however, ability to maneuver and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the free-flow speed for the street class.	Provides for flow with speeds at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.

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LOS	Arterial Roads/Intersections	Freeway Segments
D (0.81-0.90 V/C Ratio)	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of free-flow speed.	The level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
E (0.91-1.00 V/C Ratio)	Characterized by significant delays and average travel speeds of 33 percent or less of the free-flow speed. Such operations are caused by a combination of adverse signal progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	At its highest density value, LOS E describes operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream at speeds that still exceed 49 miles per hour. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F (> 1.00 V/C Ratio)	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.	Describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points. LOS F operations within a queue are the result of a breakdown or bottleneck at a downstream point. LOS F is also used to describe conditions at the point of the breakdown or bottleneck and the queue discharge flow that occurs at speeds lower than the lowest speed for LOS E, as well as the operations within the queue that forms upstream. Whenever LOS F conditions exist, they have the potential to extend upstream for significant distances.

Source: *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, National Research Council.

### COUNTY OF LOS ANGELES TRAFFIC STUDY GUIDELINES AND PERFORMANCE CRITERIA

#### County Impact Criteria for Arterial Roads

The ICU calculation methodology and associated impact criteria for the study area arterial system are summarized in Table 5.10-5, Arterial Intersection Significance/Threshold Criteria.

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## Freeway Segments

For the freeway system, the peak hour is the accepted time period used for impact evaluation. The procedures for determining LOS are established by the State of California Department of Transportation (Caltrans) and by regional programs such as the CMP.

The Caltrans guidelines for the preparation of traffic impact studies define the transition between LOS C and LOS D as the target LOS to be maintained. Caltrans acknowledges that this may not always be feasible and utilizes an alternative target LOS when appropriate. If an existing freeway is operating at less (worse) than the appropriate target LOS, the guidelines state that the existing measure of effectiveness (MOE) should be maintained. The MOE used by Caltrans for freeway segments is “density” and is measured in passenger cars per mile per lane (pc/mi/ln).

**Table 5.10-5  
Arterial Intersection Significance/Threshold Criteria**

<b>V/C Calculation Methodology</b>									
Level of service to be based on peak hour intersection capacity utilization (ICU) value calculated using the following assumptions:									
Saturation Flow Rates: 1600 vehicles/hour/lane for through lanes, right-turn lanes & single left-turn lanes 2,800 vehicles/hour for dual left-turn lanes 1,750 vehicles/hour/lane for intersections within the City of Santa Clarita									
Clearance Interval:	0.10								
<b>Performance Standards</b>									
County: LOS D (peak hour ICU less than or equal to 0.90) for new/future intersections for buildout conditions. LOS C (peak hour ICU less than 0.75) or existing LOS, whichever is greater, for existing intersections									
City: LOS D or existing LOS, whichever is greater									
<b>Impact Thresholds</b>									
An intersection is considered to be adversely impacted if compared to the ICU in the no-project alternative, the ICU in the with-project alternative increases the ICU by the following:									
County Thresholds:	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center; border-bottom: 1px solid black;"><u>Pre Project ICU</u></td> <td style="text-align: center; border-bottom: 1px solid black;"><u>Project Increment</u></td> </tr> <tr> <td style="text-align: center;">.71-.80 (LOS C)</td> <td style="text-align: center;">greater than or equal to .04</td> </tr> <tr> <td style="text-align: center;">.81-.90 (LOS D)</td> <td style="text-align: center;">greater than or equal to .02</td> </tr> <tr> <td style="text-align: center;">.91 or more (LOS E &amp; F)</td> <td style="text-align: center;">greater than or equal to .01</td> </tr> </table>	<u>Pre Project ICU</u>	<u>Project Increment</u>	.71-.80 (LOS C)	greater than or equal to .04	.81-.90 (LOS D)	greater than or equal to .02	.91 or more (LOS E & F)	greater than or equal to .01
<u>Pre Project ICU</u>	<u>Project Increment</u>								
.71-.80 (LOS C)	greater than or equal to .04								
.81-.90 (LOS D)	greater than or equal to .02								
.91 or more (LOS E & F)	greater than or equal to .01								
City Thresholds:	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center; border-bottom: 1px solid black;"><u>With-Project ICU</u></td> <td style="text-align: center; border-bottom: 1px solid black;"><u>Project Increment</u></td> </tr> <tr> <td style="text-align: center;">.81-.90 (LOS D)</td> <td style="text-align: center;">greater than or equal to .02</td> </tr> <tr> <td style="text-align: center;">.91 or more (LOS E &amp; F)</td> <td style="text-align: center;">greater than or equal to .01</td> </tr> </table>	<u>With-Project ICU</u>	<u>Project Increment</u>	.81-.90 (LOS D)	greater than or equal to .02	.91 or more (LOS E & F)	greater than or equal to .01		
<u>With-Project ICU</u>	<u>Project Increment</u>								
.81-.90 (LOS D)	greater than or equal to .02								
.91 or more (LOS E & F)	greater than or equal to .01								
Abbreviations: V/C – Volume/Capacity Ratio LOS – Level of Service ICU – Intersection Capacity Utilization									

The CMP guidelines for a transportation impact analysis require a simplified analysis of freeway impacts that consists of a demand-to-capacity calculation for the affected CMP monitoring

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locations. The CMP defines a significant impact occurring when the proposed project increases traffic demand by two percent of capacity ( $V/C \geq .02$ ), causing or worsening LOS F.

According to the County of Los Angeles Traffic Impact Analysis Guidelines, a significant traffic and circulation impact would result if any of the following thresholds are exceeded:

### INTERSECTIONS

An intersection is considered to be adversely impacted if:

- A. The intersection is forecast to operate deficiently (i.e., worse than the performance standard), or
- B. The ICU in the with-project scenario increases the ICU by the following:

County Thresholds:	<u>Pre-Project ICU</u>	<u>Project Increment</u>
	.71 - .80 (LOS C)	greater than or equal to .04
	.81 - .90 (LOS D)	greater than or equal to .02
	.91 or more (LOS E & F)	greater than or equal to .01

### FREEWAY SEGMENTS

As pertains to freeway segments, the CMP defines a significant impact occurring when the proposed project increases traffic demand by two percent of capacity ( $V/C \geq .02$ ), causing or worsening LOS F.

The impact analysis is based on specific performance criteria that are outlined above. These criteria are used as the basis for determining the significance of traffic impacts in this EIR. Where appropriate, mitigation measures were identified in the traffic study for those scenarios in which significant impacts were determined to occur based on traffic performance criteria identified below.

## 5.10.4 IMPACTS AND MITIGATION MEASURES

The following discussion describes the proposed project in terms of its transportation characteristics. Trip generation is summarized and the distribution of project trips on the study area roadway network is presented.

### PROPOSED PROJECT OVERVIEW

The proposed project is located on a 234 acre site and consists of 190 residential dwelling units, a neighborhood park, a 1.26 acre fire station site and open space. One hundred (100) of the residential units are proposed as single-family detached homes and the remaining 90 residential units are proposed as attached senior housing.

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## On-Site Circulation

Access for the residential uses, would be from two new roadways that intersect with The Old Road and extend west into the project site. The first roadway, “A” Street, intersects with The Old Road approximately 0.65 miles north of Calgrove Boulevard and will function as the primary access point for the project. The second roadway, “E” Street, would intersect The Old Road approximately 1,100 feet south of the “A” Street intersection and will be configured for right-turn-in and right-turn-out movements only to ensure adequate sight distance and safe intersection operation.

## PROJECT TRIP GENERATION

Trip generation estimates for the proposed project are shown in Table 5.10-6, Trip Generation and Trip Rate Summary. The trip generation is calculated using published data and formulas from the Institute of Transportation Engineers (ITE) Trip Generation Manual (Seventh Edition). The ITE senior housing trip rate is derived from the studies of active senior communities composed of detached homes, and is applied for the senior condominiums as well as the senior detached homes. The same rate is used for both based on an expectation of occupancy by active seniors, as opposed to seniors that require convalescent care.

The proposed project is estimated to generate approximately 1,300 total average daily trips (ADT), with approximately 90 occurring in the AM peak hour (64 outbound) and approximately 120 occurring in the PM peak hour (76 inbound).

**Table 5.10-6  
Land Use and Trip Generation Summary**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
<b>Lyons Canyon Ranch (June 2005)</b>								
Single Family Residential	95 DU	18	53	71	61	35	96	909
Senior (Active) Residential	95 DU	8	11	19	15	10	25	352
<i>Sub-total - Residential</i>	<i>190 DU</i>	<i>26</i>	<i>64</i>	<i>90</i>	<i>76</i>	<i>45</i>	<i>121</i>	<i>1,261</i>
<b>TRIP RATES</b>								
Single Family Residential <sup>1</sup>	DU	.19	.56	.75	.64	.37	1.01	9.57
Senior (Active) Residential <sup>2</sup>	DU	.08	.12	.20	.16	.10	.26	3.71
Notes: <sup>1</sup> ITE Category 210 (Single Family Residential) <sup>2</sup> ITE Category 251 (Senior Adult Housing - Detached) <sup>3</sup> The traffic generated by a fire station is generally random and occurs at various times throughout the day. The trip generation characteristics of a neighborhood fire station typically consist of emergency response, shift changes for staff, and other miscellaneous trips into the community.  DU = Dwelling Unit								

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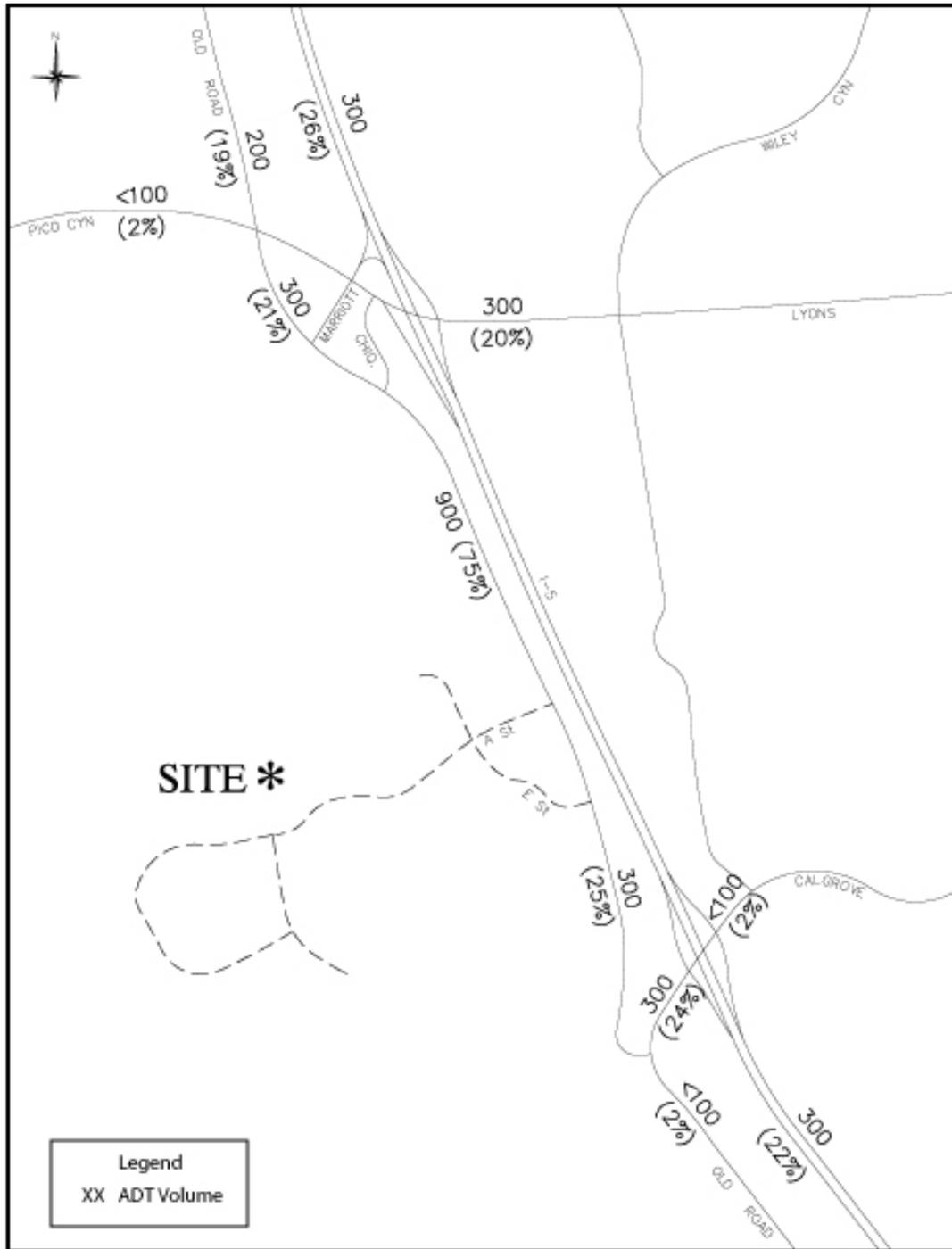
### PROJECT TRIP DISTRIBUTION

The geographic distribution of project-generated trips was determined using the SCVCTM to prepare a project-only select zone run. The Interim Year (2015) version of the SCVCTM provided the background conditions for this select zone run. The model takes into account the specific type of land use proposed for the site and how that land use would interact with the other land uses in the County and the immediately surrounding areas in the City of Santa Clarita.

Exhibit 5.10-6, Average Daily Traffic Volumes: Project Only, illustrates the project only average daily trips (ADT) and distribution percentages for the proposed project. Exhibit 5.10-7, AM Peak Hour Turning Movement Volumes – Project Only, and Exhibit 5.10-8, PM Peak Hour Turning Movement Volumes – Project Only, illustrate the project-generated trips for the AM and PM peak hours, respectively, within the study area. Since the SCVCTM performs separate assignments for the AM peak hour, the PM peak hour, and the off-peak period, the specific volumes for any individual time period will not precisely match the percentages noted in the Exhibit 5.10-6.

Approximately 75 percent of the new trips generated by the project are forecast to travel north of the project site via The Old Road. These project only trips are then forecast to travel north via the I-5 freeway, continue north along The Old Road past Lyons Avenue, travel west along Pico Canyon Road, or travel east along Lyons Avenue. Approximately 25 percent are forecast to travel south of the project site. These project only trips are then forecast to travel south on the I-5 Freeway via the Calgrove Boulevard interchange, continue east along Calgrove Blvd., or continue south along The Old Road.

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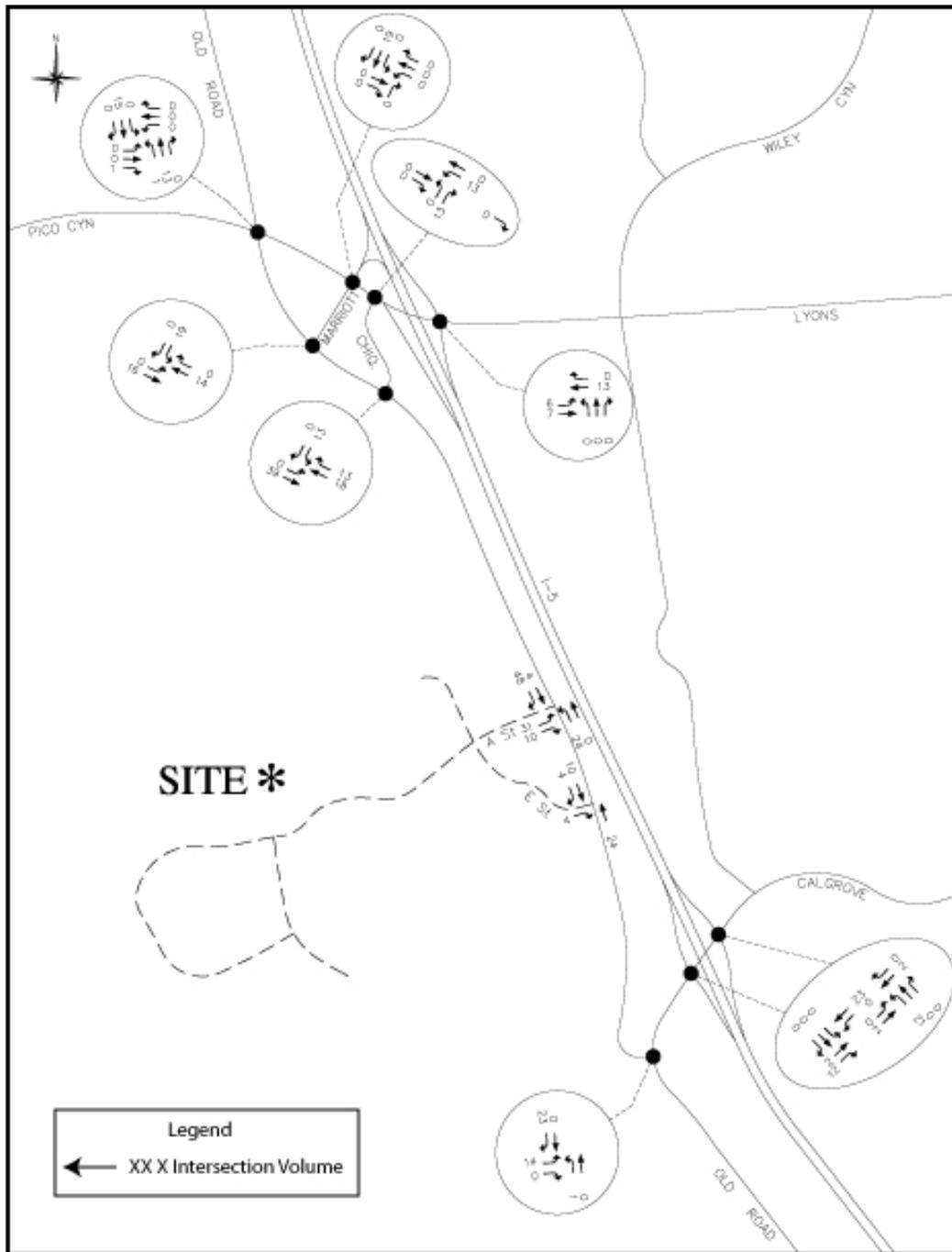


**Average Daily Traffic Volumes - Project Only**

Exhibit 5.10-6



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**PM Peak Hour Turn Movements - Project Only**

Exhibit 5.10-8

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### PROJECT IMPACTS

The following addresses the traffic impacts of the proposed project. Traffic conditions with and without the proposed project are described in the following analysis. Project impacts are evaluated using the criteria previously outlined under *Thresholds of Significance*.

- ◆ ***THE PROPOSED PROJECT COULD RESULT IN ADVERSE IMPACTS TO THE FUNCTION OF TRAFFIC SYSTEM INTERSECTIONS AND ROADWAY SEGMENTS IN THE PROJECT AREA.***

***Level of Significance Prior to Mitigation:*** Potentially Significant Impact.

***Impact Analysis:*** Traffic impacts within the project study area are based on the cumulative traffic volumes within the study boundaries pursuant to the County of Los Angeles methodology described above. The incremental increase in traffic generated by the proposed project is compared to the baseline scenario described above in order to determine the significance of project-related traffic impacts.

#### Existing plus Ambient Growth Traffic Conditions

Since occupancy of the project site is anticipated in 2007 and 2008, a 2008 horizon year was utilized for analysis purposes to determine project-only impacts. To derive 2008 conditions, County staff has specified a 3.8 percent per year growth rate for this portion of Los Angeles County. Traffic volumes for existing plus ambient growth conditions plus project conditions within the study area are shown in Exhibit 5.10-9, Average Daily Traffic Volumes – Horizon Year (2008) With Project. The Horizon Year peak hour turning movement volumes for intersections in the study area are illustrated in Exhibit 5.10-10, AM Peak Hour Turning Movement Volumes – Horizon Year (2008) With Project, and Exhibit 5.10.11, PM Peak Hour Turning Movement Volumes – Horizon Year With Project, for the AM and PM peak hours, respectively.

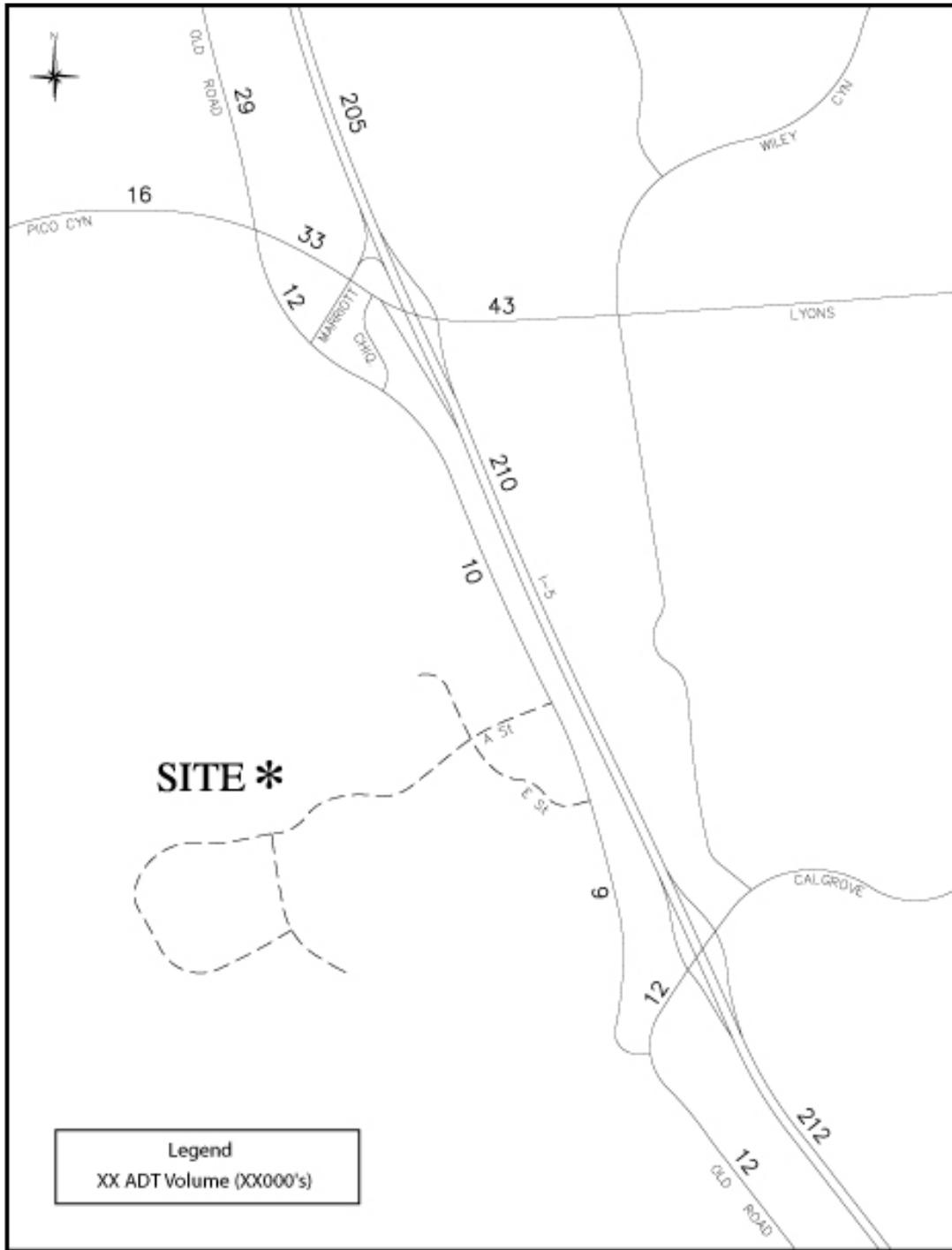
Table 5.10-7, ICU and LOS Summary – Existing and Horizon Year (2008) Traffic Conditions, provides the corresponding ICU values and also listed for comparison purposes are the ICUs for existing conditions. The ICU tabulations indicate that none of the study area intersections are forecast to exceed the available capacity by the Horizon Year (2008) without and with the proposed project.

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**Table 5.10-7  
Existing and Horizon Year (2008) Traffic Conditions**

Intersection	Horizon Year Without Project				Horizon Year With Project				Increase							
	AM		PM		AM		PM		AM	PM						
<b>Freeway On/Off Ramp Intersections</b>																
I-5 SB/Marriott & Pico Cyn Rd	.67	B	.72	C	.67	B	.73	C	.00	.01						
I-5 NB Ramps & Lyons Ave	.59	A	.77	C	.60	A	.77	C	.01	.00						
I-5 SB Ramps & Calgrove Blvd <sup>1</sup>	.59	A	.78	C	.61	B	.79	C	.02	.01						
I-5 NB Ramps & Calgrove Blvd <sup>1</sup>	.72	C	.58	A	.73	C	.58	A	.01	.00						
<b>Intersections</b>																
The Old Rd & "A" Street <sup>2</sup>	--	--	--	--	.28	A	.30	A	--	--						
Calgrove Blvd & The Old Road	.53	A	.63	B	.53	A	.64	B	.00	.01						
The Old Rd & Pico Canyon	.63	B	.69	B	.63	B	.69	B	.00	.00						
Chiquella Ln & Pico Cyn Rd	.57	A	.62	B	.58	A	.63	B	.01	.01						
Marriott Wy & The Old Rd <sup>1</sup>	.38	A	.61	B	.38	A	.63	B	.00	.02						
Chiquella Ln & The Old Rd <sup>1</sup>	.37	A	.71	C	.39	A	.74	C	.02	.03						
<sup>1</sup> Unsignalized, stop-sign control <sup>2</sup> Project Access Location  Level of service ranges: <table style="display: inline-table; vertical-align: middle; margin-left: 20px;"> <tr> <td>A = .00 - .60</td> <td>D = .81 - .90</td> </tr> <tr> <td>B = .61 - .70</td> <td>E = .91 - 1.00</td> </tr> <tr> <td>C = .71 - .80</td> <td>F = Above 1.00</td> </tr> </table>											A = .00 - .60	D = .81 - .90	B = .61 - .70	E = .91 - 1.00	C = .71 - .80	F = Above 1.00
A = .00 - .60	D = .81 - .90															
B = .61 - .70	E = .91 - 1.00															
C = .71 - .80	F = Above 1.00															

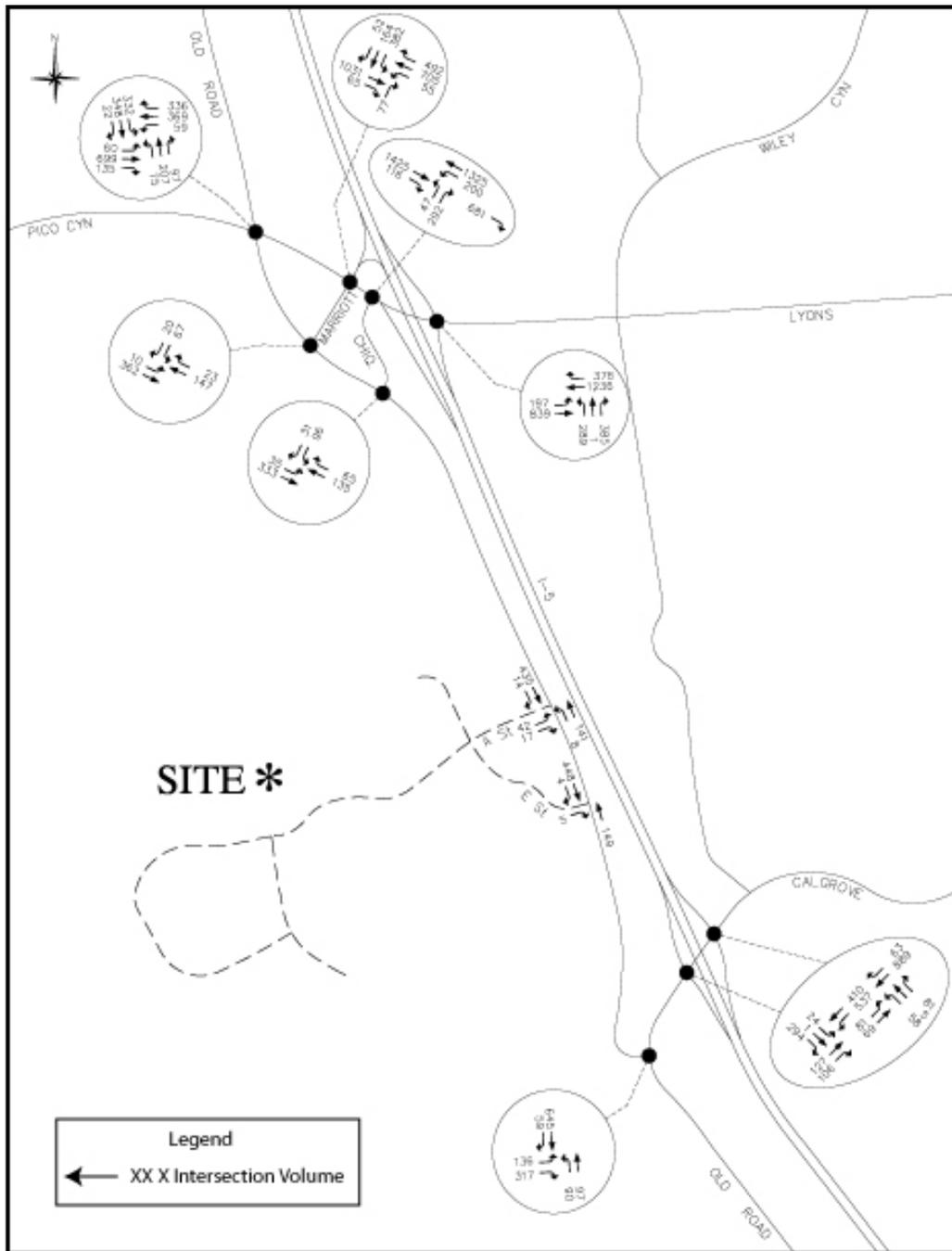
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**Average Daily Traffic Volumes - Horizon Year (2008) With Project**

Exhibit 5.10-9

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**AM Peak Hour Turn Movements - Horizon Year (2008) With Project**

Exhibit 5.10-10



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## Interim Year (2015) Traffic Conditions

The cumulative traffic conditions are based on the Interim Year setting. This setting forms the basis for identifying the potential cumulative traffic impacts of the proposed project together with other planned and pending development projects. The Interim Year traffic volumes represent existing plus ambient growth plus project plus related project conditions. Table 5.10-8, ICU and LOS Summary – Existing and Interim Year (2015) Without and With Project, provides the corresponding ICU values and also listed for comparison purposes are the ICUs for existing conditions.

**Table 5.10-8  
ICU And LOS Summary – Interim Year (2015)  
With And Without Project**

Intersection	Existing plus Ambient Without Project				Existing plus Ambient plus Project & Related Projects				Increase	
	AM		PM		AM		PM		AM	PM
<b>Freeway On/Off Ramp Intersections</b>										
I-5 SB/Marriott & Pico Cyn Rd	.67	B	.72	C	.68	B	.77	C	.01	.05*
I-5 NB Ramps & Lyons Ave	.63	B	.83	D	.70	C	.89	D	.07	.06*
I-5 SB Ramps & Calgrove Blvd <sup>1</sup>	.59	A	.78	C	.68	B	.87	D	.09	.09*
I-5 NB Ramps & Calgrove Blvd <sup>1</sup>	.78	C	.63	B	.88	D	.65	B	.10	.02
<b>Intersections</b>										
The Old Road and "A" Street	--	--	--	--	.30	A	.31	A	--	--
Calgrove Blvd & The Old Rd <sup>3</sup>	.53	A	.63	B	.56	A	.74	C	.03	.11
The Old Rd & Pico Canyon	.63	B	.69	B	.70	B	.76	C	.07	.07*
Chiquella Ln & Pico Cyn Rd	.57	A	.62	B	.63	B	.74	C	.06	.12
Marriott Wy & The Old Rd <sup>1</sup>	.38	A	.61	B	.40	A	.67	B	.02	.06
Chiquella Ln & The Old Rd <sup>1</sup>	.37	A	.71	C	.40	A	.79	C	.03	.08*
*Significant Impact										
<sup>1</sup> Unsignalized, stop-sign control										
<sup>2</sup> Unsignalized, no conflicting movements										
<sup>3</sup> Project Access Location										
Level of service ranges:										
A = .00 - .60			D = .81 - .90							
B = .61 - .70			E = .91 - 1.00							
C = .71 - .80			F = Above 1.00							

As discussed previously, the proposed project would generate approximately 1,261 new vehicle trips per day, with approximately 90 trips in the AM peak hour and approximately 121 trips in the PM peak hour.

Interim Year (2015) volumes that include project-generated traffic are provided in Exhibit 5.10-12, Average Daily Traffic Volumes – Interim Year (2015) With Project, and in Exhibit 5.10-13, AM Peak Hour Turning Movement Volumes – Interim Year (2015) With Project, and Exhibit 5.10-14, PM Peak Hour Turning Movement Volumes – Interim Year (2015) With Project, for the AM and PM peak hours, respectively. Peak hour ICU values can be found in Table 5.10-8, ICU and LOS Summary – Interim Year (2015) With and Without Project, which provides a

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comparison between existing plus ambient growth (no project) conditions and Interim Year with-project conditions. Table 5.10-8 shows that several intersections experience a significant impact due to the cumulative impact of project traffic and related traffic (refer to Table 5.10-2 for significant impact criteria). The following five intersections are significantly impacted:

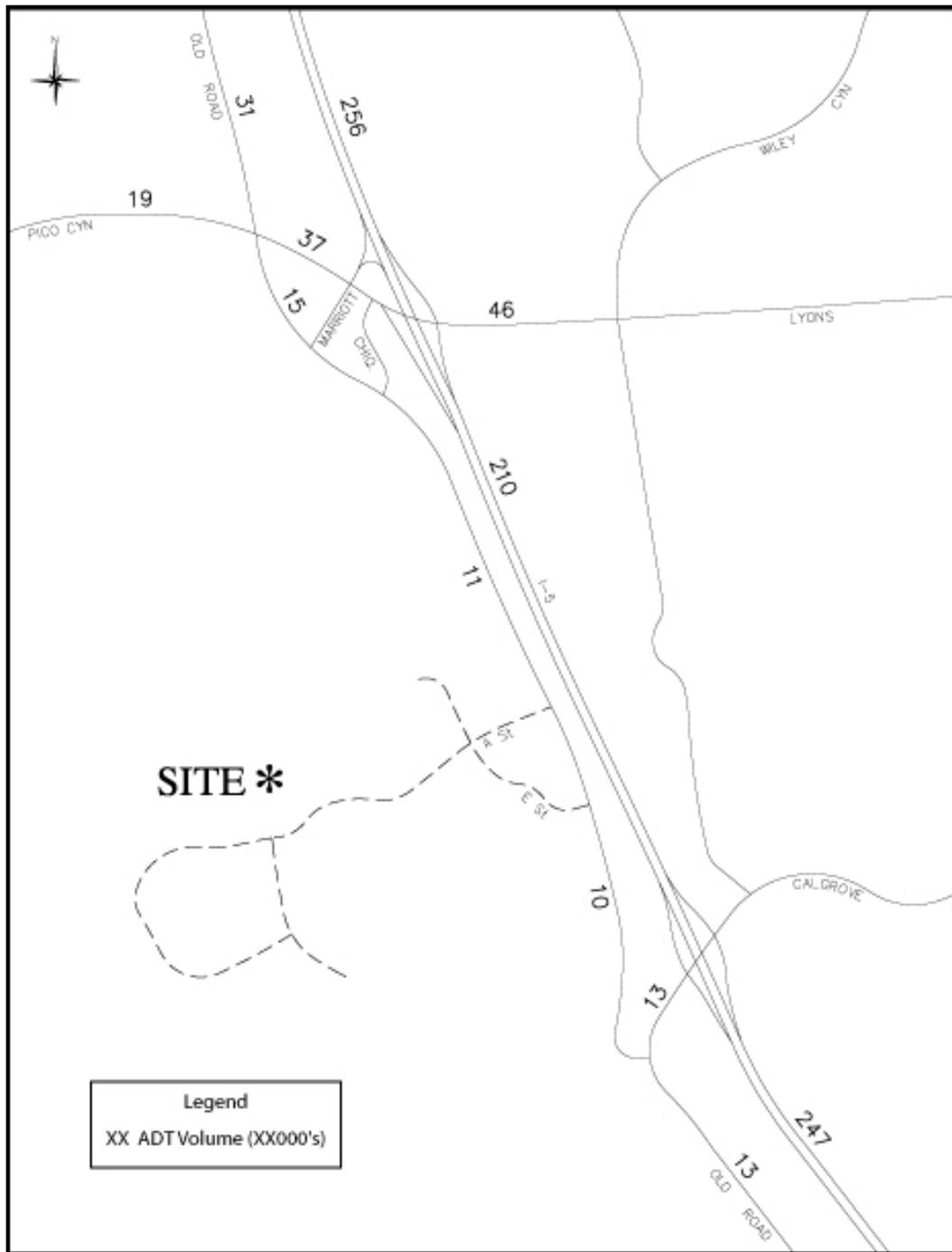
◆ **Freeway Ramp Intersections**

- I-5 SB Ramps/Marriott & Pico Cyn Rd – LOS C (PM Peak Hour)
- I-5 NB Ramps & Lyons Ave – LOS D (PM Peak Hour)
- I-5 SB Ramps & Calgrove Blvd – LOS D (PM Peak Hour)

◆ **County Intersections**

- The Old Rd & Pico Cyn Rd – LOS C (PM Peak Hour)
- Chiquella & The Old Rd – LOS C (PM Peak Hour)

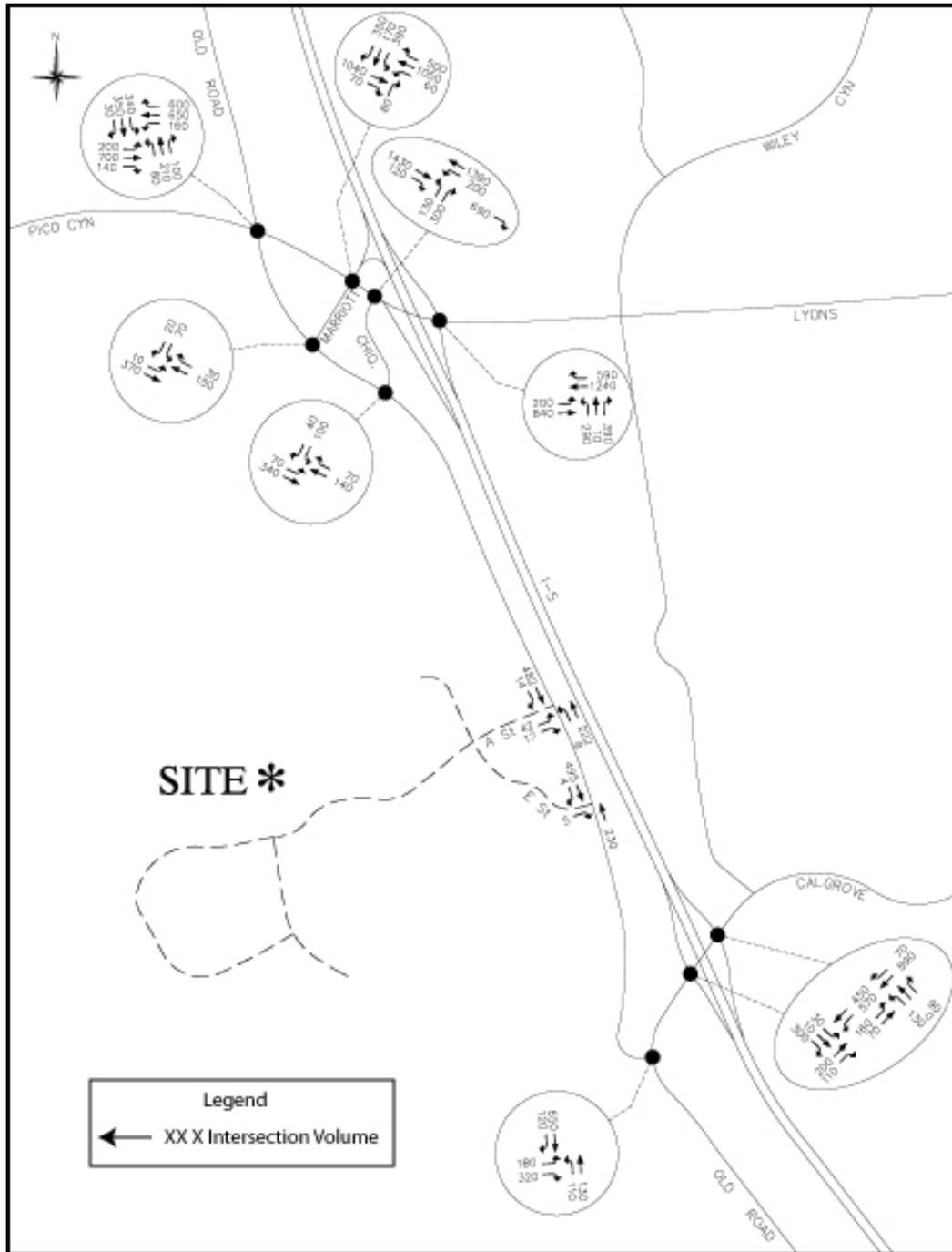
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**Average Daily Traffic Volumes - Interim Year (2015) With Project**

Exhibit 5.10-12

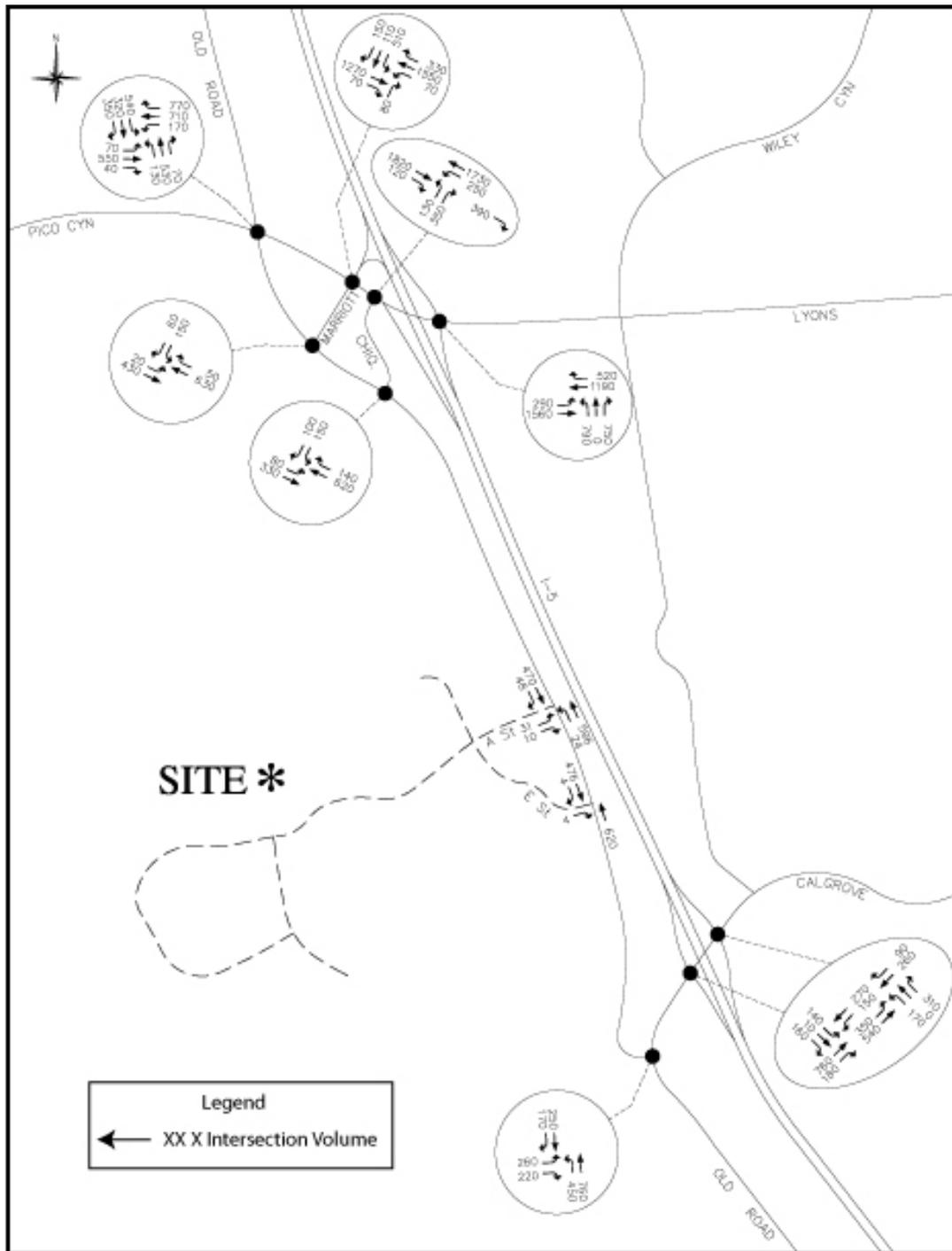
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**AM Peak Hour Turn Movements - Interim Year (2015) With Project**

Exhibit 5.10-13

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**PM Peak Hour Turn Movements - Interim Year (2015) With Project**

Exhibit 5.10-14

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Although the proposed project would increase traffic volumes at local intersections and along roadways in the project area, implementation of recommended mitigation measures would reduce such impacts to a level less than significant. Traffic impacts, before and after implementation of applicable mitigation measures, are summarized in Table 5.10-9, ICU And LOS Summary With Project And Mitigation.

**Table 5.10-9  
ICU and LOS Summary  
With Project and Mitigation**

Intersection	Existing plus Ambient without Project				Existing plus Ambient plus Project & Related Projects with Mitigation				Net Change			
	AM		PM		AM		PM		AM	PM		
<b>Freeway On/Off Ramp Intersections</b>												
I-5 SB/Marriott & Pico Cyn Rd	.67	B	.72	C	.64	B	.68	C	-.03	-.04		
I-5 NB Ramps & Lyons Ave	.63	B	.83	C	.64	C	.84	D	.01	.01		
I-5 SB Ramps & Calgrove Blvd	.59	A	.78	C	.59	B	.57	D	.00	-.21		
<b>County Intersections</b>												
The Old Road & Pico Cyn Rd	.63	B	.69	B	.70	B	.74	C	.07	.05		
Chiquella & The Old Rd	.37	A	.71	C	.37	A	.72	C	.00	.01		
Level of service ranges:	A = .00 - .60		D = .81 - .90		B = .61 - .70		E = .91 - 1.00		C = .71 - .80		F = Above 1.00	

## Traffic Signal Warrants

Two of the study locations are currently stop sign controlled intersections. Please refer to Table 4-3, Traffic Signal Volume Warrant Summary, included in Appendix D. This table summarizes peak hour traffic volumes for these locations and evaluates them using the Caltrans peak hour volume warrant.

The following locations meet the peak hour volume warrant for existing plus ambient growth plus project conditions:

- ◆ I-5 SB Ramps & Calgrove Blvd; and
- ◆ Chiquella Lane & The Old Road

No additional locations meet the peak hour volume warrant when related projects are included.

The proposed project would incrementally increase the need for signalization to maintain an adequate level of service at these locations. As such, the project applicant would be required to pay a portion (as noted below) of the total improvement fees for these intersections to the County of Los Angeles. It is important to note that actual construction of the traffic signals would not be undertaken until such time that each intersection reaches the signalization traffic volume warrant.

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### Mitigation Measures:

Traffic mitigation measures can generally be classified into two categories, measures related directly to project site access, and measures related to off-site locations. The following mitigation measures address both project-specific and off-site roadway and intersection impacts.

- T1 The improvements summarized below shall be implemented to address project site-specific traffic impacts at the following locations:

#### Roadway Improvements

- a) The Old Road

The Old Road shall be improved to include four travel lanes and a center turn-lane/median along the project frontage. Appropriate roadway transitions south of the project site shall also be constructed by the developer pursuant to the Los Angeles County Department of Public Works roadway design standards.

**Project Share** – 100%

#### Intersection Improvements

- a) The Old Road & “A” Street

The developer shall improve the above referenced intersection to include the following lane specifications:

Northbound: 1 Left-turn Lane, 2 Through Lanes

Southbound: 1 Through Lane, 1 Shared Through/Right-turn Lane

Eastbound: 1 Left-turn Lane, 1 Right-turn Lane

**Project Share** – 100%

- b) The Old Road & “E” Street

The developer shall improve the above referenced intersection to include the following lane specifications:

Northbound: 2 Through Lanes (left-turns prohibited)

Southbound: 1 Through Lane, 1 Shared Through/Right-turn Lane

Eastbound: 1 Right-turn Lane (left-turns prohibited)

**Project Share** – 100%

- T2 The improvements summarized below shall be implemented to address off-site traffic impacts. Please note that these mitigation measures are required to address cumulative traffic impacts. Thus, the project developer shall be responsible for providing its “fair-share” contribution prior to recordation of the final map. This

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contribution will go towards implementation of the following roadway improvements:

### **Freeway On/Off Ramp Intersections**

a) I-5 SB Ramps/Marriott & Pico Cyn Rd

Add 3<sup>rd</sup> Eastbound Through Lane, and convert Westbound Right-turn Lane to Shared Westbound Through/Right-turn Lane (striping)

**Project Share** – 4.0%

b) I-5 NB Ramps and Lyons Ave

Add 2<sup>nd</sup> Eastbound Left-turn lane (striping)

**Project Share** – 100%

c) I-5 SB Ramps & Calgrove Blvd

Add 2<sup>nd</sup> Eastbound Through Lane, and

Add 2<sup>nd</sup> Westbound Through Lane

(striping)

Install Traffic Signal

**Project Share** – 20.3%

d) The Old Road & Pico Cyn Rd

Convert Eastbound Right-turn Lane to Shared Eastbound Through/Right-turn Lane (striping)

**Project Share** – 3.3%

e) Chiquella Lane and The Old Road

Add Southbound Right-turn Lane (striping)

Install Traffic Signal

**Project Share** – 48.3%

**Level of Significance After Mitigation:** Less Than Significant Impact.

- ◆ **THE PROPOSED PROJECT COULD RESULT IN ADVERSE IMPACTS TO THE FUNCTION OF LOS ANGELES COUNTY CONGESTION MANAGEMENT PROGRAM (CMP) INTERSECTIONS AND ROADWAY SEGMENTS IN THE PROJECT AREA.**

**Level of Significance Prior to Mitigation:** Less Than Significant Impact.

**Impact Analysis:** The Los Angeles County Congestion Management Program (CMP) requires that a proposed development address two major subject areas with respect to traffic impacts.

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These are the project's impacts on the CMP highway system and on the local and regional transit systems. According to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis (TIA) consists of the CMP monitoring locations that meet the following criteria:

1. CMP intersections where the proposed project will add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic).
2. Mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

In the vicinity of the project site, CMP monitoring locations include the intersection of Lyons Avenue and San Fernando Road and the segment of I-5 between Calgrove Blvd. and SR-14. Neither of the criteria for analysis noted above is caused by the project at these monitoring locations.

Vehicular speeds for the mainline segments of the I-5 Freeway within the study area frequently drop below 50 mph during the peak hours in the peak travel condition, which in the AM period is southbound and in the PM period is northbound. Caltrans has prepared a Project Study Report (PSR) for I-5 North of SR-14 to add one truck lane and one high occupancy vehicle (HOV) lane in each direction in order to alleviate the deficiencies noted above. The Transportation Concept Report (TCR) for this section of I-5 identifies ultimate improvements consisting of two truck lanes and two HOV lanes in each direction.

A mainline freeway analysis, which was prepared in accordance with the adopted Los Angeles County CMP, shows that the proposed project does not have a significant impact to the I-5 Freeway mainline. Depending on the mainline freeway or ramp location, project generated traffic on the freeways is expected to range from 1-21 trips during the AM peak hour and 1-21 trips during the PM peak hour. Please refer to Table 4-4, Project Volumes on State Highways, Lyons Canyon Traffic Impact Analysis, located in Appendix D for a specific breakdown of vehicle trips per monitoring location.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Not applicable.

◆ ***THE PROPOSED PROJECT COULD RESULT IN ADVERSE IMPACTS TO THE FUNCTION OF PUBLIC TRANSIT SERVICES IN THE PROJECT AREA.***

**Level of Significance Prior to Mitigation:** Less than Significant Impact.

**Impact Analysis:** Another component of the CMP transportation impact analysis is a review of transit impacts. This review includes evidence that transit operators received the Notice of Preparation (included in this EIR in Appendix A), identification of existing transit services near the project, estimation of the number of project trips assigned to transit, information on facilities and/or programs that will encourage public transit use, and an analysis of project impacts on transit service.

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The proposed project is forecast to generate 1,261 ADT. The conversion to person trips is accomplished by using the CMP guidelines (multiplying the ADT by a factor of 1.4), which results in a total of 1,765 average daily person trips. Since the project site is over one mile from the nearest existing fixed route transit service, the CMP guidelines estimate that no transit trips would ordinarily be generated by the proposed project. However, a fixed route bus line is anticipated to be added to The Old Road in the future. Using the CMP designated factor of 3.5 percent, a total of 62 total person transit trips would be generated by the project each day. Transit trips generated by the proposed project would also include publicly and privately provided bus service to the public schools and Dial-a-Ride service for the senior housing.

**Mitigation Measures:** No mitigation measures are required.

### 5.10.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***THE PROPOSED PROJECT, IN CONJUNCTION WITH RELATED PROJECTS IN THE COUNTY OF LOS ANGELES AND THE CITY OF SANTA CLARITA, WOULD NOT RESULT IN SIGNIFICANT CUMULATIVE TRAFFIC AND CIRCULATION IMPACTS.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Due to the nature of traffic-related impacts and the location of the project site (i.e., along the southwestern edge of the Santa Clarita Valley), the project's traffic study focused on all cumulative projects located within the Santa Clarita Valley (please refer to Tables 5.10-4 and 5.10-5). The cumulative projects relevant to the traffic impact analysis were taken directly from the valley-wide traffic model, as is standard practice in the County of Los Angeles and in the City of Santa Clarita for evaluation of traffic network impacts.

The evaluation of the project's traffic impacts is based on a comparison of cumulative traffic conditions (including the project) to existing traffic conditions (without project). The Interim Year scenario, utilized as a basis for calculating the project's traffic impacts, incorporates all cumulative development in the Santa Clarita Valley. Therefore, cumulative impacts of the project and other related projects have been addressed. With implementation of applicable mitigation measures for on- and off-site traffic system improvements, cumulative impacts associated with implementation of the proposed project would be less than significant.

**Mitigation Measures:** Refer to mitigation measures T1 through T2 above.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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## **5.11 WATER AND WASTEWATER**

This section evaluates the impacts of the proposed project on water supply and water conveyance and treatment facilities. This section also analyzes project-related impacts to wastewater conveyance and treatment facilities. The following analysis is based on water and sewer infrastructure analysis entitled Lyons Canyon Water and Wastewater Infrastructure Study performed by Diamond West Engineering 2005, herein referred to as the project's *Water and Sewer Study*. Water supply information provided in this section is based on the analysis and conclusions included in the Water Supply Study for the Lyons Canyon Ranch Project performed by Science Applications International Corporation (SAIC) in January 2006, herein referred to as the project's *Water Supply Study*. Both the *Water and Sewer Study* and the *Water Supply Study* are included in their entirety in Appendices M and N, respectively.

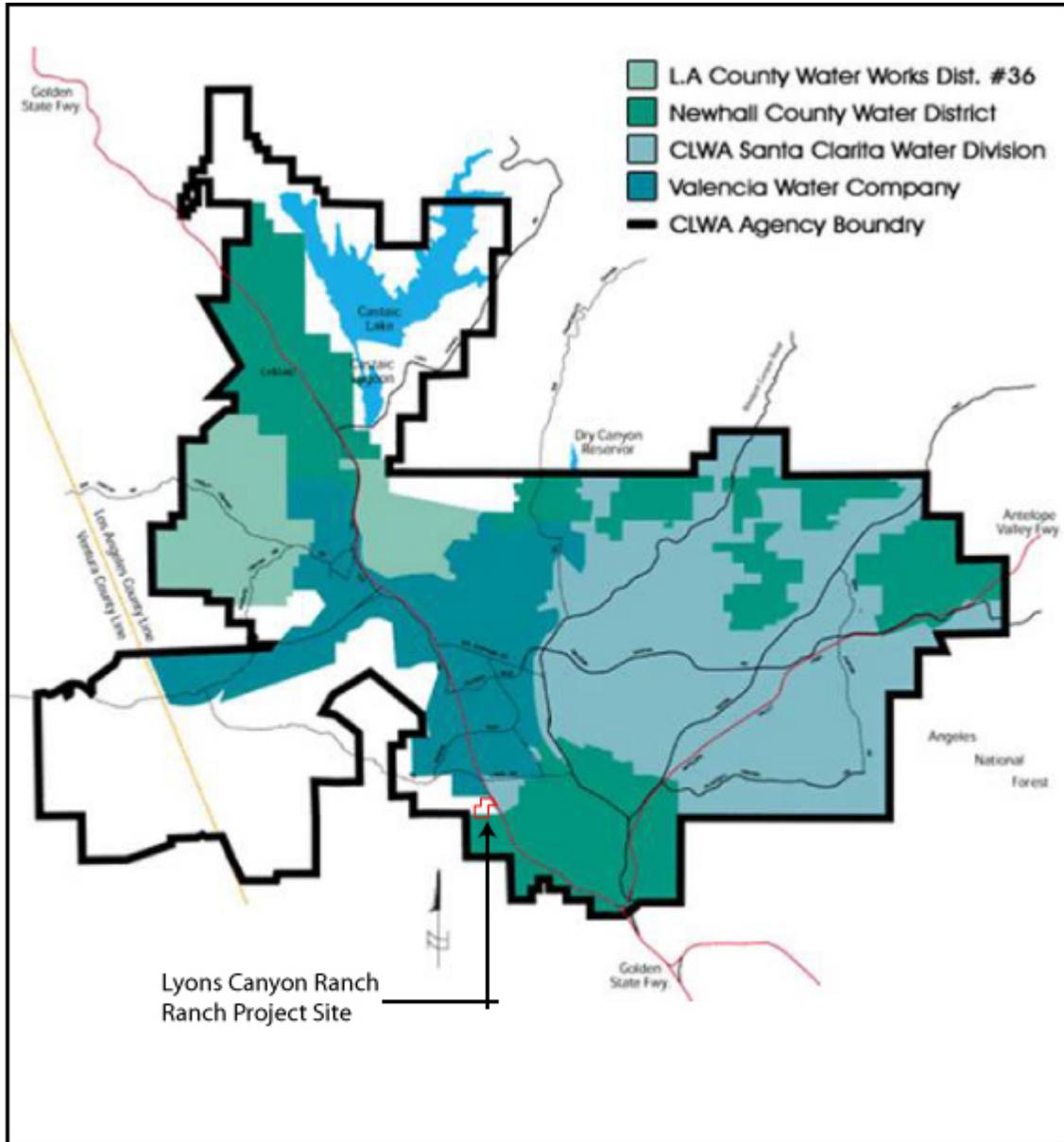
### **5.11.1 ENVIRONMENTAL SETTING**

#### **WATER SERVICE AND SUPPLY**

The project site is not currently located within a defined service area of a water purveyor, and therefore, there is no domestic water service provided to the project site. The project site is located within the service area of the Castaic Lake Water Agency (CLWA). Valencia Water Company (VWC), a CLWA purveyor, provides the nearest water service to properties north of the project site, while Newhall County Water District (NCWD), also a CLWA purveyor, provides water service to properties south of the site. The closest water purveyor to the proposed development with proximate infrastructure is the VWC and infrastructure to serve the project site exists near the northern end of the site which is under the jurisdiction of VWC. The project applicant is currently determining which local water service agency would serve the project but the project would likely be served by VWC. Once a purveyor is selected, the site would need to be annexed into the respective purveyor's service area. CLWA provides State Water Project (SWP) water to both VWC and NCWD as well as other purveyors within the Santa Clarita Valley (refer to Exhibit 5.11-1, Wholesaler and Purveyor Service Areas).

The water agencies which may serve the project area, as well as relevant issues related to water supply, are discussed below.

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## ***Wholesaler and Purveyor Service Areas***

Exhibit 5.11-1

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### WATER WHOLESALERS AND PURVEYORS

#### Castaic Lake Water Agency

CLWA is a public water agency that serves an area of 195 square miles in Los Angeles and Ventura counties. CLWA is a water wholesaler that provides about half of the water used by Santa Clarita households and businesses. CLWA treats and delivers water to the local water retailers, including the Santa Clarita Water Division, Los Angeles County Water District #36, Newhall County Water District (NCWD), and VWC. CLWA operates two potable water treatment plants, storage facilities, and over 17 miles of transmission pipelines. Historically, groundwater has been the primary source of water in the Santa Clarita Valley. Since 1980, however, local groundwater supplies have been supplemented with imported water from the SWP. CLWA also delivers highly treated recycled water from one of the two water reclamation plants in the Santa Clarita Valley, owned by the Sanitation Districts of Los Angeles County, in order to meet the non-potable water demands (e.g., golf course and landscape irrigation).

#### Valencia Water Company

The VWC's service area includes a portion of the City of Santa Clarita and the unincorporated communities of Castaic, Newhall, Saugus, Stevenson Ranch, and Valencia. VWC supplies water from both groundwater wells and CLWA turnouts to an estimated 28,296 service connections (CLWA et al. 2005b). VWC also delivers recycled water for some non-potable uses.

#### Newhall County Water District

The NCWD service area lies in three distinct geographical areas of the Santa Clarita Valley: Newhall, Pinetree, and Castaic. NCWD has approximately 9,010 service connections, which are spread over a 34-square-mile area (CLWA et al. 2005b). The NCWD supplies water from both groundwater wells and CLWA-imported water. In 2004, water demand for the NCWD was 11,217 acre-feet (AF), or 13 percent of the total CLWA 2004 demand, with 5,896 AF supplied by SWP water and the balance provided by local groundwater (CLWA et al. 2005b).

### HISTORIC WATER SUPPLIES

#### Groundwater Supplies

The Santa Clarita Valley has historically depended on an underground water basin (aquifer) for its water supply, which is divided into upper and lower levels. Overall, the groundwater basin covers about 84 square miles and includes a shallow upper basin, the Alluvial Aquifer (discussed below), and a deeper layer called the Saugus Formation.

#### *SAUGUS FORMATION*

The Saugus Formation contains much greater quantities of groundwater than the Alluvial Aquifer. Recent information on the thickness of the alluvium and the degree of potential draw down interference between adjacent Saugus Formation and Alluvial Aquifer wells has supported

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a calculation of groundwater in storage in the Saugus Formation of approximately 1.65 million AF (Slade 2002).

The Saugus Formation has supplied about 7,500 to 15,000 AFY in normal weather years (CLWA et al. 2005a). Planned dry-year pumping ranges between 15,000 and 25,000 AFY during a drought year and can increase to between 21,000 and 25,000 AFY if SWP deliveries are reduced for two consecutive years, and between 21,000 and 35,000 AFY if SWP deliveries are reduced for three consecutive years (CLWA et al. 2005a). No long-term continuous or permanent decline in either water levels or the amount of groundwater in storage has occurred under the historical range of pumping (Slade 2002). However, high pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 AFY, to further enhance the effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years (CLWA et al. 2005a).

Total pumpage from the Saugus Formation in 2004 was 6,500 AF, up from approximately 4,200 in the preceding year (CLWA et al. 2005b). Groundwater pumpage from the Saugus peaked in the early 1990s and then declined steadily; pumpage has remained stable, at an average of about 4,800 AFY, since 2000 (CLWA et al. 2005b). On a long-term average basis since the importation of SWP water, total pumpage from the Saugus Formation has ranged from a low of about 3,700 AFY (in 1999) to a high of nearly 15,000 AFY (in 1991); average pumpage from 1980 to present has been about 7,000 AFY (CLWA et al. 2005b). These numbers are at the lower end of the estimated range of the operational yield of the Saugus Formation.

The use of 4 wells in the Saugus Formation has been suspended due to the detection of perchlorate (discussed below).

### *ALLUVIAL AQUIFER*

Although the Alluvial Aquifer is the smaller of the two-aquifer system as measured by storage capacity, most water wells within the CLWA service area are drilled into this aquifer. The practical or perennial yield of the Alluvial Aquifer was estimated to be from 31,600 AFY to 32,600 AFY (Slade 1986). However, the total annual groundwater production from the Alluvial Aquifer (urban and agricultural production) over the last 10 years has averaged approximately 35,000 AFY, about 10 percent higher than the “practical or perennial yield” without any evidence of undesirable conditions that might be an indication of aquifer overdraft (Slade 2002). The primary reason that the Alluvial Aquifer has been able to supply groundwater in volumes that are in excess of its previously estimated perennial yield is due to the increase in imports of SWP water by CLWA (Slade 2002). Based on discharge records published by the Los Angeles Regional Water Quality Control Board, approximately half of the imported water is returned to the Alluvial Aquifer in the form of discharge from the two wastewater reclamation plants located along the Santa Clara River (LARWQCB 2002).

The operational yield of the Alluvial Aquifer is estimated to be about 30,000 to 40,000 AFY in normal weather years, and 30,000 to 35,000 AFY in dry years (Slade 2002). Total pumpage from the Alluvial Aquifer in 2004 was approximately 33,800 AF, an increase of about 200 AF from the preceding year (CLWA et al. 2005b). Groundwater pumping from the Alluvial Aquifer

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has averaged approximately 36,500 AFY since 2000 (CLWA et al. 2005b). Over the last two decades, since the inception of SWP deliveries in 1980, total pumpage from the Alluvium has ranged from a low of about 20,000 AFY (in 1983) to slightly more than 43,000 AFY (in 1999) (CLWA et al. 2005b).

The use of two wells in the Alluvial Aquifer has been suspended due to the detection of perchlorate (discussed below).

### *PERCHLORATE ISSUES*

The subject of perchlorate contamination and its impact on groundwater supplies has been extensively discussed in CLWA's 2005 Urban Water Management Plan (2005 UWMP). As discussed in the 2005 UWMP, perchlorate was detected in four Saugus Formation production wells near the former Whittaker-Bermite site in 1997. As a result, these wells (SCWD's Wells Saugus 1 and Saugus 2, NCWD's Well NC-11, and VWC's Well V-157) have been removed from service. In 2002, perchlorate was detected in the SCWD Stadium well located directly adjacent to the Whittaker-Bermite site. This Alluvial well has also been removed from service. Since the detection of perchlorate and resultant inactivation of impacted wells, the purveyors have been conducting regular monitoring of active wells near the Whittaker-Bermite site. In April of 2005, the presence of perchlorate was detected in VWC's Well Q2, an Alluvial well located immediately northwest of the confluence of Bouquet Creek and the Santa Clara River. VWC removed the well from active service. Significant progress has been made toward characterizing the extent of perchlorate contamination and implementing the necessary measures for on-site clean-up and off-site groundwater containment and treatment. Restoration of all impacted capacity is anticipated in 2006 (CLWA et al. 2005a).

### **Imported Water**

As discussed, CLWA provides imported water supplies via the SWP to the CLWA service area. SWP deliveries to CLWA from 1990 through 2004 are shown in Table 5.11-1, Summary of Annual SWP and Local Groundwater Use within the CLWA Service Area (1990 To 2004). SWP supplies supplement local water sources and are used to meet the municipal and industrial demand of the region. As is shown in Table 5.11-1 deliveries to CLWA of its SWP supply have generally increased over the past decade as demands within the service area have risen through this time.

Table 5.11-1 also shows total water deliveries in the CLWA service area from 1990 through 2004. Total water deliveries within the CLWA service area include deliveries by the four municipal water purveyors, along with groundwater pumped by agriculture and miscellaneous uses. Agriculture and miscellaneous uses include irrigated agriculture, landscape irrigation, golf course irrigation, and other miscellaneous uses within the service area.

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**Table 5.11-1  
Summary of Annual SWP, Local Groundwater, and  
Recycled Water Use within the CLWA Service Area, 1990 to 2004**

Year	SWP Table A <sup>1</sup> Amount (AF)	SWP Allocation <sup>2</sup> (Percent)	SWP Deliveries (AF)	Local Groundwater Deliveries <sup>3</sup> (AF)	Agriculture and Miscellaneous Uses <sup>4</sup> (AF)	Recycled Water <sup>5</sup> (AF)	Total (AF)
1990	41,500	100	21,600	21,500	11,280	-	54,380
1991	54,200	30	7,970	31,800	10,280	-	50,050
1992	54,200	45	14,900	27,300	12,150	-	54,350
1993	54,200	100	13,840	30,000	11,220	-	55,060
1994	54,200	53	14,700	31,600	13,870	-	60,170
1995	54,200	100	17,000	28,700	14,350	-	60,050
1996	54,200	100	18,870	32,100	15,350	-	66,320
1997	54,200	100	23,220	32,000	16,390	-	71,610
1998	54,200	100	20,270	28,600	13,610	-	62,480
1999	54,200	100	27,300	30,000	17,140	-	74,440
2000	95,200	100	32,580	28,400	15,320	-	76,300
2001	95,200	39	35,370	25,320	16,090	-	76,780
2002	95,200	70	41,770	26,460	16,810	-	85,040
2003	95,200	90	44,420	22,980	14,810	700	82,910
2004	95,200	65	47,200	24,670	15,590	450	87,910

**Notes:**

- <sup>1</sup> "Table A" is a term used in the SWP Water Supply Contracts. The "Table A Amount" is the annual maximum amount of water to which an SWP Contractor is contractually entitled, and is specified in Table A of each Contractor's Water Supply Contract. (The Table A Amount was previously referred to as "entitlement.") However, the amount of water actually available for delivery in any year may be an amount less than the Contractor's Table A Amount due to hydrology and a number of other factors.
- <sup>2</sup> SWP allocation (i.e., the percent of Table A Amount that each Contractor could have received based on that year's supply availability and Contractor requests), as determined by DWR for the year. The values shown are municipal and industrial (M&I) Table A allocation percentages. In 1991, the Devil's Den Water District permanently transferred 12,700 AF of agricultural Table A Amount to CLWA. For years prior to implementation of the Monterey Amendment in 1996, agricultural Table A allocations were as follows: 0 percent in 1991, 45 percent in 1992, 100 percent in 1993, 53 percent in 1994, and 100 percent in 1995.
- <sup>3</sup> Groundwater deliveries by municipal water purveyors within the CLWA service area.
- <sup>4</sup> Includes groundwater pumped by, and SWP water delivered to, agricultural and miscellaneous uses within the CLWA service area. SWP deliveries to agricultural and miscellaneous uses within the CLWA service area occurred from 1992 to 2000, with a maximum of approximately 1,070 AF delivered in 1997.
- <sup>5</sup> In 2003, those water supplies began to be augmented by the initiation of deliveries from CLWA's recycled water program. Ongoing expansion of this program is anticipated to increase the recycled water supply.

*Source:* CLWA et al. 2005b.

## **DEPARTMENT OF WATER RESOURCES DELIVERIES**

On May 25, 2005, DWR informed the SWP Contractors that it was in the process of updating the Reliability Report and provided a recommended set of analyses to be used for preparing 2005 UWMPs (DWR 2005). These updated analyses indicated that the SWP could deliver up to 77 percent of the total Table A Amounts on a long-term average basis. Assuming SWP reliability of 77 percent, CLWA's average/normal water year deliveries would be approximately 73,300 AFY (CLWA's Table A entitlement is 95,200 AFY). The single dry year deliveries, according

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to the DWR are forecasted to be approximately five percent of CLWA's Table A, or 4,800 AFY, and the multiple dry year deliveries could be approximately 33 percent, or 31,400 AFY. These forecasts vary slightly over the 2005 UWMP planning period as shown in the tables associated with the Water Supply and Demand Assessment discussion below.

### WATER SUPPLY AND DEMAND ASSESSMENT

Table 5.11-2, Current and Planned Water Supplies and Banking Programs, below provides a summary of the current and planned water supplies and banking programs as identified by CLWA in the 2005 UWMP. Table 5.11-3, Projected Average/Normal Year Supplies and Demands, provides CLWA's projected average/normal water year water supplies and demands (see below). Table 5.11-4, Projected Single Dry Year Supplies and Demands and Table 5.11-5, Projected Multiple Dry Year Supplies and Demands (also below) provide the projected single and multiple dry year water supplies and demands. The analysis provided in the 2005 UWMP takes into account the available water supplies and water demands for CLWA's service area to assess the region's ability to satisfy demands through the year 2030. Diversity of supply allows CLWA and the purveyors the option of drawing on multiple sources of supply in response to changing conditions, such as varying climatic conditions (average/normal years, single dry years, multiple dry years), natural disasters, and contamination, such as perchlorate.

**Table 5.11-2  
Current and Planned Water Supplies and Banking Programs<sup>1</sup>  
(Acre-Feet)**

	2005	2010	2015	2020	2025	2030
<b>EXISTING SUPPLIES</b>						
Wholesale (Imported)	70,380	73,660	75,560	76,080	77,980	77,980
SWP Table A Supply <sup>2</sup>	65,700	67,600	69,500	71,400	73,300	73,300
Flexible Storage Account <sup>3</sup> (CLWA)	4,680	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account <sup>3,4</sup> (Ventura County)	0	1,380	1,380	0	0	0
<b>Local Supplies</b>						
Groundwater	40,000	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000	35,000
Saugus Formation	5,000	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	112,080	121,360	123,260	123,780	125,680	125,680
<b>EXISTING BANKING PROGRAMS<sup>3</sup></b>						
Semitropic Water Bank <sup>5</sup>	50,870	50,870	0	0	0	0
<b>Total Existing Banking Programs</b>	50,870	50,870	0	0	0	0

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**Table 5.11-2  
Current and Planned Water Supplies and Banking Programs<sup>1</sup>  
(Acre-Feet) (continued)**

	2005	2010	2015	2020	2025	2030
<b>PLANNED SUPPLIES</b>						
Local Supplies						
Groundwater	0	10,000	10,000	20,000	20,000	20,000
Restored Wells (Saugus Formation)	0	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	0	10,000	10,000	10,000
Recycled Water <sup>6</sup>	0	0	1,600	6,300	11,000	15,700
Transfers						
Buena Vista-Rosedale <sup>7</sup>	0	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>						
	0	21,000	22,600	37,300	42,000	46,700
<b>Planned Banking Programs<sup>3</sup></b>						
Rosedale-Rio Bravo	0	20,000	20,000	20,000	20,000	20,000
Additional Planned Banking	0	0	20,000	20,000	20,000	20,000
<b>Total Planned Banking Programs</b>						
	0	20,000	40,000	40,000	40,000	40,000

Notes:

- <sup>1</sup> The values shown under "Existing Supplies" and "Planned Supplies" are supplies projected to be available in average/normal years. The values shown under "Existing Banking Programs" and "Planned Banking Programs" are either total amounts currently in storage, or the maximum capacity of program withdrawals.
- <sup>2</sup> SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 AF by percentages of average deliveries projected to be available, taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
- <sup>3</sup> Supplies shown are total amounts that can be withdrawn, and would typically be used only during dry years.
- <sup>4</sup> Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
- <sup>5</sup> Supplies shown are the total amount currently in storage, and would typically be used only during dry years. Once the current storage amount is withdrawn, this supply would no longer be available and in any event, is not available after 2013.
- <sup>6</sup> Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.
- <sup>7</sup> CLWA is in the process of acquiring this supply, primarily to meet the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 AFY of this supply which, if approved, would leave the remaining 7,000 AFY available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area.

Source: CLWA et al. 2005a. Table 3-1.

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**Table 5.11-3  
Projected Average/Normal Year Supplies and Demands (Acre-Feet)**

	2010	2015	2020	2025	2030
<b>EXISTING SUPPLIES</b>					
Wholesale (Imported)	67,600	69,500	71,400	73,300	73,300
SWP Table A Supply <sup>1</sup>	67,600	69,500	71,400	73,300	73,300
Flexible Storage Account (CLWA) <sup>2</sup>	0	0	0	0	0
Flexible Storage Account (Ventura County) <sup>2</sup>	0	0	0	0	0
<b>Local Supplies</b>					
Groundwater	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	<b>115,300</b>	<b>117,200</b>	<b>119,100</b>	<b>121,000</b>	<b>121,000</b>
<b>EXISTING BANKING PROGRAMS</b>					
Semitropic Water Bank <sup>2</sup>	0	0	0	0	0
<b>Total Existing Banking Programs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>PLANNED SUPPLIES</b>					
<b>Local Supplies</b>					
Groundwater	0	0	0	0	0
Restored Wells (Saugus Formation) <sup>2</sup>	0	0	0	0	0
New Wells (Saugus Formation) <sup>2</sup>	0	0	0	0	0
Recycled Water <sup>3</sup>	0	1,600	6,300	11,000	15,700
<b>Transfers</b>					
Buena Vista-Rosedale <sup>4</sup>	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>	<b>11,000</b>	<b>12,600</b>	<b>17,300</b>	<b>22,000</b>	<b>26,700</b>
<b>PLANNED BANKING PROGRAMS</b>					
Rosedale-Rio Bravo <sup>2</sup>	0	0	0	0	0
Additional Planned Banking <sup>2</sup>	0	0	0	0	0
<b>Total Planned Banking Programs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Existing and Planned Supplies and Banking</b>	<b>126,300</b>	<b>129,800</b>	<b>136,400</b>	<b>143,000</b>	<b>147,700</b>
<b>Total Estimated Demand (w/o conservation) <sup>5</sup></b>	<b>100,050</b>	<b>109,400</b>	<b>117,150</b>	<b>128,400</b>	<b>138,300</b>
<b>Conservation <sup>6</sup></b>	<b>(8,600)</b>	<b>(9,700)</b>	<b>(10,700)</b>	<b>(11,900)</b>	<b>(12,900)</b>
<b>Total Adjusted Demand</b>	<b>91,450</b>	<b>99,700</b>	<b>106,450</b>	<b>116,500</b>	<b>125,400</b>

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**Table 5.11-3  
Projected Average/Normal Year Supplies and Demands (Acre-Feet) (continued)**

Notes:	
1	SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 AF by percentages of average deliveries projected to be available (71% in 2010 and 77% in 2025/2030), taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
2	Not needed during average/normal years.
3	Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.
4	CLWA is in the process of acquiring this supply, primarily to meet the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 AFY of this supply which, if approved, would leave the remaining 7,000 AFY available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area.
5	Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area will be added if and when such annexations are approved. Currently proposed annexations have a demand for about 4,000 AFY and, given supplies CLWA is in the process of acquiring, potential future annexations with demands up to an additional 7,000 AFY could eventually be approved (see Footnote 4).
6	Assumes 10 percent reduction on urban portion of total demand resulting from conservation best management practices, as discussed in Chapter 7 of the 2005 UWMP.
<i>Source: CLWA et al. 2005a. Table 6-2.</i>	

**Table 5.11-4  
Projected Single Dry Year Supplies and Demands (Acre-Feet)**

	2010	2015	2020	2025	2030
<b>EXISTING SUPPLIES</b>					
Wholesale (Imported)	9,860	9,860	8,480	9,480	9,480
SWP Table A Supply <sup>1</sup>	3,800	3,800	3,800	4,800	4,800
Flexible Storage Account (CLWA)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County) <sup>2</sup>	1,380	1,380	0	0	0
<b>Local Supplies</b>					
Groundwater	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	<b>59,060</b>	<b>59,060</b>	<b>57,680</b>	<b>58,680</b>	<b>58,680</b>
<b>EXISTING BANKING PROGRAMS</b>					
Semitropic Water Bank <sup>3</sup>	17,000	0	0	0	0
<b>Total Existing Banking Programs</b>	<b>17,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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**Table 5.11-4  
Projected Single Dry Year Supplies and Demands (Acre-Feet) (continued)**

	2010	2015	2020	2025	2030
<b>PLANNED SUPPLIES</b>					
Local Supplies					
Groundwater	10,000	10,000	20,000	20,000	20,000
Restored Wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water <sup>4</sup>	0	1,600	6,300	11,000	15,700
Transfers					
Buena Vista-Rosedale <sup>5</sup>	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>	<b>21,000</b>	<b>22,600</b>	<b>37,300</b>	<b>42,000</b>	<b>46,700</b>
<b>PLANNED BANKING PROGRAMS</b>					
Rosedale-Rio Bravo <sup>6</sup>	20,000	20,000	20,000	20,000	20,000
Additional Planned Banking <sup>7</sup>	0	20,000	20,000	20,000	20,000
<b>Total Planned Banking Programs</b>	<b>20,000</b>	<b>40,000</b>	<b>40,000</b>	<b>40,000</b>	<b>40,000</b>
<b>Total Existing and Planned Supplies and Banking</b>	<b>117,060</b>	<b>121,660</b>	<b>134,980</b>	<b>140,680</b>	<b>145,380</b>
<b>Total Estimated Demand (w/o conservation) <sup>8,9</sup></b>	<b>110,100</b>	<b>120,300</b>	<b>128,900</b>	<b>141,200</b>	<b>152,100</b>
<b>Conservation <sup>10</sup></b>	<b>(9,500)</b>	<b>(10,700)</b>	<b>(11,700)</b>	<b>(13,100)</b>	<b>(14,200)</b>
<b>Total Adjusted Demand</b>	<b>100,600</b>	<b>109,600</b>	<b>117,200</b>	<b>128,100</b>	<b>137,900</b>

Notes:

- <sup>1</sup> SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 AF by percentages of single dry deliveries projected to be available for the worst case single dry year of 1977 (4% in 2010 and 5% in 2025/2030), taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
- <sup>2</sup> Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
- <sup>3</sup> The total amount of water currently in storage is 50,870 AF, available through 2013. Withdrawals of up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking partners in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.
- <sup>4</sup> Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.
- <sup>5</sup> CLWA is in the process of acquiring this supply, primarily to meet the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 AFY of this supply which, if approved, would leave the remaining 7,000 AFY available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area.
- <sup>6</sup> Rosedale-Rio Bravo Water Banking and Recovery Program online in 2006, based on completing CEQA and subsequent adoption by CLWA Board of Directors.
- <sup>7</sup> Assumes additional planned banking supplies available by 2014.
- <sup>8</sup> Assumes increase in total demand of 10 percent during dry years.
- <sup>9</sup> Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area will be added if and when such annexations are approved. Currently proposed annexations have a demand for about 4,000 AFY and, given supplies CLWA is in the process of acquiring, potential future annexations with demands up to an additional 7,000 AFY could eventually be approved (see Footnote 5).
- <sup>10</sup> Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices (urban portion of total normal year demand x 1.10] \* 0.10), as discussed in Chapter 7 of the 2005 UWMP.

Source: CLWA et al. 2005a Table 6-3.

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**Table 5.11-5  
Projected Multiple Dry Year Supplies and Demands<sup>1</sup> (Acre-Feet)**

	2010	2015	2020	2025	2030
<b>EXISTING SUPPLIES</b>					
Wholesale (Imported)	32,010	32,910	32,570	32,570	32,570
SWP Table A Supply <sup>2</sup>	30,500	31,400	31,400	31,400	31,400
Flexible Storage Account (CLWA) <sup>3</sup>	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County) <sup>3</sup>	340	340	0	0	0
<b>Local Supplies</b>					
Groundwater	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation <sup>4</sup>	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	<b>81,210</b>	<b>82,110</b>	<b>81,770</b>	<b>81,770</b>	<b>81,770</b>
<b>EXISTING BANKING PROGRAMS</b>					
Semitropic Water Bank <sup>3</sup>	12,700	0	0	0	0
<b>Total Existing Banking Programs</b>	<b>12,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>PLANNED SUPPLIES</b>					
<b>Local Supplies</b>					
Groundwater	6,500	6,500	6,500	6,500	6,500
Restored Wells (Saugus Formation) <sup>4</sup>	6,500	6,500	5,000	5,000	5,000
New Wells (Saugus Formation) <sup>4</sup>	0	0	1,500	1,500	1,500
Recycled Water <sup>5</sup>	0	1,600	6,300	11,000	15,700
<b>Transfers</b>					
Buena Vista-Rosedale <sup>6</sup>	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>	<b>17,500</b>	<b>19,100</b>	<b>23,800</b>	<b>28,500</b>	<b>33,200</b>
<b>PLANNED BANKING PROGRAMS</b>					
Rosedale-Rio Bravo <sup>7,8</sup>	5,000	15,000	15,000	15,000	15,000
Additional Banking Programs <sup>8,9</sup>	0	5,000	15,000	15,000	15,000
<b>Total Planned Banking Programs</b>	<b>5,000</b>	<b>20,000</b>	<b>30,000</b>	<b>30,000</b>	<b>30,000</b>
<b>Total Existing and Planned Supplies and Banking</b>	<b>116,410</b>	<b>121,210</b>	<b>135,570</b>	<b>140,270</b>	<b>144,970</b>
<b>Total Estimated Demand (w/o conservation)<sup>10,11</sup></b>	<b>110,100</b>	<b>120,300</b>	<b>128,900</b>	<b>141,200</b>	<b>152,100</b>
<b>Conservation<sup>12</sup></b>	<b>(9,500)</b>	<b>(10,700)</b>	<b>(11,700)</b>	<b>(13,100)</b>	<b>(14,200)</b>
<b>Total Adjusted Demand</b>	<b>100,600</b>	<b>106,900</b>	<b>117,200</b>	<b>128,100</b>	<b>137,900</b>

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**Table 5.11-5  
Projected Multiple Dry Year Supplies and Demands<sup>1</sup> (Acre-Feet) (continued)**

Notes:	
1	Supplies shown are annual averages over four consecutive dry years (unless otherwise noted).
2	SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 AF by percentages of deliveries projected to be available for the worst case four-year drought of 1931-1934 (32% in 2010 and 33% in 2025/2030), taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
3	Based on total amount of storage available divided by 4 (4-year dry period). Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
4	Total Saugus pumping is the average annual amount that would be pumped under the groundwater operating plan, as summarized in Table 3-6 of the 2005 UWMP $((11,000 + 15,000 + 25,000 + 35,000)/4)$ .
5	Recycled water supplies based on projections provided in Chapter 4, Recycled Water of the 2005 UWMP.
6	CLWA is in the process of acquiring this supply, primarily to meet the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 AFY of this supply which, if approved, would leave the remaining 7,000 AFY available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area.
7	Rosedale-Rio Bravo Water Banking and Recovery Program online in 2006, assuming CEQA complete and adoption by CLWA Board of Directors.
8	Average dry year period supplies could be up to 20,000 AF for each program depending on storage amounts at the beginning of the dry period.
9	Assumes additional planned banking supplies available by 2014.
10	Assumes increase in total demand of 10 percent during dry years.
11	Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area will be added if and when such annexations are approved. Currently proposed annexations have a demand for about 4,000 AFY and, given supplies CLWA is in the process of acquiring, potential future annexations with demands up to an additional 7,000 AFY could eventually be approved (see Footnote 6).
12	Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices $([\text{urban portion of total normal year demand} \times 1.10] \times 0.10)$ , as discussed in Chapter 7 of the 2005 UWMP.
<i>Source:</i> CLWA et al. 2005a. Table 6-4.	

CLWA's demands vary from year to year depending on local hydrologic and meteorologic conditions, with demands generally increasing in years of below-average local precipitation and decreasing in years of above-average local precipitation. According to the *2005 UWMP* (and shown in [Table 5.11-3](#)), CLWA's 2010 average year demand (without conservation) is estimated to be 100,050 AF and 138,300 AF by 2030 (without conservation) (CLWA et al. 2005a). In 2001, CLWA signed the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). By signing the MOU, CLWA became a member of the California Urban Water Conservation Council (CUWCC) and pledged to implement all cost-effective Best Management Practices (BMPs) for water conservation. CLWA has estimated that conservation measures within the service area can reduce total water demands by approximately 10 percent of the urban portion of total demand. As shown in the tables and stated in the *2005 UWMP*, based on conservative water supply and demand assumptions over the next 25 years in combination with conservation of non-essential demand during certain dry years, CLWA and the retail water purveyors will be able to deliver a reliable water supply to its customers.

As shown in [Table 5.11-2](#), in 2002 CLWA stored 24,000 AF of its Table A Amount in an account in the Semitropic Water Storage District's Groundwater Storage Program in Kern County<sup>1</sup> and in 2004, CLWA stored 32,522 AF of available 2003 Table A Amount water in a

<sup>1</sup> The Negative Declaration prepared by CLWA was challenged in *California Water Network v. Castaic Lake Water Agency* (Ventura County Superior Court Case Number CIV 215327), which held in favor of CLWA. That case is

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second Semitropic account.<sup>2</sup> In accordance with the terms of CLWA's storage agreements with Semitropic, 90 percent of the banked amount, or a total of 50,870 AF (see [Table 5.11-2](#)), is recoverable through 2013 to meet CLWA water demands when needed. Each account has a term of ten years for the water to be withdrawn and delivered to CLWA.<sup>3</sup> Current operational planning includes use of the water stored in Semitropic for dry year supply.

Also shown in [Table 5.11-2](#) is CLWA's planned participation in an additional banking program (the Rosedale-Rio Bravo Water Banking Program). The initial offering from the Rosedale-Rio Bravo project, a water banking and exchange program, is for storage and pumpback capacity of 20,000 AFY, with up to 100,000 AF of storage capacity.

As discussed above, other planned supply programs include the Buena Vista Water Storage District/Rosedale-Rio Bravo Water Storage District Water Storage and Recovery Program. The initial offering from the Buena Vista-Rosedale program is up to 11,000 AFY of firm supply. This water supply would primarily meet the potential demands of future annexations to the CLWA service area and, currently, proposed annexations have a demand for about 4,000 AFY of this supply (CLWA et al. 2005a).

Of CLWA's 95,200 AF of annual Table A Amount discussed in the tables above, 41,000 AFY was permanently transferred to CLWA in 1999 by Wheeler Ridge-Maricopa Water Storage District, a member unit of the Kern County Water Agency. With regard to availability, the 2005 *UWMP* provides a discussion of the appropriateness of relying on the 41,000 AFY, which includes: 1) the transfer was completed in 1999 and the Department of Water Resources has allocated and annually delivered water in accordance with the completed transfer; (2) the revised EIR for the transfer corrects the sole defect identified by the Court of Appeal (i.e., tiering off the Monterey Agreement EIR)<sup>4</sup>; (3) the Monterey Amendments settlement agreement expressly authorizes the operation of the SWP in accordance with the Monterey Amendments, which authorize the transfer; (4) the Court of Appeal refused to enjoin the transfer, and instead required preparation of a revised EIR; and (4) the transfer contract remains in full force and effect, and no court has ever questioned their validity or enjoined the use of this portion of CLWA's Table A amount.

### WASTEWATER TREATMENT

Wastewater in the Santa Clarita Valley planning area is treated by the Santa Clarita Valley Sanitary District (SCVSD). This district operates two water reclamation plants (WRPs), the Saugus WRP and the Valencia WRP, which provide wastewater treatment in the Santa Clarita

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presently on appeal in the Second District Court of Appeal, Sixth Division, Case Number B177978 (CLWA et al. 2005a).

<sup>2</sup> No legal challenge was made to CLWA's approval of this project or of the Negative Declaration for this project (CLWA et al. 2005a).

<sup>3</sup> Thereafter, the remaining amount of project water in the account is forfeited (CLWA et al. 2005a).

<sup>4</sup> CLWA's EIR prepared in connection with the 41,000 AFY water transfer was challenged in *Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles County Superior Court, Case Number BS056954) ("Friends"). On appeal, the Court of Appeal, Second Appellate District held that since the 41,000 AFY EIR tiered off the Monterey Agreement EIR that was later decertified, CLWA would also have to decertify its EIR and prepare a revised EIR. CLWA approved the revised EIR in December 2004. Friends was dismissed permanently in February 2005. In January 2005, two new challenges to CLWA's EIR were filed.

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Valley. These facilities are interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). These two facilities provide primary, secondary and tertiary treatment. The SCVSD has a design treatment capacity of 28.1 million gallons per day (mgd) and currently processes an average flow of 21.1 mgd. The project site is located outside the SCVSD boundary but within the sphere of influence. The project site will require annexation but no sphere boundary change.

The mechanism used to fund expansion projects is the Los Angeles County Sanitation District's (LACSD) Connection Fee Program. Prior to the connection of the local sewer network to the LACSD system, all new users are required to pay their fair share of the LACSD sewerage system expansion through a connection fee. The fees fund treatment capacity expansion and trunk lines, while on-site sewer mains are the responsibility of the developer. The rate at which connections are made and revenues accumulate drives the rate at which periodic expansions of the system are designed and built. However, connection permits are not issued unless it is demonstrated that sufficient capacity exists to serve proposed development. Therefore, the expansion of SCVSD facilities may be immediate if adequate capacity does not exist to serve new users, or the expansion may occur in the future if it is determined that there is adequate capacity to serve new users, but inadequate capacity to serve future development within the tributary area(s) of the affected collection/treatment facilities, thereby necessitating future system expansions. In the latter case, the connection fees paid by new users are deposited into a restricted Capital Improvement Fund (CIF) used solely to capitalize the future expansion of affected system facilities. The cyclical process of building phased expansions and collecting connection fees can continue indefinitely. The only restriction would be when the LACSD runs out of land. Existing facilities can be expanded to handle a daily capacity of 34.1 mgd, which is sufficient to meet demand until 2015. The LACSD does not expect to exceed a daily capacity of 34.1 mgd because connection permits will not be issued that would exceed this amount.

### Regional Wastewater Treatment Facilities Plan

The LACSD has prepared a Facilities Plan with a horizon year of 2015 and a Draft EIR. The Facilities Plan estimates future wastewater generation for the probable future service area of the prior County Sanitation Districts 26 and 32 in order to anticipate future treatment capacity and wastewater conveyance needs. According to LACSD estimates, total flows projected from the Santa Clarita Valley in 2015, exclusive of Newhall Ranch, would be 34.1 mgd. As a result of this finding, LACSD proposed to incrementally expand the treatment facilities in two expansions to meet future needs. This two-phase expansion plan, which would increase treatment capacity by approximately 15 mgd, was recently approved. The first phase would expand treatment capacity by approximately 9 mgd (approximately a 47 percent increase). This expansion, when complete, will meet the expected wastewater treatment demand through 2010. The second phase, scheduled to be complete by 2010, would increase treatment capacity by an additional 6 mgd.

### Wastewater Collection System

The LACSD wastewater collection system is composed of service connections that tie into the local collection network. This local network, composed of secondary and primary collectors, flows into the LACSD's trunk wastewater mains and the water reclamation plants. The LACSD

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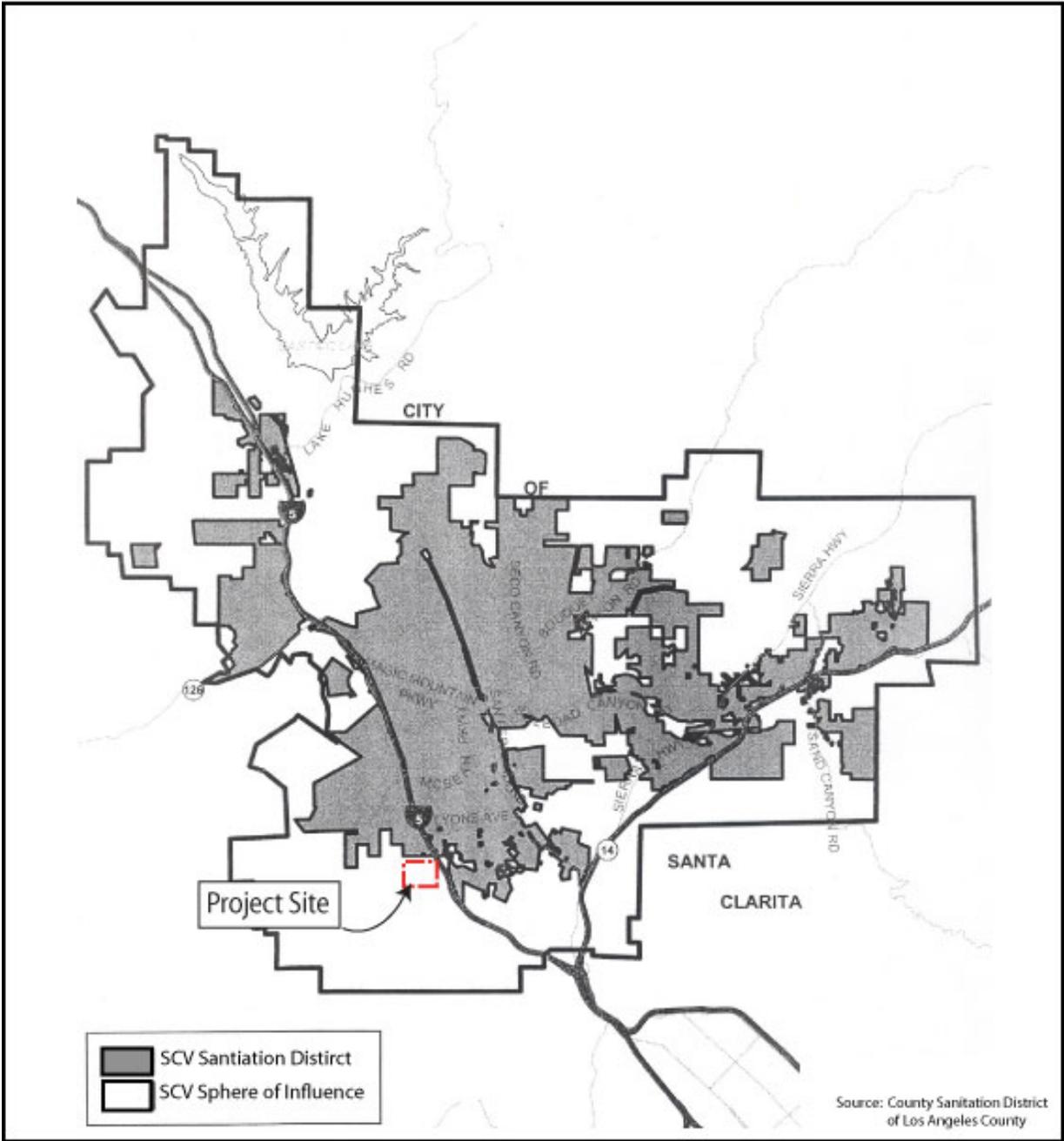
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maintains the wastewater trunk mains that lead to the two reclamation plants, and the local collection network is maintained by the Los Angeles County Department of Public Works Sewer Maintenance Division.

The project site is presently undeveloped and there is no wastewater collection and conveyance system on the property. Sewer lines, although not present within the project boundaries, exist in the vicinity of the project site. Wastewater facilities north of the site are located in The Old Road as close as Sagecrest Circle for the Stevenson Ranch development. To the south, wastewater facilities exist in Calgrove Boulevard as close as the intersection with La Salle Canyon Drive. Exhibit 5.11-2, Santa Clarita Valley Sanitation Districts Current Boundaries and Spheres of Influence shows the location of the SCVSD spheres of influence and the Saugus and Valencia WRPs, which accept flows from the project area.

The County of Los Angeles Public Works Department requires that new subdivision wastewater systems connect to the LACSD's existing sanitary wastewater system. Any developer constructing a new wastewater line would have to coordinate the construction and dedication of any such wastewater line with the County of Los Angeles Public Works Department for future operation and maintenance. It would subsequently be the responsibility of the LACSD to upgrade the wastewater collection and treatment systems by providing relief for existing trunk lines nearing capacity and expanding treatment plants to provide sanitation service to outlying areas.

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***Santa Clarita Valley Sanitation District Boundary & Sphere of Influence***

Exhibit 5.11-2

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## 5.11.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to water and wastewater. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- ◆ Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements;
- ◆ Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; and
- ◆ Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

## 5.11.3 IMPACTS AND MITIGATION MEASURES

### WATER DISTRIBUTION SYSTEM

- ◆ ***THE PROPOSED PROJECT COULD CREATE ADVERSE IMPACTS ON WATER DISTRIBUTION FACILITIES IN THE PROJECT AREA.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** Finished building pad elevations within the project site would range from approximately 1,330 to 1,654 feet above mean sea level (amsl). Thus, service to the site should come from a reservoir with a pad of at least 1,640 feet amsl, with hydraulic grade line (HGL) of 1,670 feet amsl (based upon static pressure of 45 pounds per square inch [psi] or ~ 100 feet of elevation). Valencia Water Company currently provides water service to the Sunset Pointe and Stevenson Ranch developments immediately north of the project site. VWC currently operates Zone III (HGL = 1,550 feet amsl) and Zone IV (HGL = 1,711 feet amsl) facilities in the area of the project site.

Domestic water service to the project site is proposed through the development of an on-site water distribution system. The current tentative map shows the distribution system to consist of service connections and associated piping. The proposed system needs to be capable of providing pressure and required flow under peak hour and fire flow conditions. It should be noted that expansion or development of off-site pumping facilities may be necessary to support the proposed project.

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Should VWC serve the site, connection to the on-site system would be made at the intersection of The Old Road and the northern entrance to the project site at "A" Street. In order to serve demands and fire flows within the proposed development, a 16-inch transmission main to the development in the area of The Old Road and "A" Street would be required.

## FIRE FLOWS

Fire-flow factors are specified by the governing fire department on a building-by-building basis at the time of construction. Because product type and material of construction have not been finalized for the proposed project, fire criteria remain at the master planning level. The Los Angeles County Fire Department (LACFD) Fire Flow Requirements by building type are referenced from Azusa Light and Water Department's *Year 2000 Water System Master Plan Update*. This document contains the various demand factors and durations to which a project is subject under LACFD jurisdiction. To be conservative, the highest expected fire-flow demand and duration are assumed for each land use. In summary, the fire flows used for this analysis are shown in Table 5.11-6, Planning Level Fire Flow Requirements.

**Table 5.11-6 Planning Level Fire-Flow Requirements**

Land Use	Assumed Maximum Square Footage	Required Fire Flow (gpm)	Duration (hours)
Single Family Residential	5,000 to 7,999	2,000	2
Multi-Family Residential	15,000 to 19,999	3,000	3

The backbone of the water system will consist of 16-inch inlet/outlet piping, a 12-inch pipe loop through the proposed project, and service connection to the proposed purveyor's system.

Although the proposed project would utilize water distribution facilities to serve proposed uses, the on-site water system has been designed to meet the pressure and flow performance criteria of each of the potential water purveyors, including fire flow requirements of the LACFD. The project's water system would meet all the design requirements of the respective purveyor, thereby precluding the possibility of adverse impacts on existing off-site water distribution facilities.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Not applicable.

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## WATER DEMAND AND SUPPLY

◆ ***THE PROPOSED PROJECT WOULD INCREASE DEMAND ON AVAILABLE WATER SUPPLIES.***

***Level of Significance Before Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** At build-out, total water demand for the proposed project is estimated to be approximately 184 AFY based on VWC water use factors (see Table 5.11-7, Estimated Project Water Demand). Approximately 114 AFY would be used for residential requirements and the balance for the irrigation of the parks, disturbed open space areas, and landscaping along major circulation corridors.

**Table 5.11-7 Estimated Project Water Demand**

Land Use Categories	Proposed Project	Generation Factor (AFY) <sup>1</sup>	Water Use (rounded)
	No. of Units	VWC	VWC
Single Family Residential	93	0.67	62
Multi -Family Residential	93	0.56	52
Parks	1.39	3	4
Open Space	36.29	1	36
Roadway Landscaping/Major Circulation	10.04	3	30
<b>Total</b>			184
Notes:			
<sup>1</sup> Factors provided by VWC. Factors are per unit for residential units and per acre for the balance of the project components shown.			

Using the project demand from Table 5.11-7, maximum day demand and peak-hour demands were calculated in Table 5.11-8, Project Ultimate Development Estimated Maximum Day and Peak-Hour Water Demands. The peaking factors from Table 12 of the *Masterplan for Newhall Division of Newhall County Water District* were used to calculate peak demands in Table 5.11-8, as they are consistent with common industry peaking factors used in Orange and Los Angeles counties. Based on the information contained in Table 5.11-8, the maximum day and peak-hour water demands for the proposed project would be 258.9 and 421.8 gpm, respectively.

Based on the conclusions of the project’s *Water Supply Study* and the discussion provided herein, adequate water supplies would be available to serve the proposed project during normal years, single dry years, and multiple dry years. The timing of the project places it well within the timeframe for calculating “planned future uses” within the 2030 water supply projection included in the *2005 UWMP* (project build-out is expected to be before 2030). Impacts on water supply would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

# Lyons Canyon Ranch Environmental Impact Report

**Table 5.11-8**

**Project Ultimate Development Estimated Maximum Day and Peak-Hour Water Demands**

Land Use	Gross Acres (AC)	Dwelling Units (DU)	Demand Factor [1]		Annual (AF/YR)	Avg Day (gpd)	Maximum Day Demand [2]		Peak Hour [3]
							(gpd)	(gpm)	(gpm)
Single-Family Residential	58.61	93	0.9	AFY/DU	83.7	74,710	186,775	129.7	207.5
<b>Subtotal</b>			-	-					207.5
Multi-Family Residential	10.25	93	0.4	AFY/DU	37.2	33,204	83,010	57.6	92.2
<b>Subtotal</b>	<b>68.86</b>	<b>186</b>	-	-	<b>120.9</b>	<b>107,914</b>	<b>269,785</b>	<b>187.3</b>	<b>307.2</b>
Park/Passive Park	1.75	-	5.5	AFY/AC	8.25	7,364	18,410	12.78	20.5
<b>Subtotal</b>	<b>70.61</b>	-	-	-	<b>129.15</b>	<b>115,278</b>	<b>288,195</b>	<b>200.08</b>	<b>327.7</b>
Roadway Landscaping/Major Circulation	6.9	-	5.5	AFY/AC	37.95	33,878	84,695	58.82	94.1
<b>Subtotal</b>	<b>77.51</b>				<b>167.1</b>	<b>149,156</b>	<b>372,890</b>	<b>258.9</b>	<b>421.8</b>
Fire Station (exempt)	1.26								
Non-Irrigated Open Space	156.03	-	-	-	-	-	-	-	-
<b>Total</b>	<b>234.8</b>	<b>190</b>			<b>167.1</b>	<b>149,156</b>	<b>372,890</b>	<b>258.9</b>	<b>421.8</b>
					AF/YR	gpd	gpd	gpm	gpm

Notes:  
 [1] Demand factors per Newhall County Water District Standards.  
 [2] Maximum Day = 2.5 x Average Day Demand.  
 [3] Peak Hour = 4.0 x Average Day Demand.  
 AF/YR = acre-feet per year gpm = gallons per minute

## WASTEWATER CONVEYANCE AND TREATMENT

- ◆ ***THE PROPOSED PROJECT WOULD GENERATE WASTEWATER THAT COULD EXCEED THE CAPACITY OF CONVEYANCE AND TREATMENT FACILITIES THAT SERVE THE PROJECT AREA.***

***Level of Significance Before Mitigation:*** Significant Impact.

***Impact Analysis:*** The proposed wastewater collection system, is shown in Exhibit 5.11-3, Proposed Wastewater Treatment System. The County of Los Angeles Department of Public Works provides sewage flow coefficients for the determination of peak wastewater flow by land use type. The estimated peak wastewater flow for the proposed project is calculated in Table 5.11-9, Project Ultimate Development Estimated Peak Wastewater Flow. In summary, wastewater generated by the proposed project would represent approximately 42,315 gallons per day for average daily flows.

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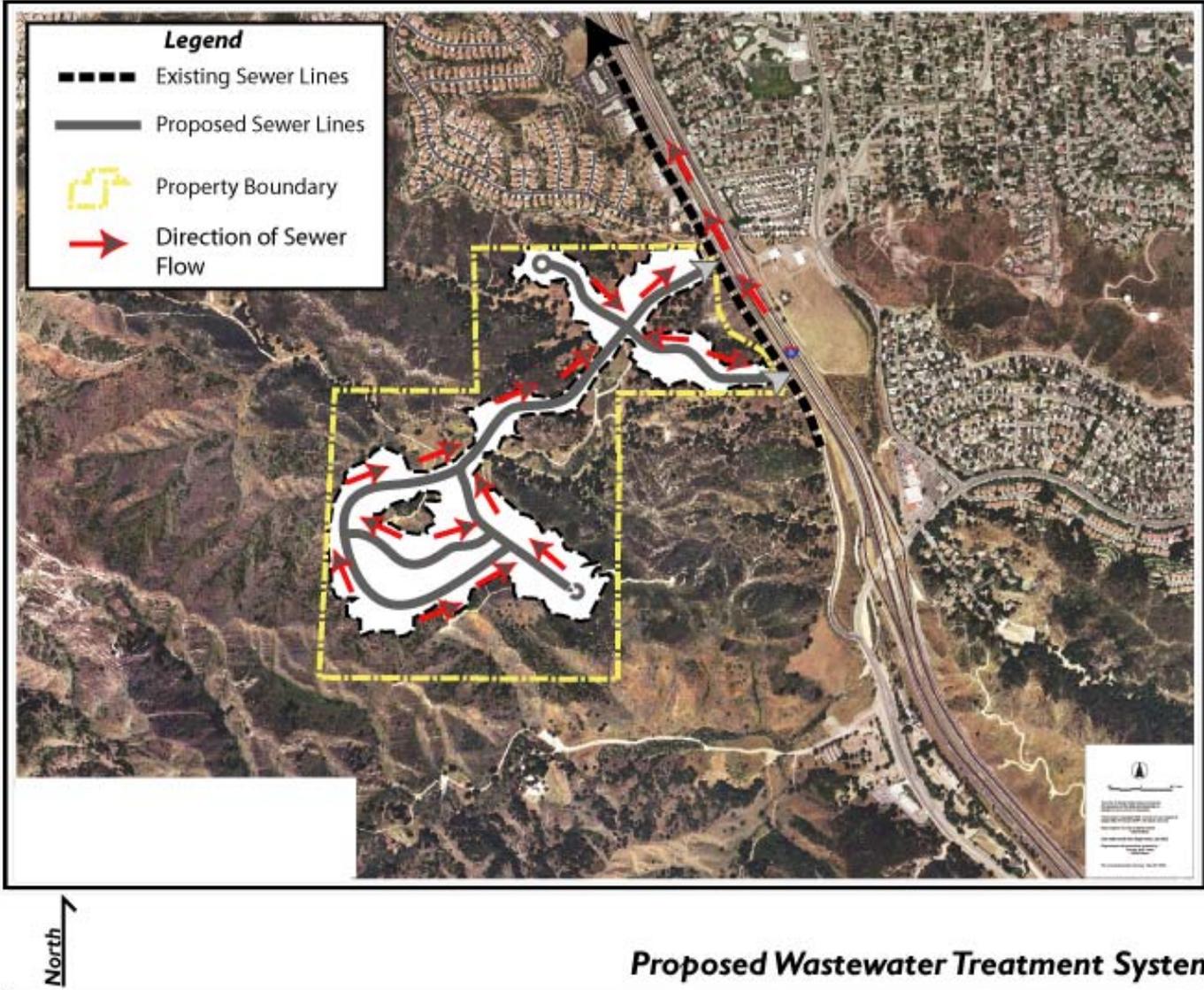


Exhibit 5.11-3

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**Table 5.11-9  
Project Ultimate Development Estimated Wastewater Flow**

Land Use	Gross Acres (AC)	Dwelling Units (DU)	Wastewater Generation Factor	Average Flows
Single-Family Residential	58.6	93	260 gpd	24,180 gpd
Subtotal	58.6	93	-	
Senior Condominium	10.25	93	195 gpd	18,135 gpd
Subtotal	10.25	93	-	
Park	1.75			
Open Space	156.03			
Roadways	6.9			
Fire Station (exempt)	1.26			
<b>Total</b>	<b>234.8</b>	<b>186</b>	-	<b>42,315 gpd</b>

[1] Wastewater flow factors are provided by the Sanitation District of Los Angeles County.

The proposed project would utilize an on-site wastewater collection system to convey wastewater flow from the site. The topography of the project site slopes down to the northeast, which is advantageous for gravity sewer design. All flows from the site would be conveyed through the on-site gravity sewer pipe toward The Old Road. Upon reaching The Old Road, the flows would be conveyed through off-site facilities to connection points with the LACSD's trunk sewer lines. The nearest potential connection points to the wastewater collection system, maintained and operated by the Los Angeles County Department of Public Works, are located at Sagecrest Circle and The Old Road. Approval of points of connection and quantification of the available capacity in the affected portions of the County of Los Angeles' local sewer system need to be completed prior to further wastewater system master planning. The County of Los Angeles provides sewage flow factors for the determination of wastewater flow by land use type. Calculation of an estimated wastewater flow for the proposed project is shown in [Table 5.11-9](#). Once flow is conveyed through the on-site branches, it would then enter the off-site facilities leading to the existing Los Angeles County Department of Public Works wastewater system, and ultimately to the LACSD's Valencia trunk sewer and wastewater treatment plants (SCVSD).

It should be noted that before further sewer system master planning can be performed, approval of the points of connection and quantification of the available capacity in the affected portions of the sewer system serving the unincorporated portions of Los Angeles County would need to be completed. Mitigation requiring approval of points of connection and quantification of available capacity, listed below, would ensure that impacts to wastewater conveyance and treatment facilities would be less than significant.

The proposed on-site wastewater collection system has been designed to meet the design requirements of the LACSD for the proposed project's anticipated average daily flows. The proposed project would generate approximately 42,315 gpd of wastewater. The wastewater generated by the proposed project would represent only approximately 0.15 percent of the

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SCVSD 28.1 mgd treatment capacity for average day flows<sup>5</sup>. Furthermore, the County of Los Angeles would not issue connection permits to the sewer system if it cannot be demonstrated that sufficient capacity exists to serve the proposed development. As such, the proposed project could not cause an exceedance of capacity of the wastewater conveyance system or SCVSD treatment plants, since adequate capacity must be demonstrated in order to contribute flows to the system.

The subject site, as shown above in Exhibit 5.11-2 is located outside of the service boundary for the Santa Clarita Valley Sanitation District. The proposed project area will therefore need to be included into the SCVSD service area via annexation. The Los Angeles County Local Agency Formation Commission would be responsible for approving the required annexation. Due to the projects location within the SCVSD Sphere of Influence, its adjacency to the existing SCVSD service boundary, and sufficient wastewater treatment capacity for treatment of project related wastewater flows, impacts resulting from the annexation would be less than significant.

### **Mitigation Measures:**

WW1 The Los Angeles County Sanitation Districts shall review and approve both the points of connection and quantification of the available capacity in the affected portions of the sewer system serving any project proposed within the SCVSD service area boundary.

*Level of Significance After Mitigation:* Less Than Significant Impact.

## **5.11.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES**

### **WATER DEMAND AND SUPPLY**

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED PROJECTS WOULD INCREASE DEMAND FOR WATER SUPPLIES.***

*Level of Significance Prior to Mitigation:* Less Than Significant Impact.

**Impact Analysis:** According to the conclusions of the *Water Supply Study* completed for the project, it is expected that adequate water supplies will be available to serve the proposed project and other development within the CLWA service area (including related projects) through 2030 (the planning horizon in the 2005 *UWMP*), during normal years, single dry years, and multiple dry years. Cumulative impacts would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

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<sup>5</sup> The total permitted capacity of SCVSD facilities is 28.1 million gallons/day. Thus  $42,315 \text{ gpd}/28.1 \text{ mgpd} = 0.15\%$

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***Level of Significance After Mitigation:*** Less Than Significant Impact.

### CUMULATIVE WASTEWATER CONVEYANCE AND TREATMENT

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED PROJECTS WOULD INCREASE DEMAND FOR WASTEWATER CONVEYANCE AND TREATMENT CAPACITY.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Under average conditions, the proposed project, in conjunction with other related projects, would generate approximately 6.5 million gallons per day (mgd) of peak wastewater flows<sup>6</sup>. The peak wastewater generated by cumulative development would represent approximately 19 percent of the SCVSD's ultimate treatment capacity of 34.1 mgd when planned expansions have been completed at the Santa Clarita Valley Sanitary Districts' two wastewater treatment plants.<sup>7</sup> The cumulative wastewater demand did not include the wastewater demand associated with the Newhall Ranch Project. The Los Angeles County Sanitation District is requiring Newhall Ranch to construction on-site wastewater treatment facilities capable of treating all wastewater associated with the project. Therefore, no wastewater impacts from Newhall Ranch are anticipated.

Connection fees paid by new users are deposited into a restricted Capital Improvement Fund (CIF) used solely to capitalize the future expansion of affected system facilities. The cyclical process of building phased expansions and collecting connection fees can continue indefinitely without significant impact. Nonetheless, the County of Los Angeles would not issue connection permits to the sewer system if it cannot be demonstrated that sufficient capacity exists to serve a proposed development project. As such, wastewater flows from the proposed project and other related projects could not cause an exceedance of capacity of the wastewater conveyance system or SCVSD treatment plants, since adequate capacity must be demonstrated in order to contribute flows to the system. With implementation of applicable mitigation, which requires approval of points of connection and quantification of the available capacity in the affected portions of the sewer system serving the City of Santa Clarita and the County of Los Angeles, impacts would be less than significant.

**Mitigation Measures:** Refer to Mitigation Measure WW1. No additional mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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<sup>6</sup> 16,470 Single family dwellings x wastewater generation factor of 260 gpd plus 2688 Multi-family dwellings x generation factor of 195 gpd= 4.8 million gallons per day (mgd) + 11,194,405 sq.ft commercial x 150gpd/1000sq.ft. = 6,485,520 gpd or 6.5mgd. Generation factors provided by County Sanitation Districts of Los Angeles County,

<sup>7</sup> Telecommunication with Ruth Frazen, Engineering Technician, County Sanitation Districts of Los Angeles County, July 26, 2005.

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## 5.12 SCHOOLS/EDUCATION

The project site is within the Newhall School District (Newhall District) and the William S. Hart Union High School District (Hart District). This section of the EIR evaluates impacts of the proposed project on schools in those districts that currently provide public elementary, junior high, and high school education in the project area.

### 5.12.1 ENVIRONMENTAL SETTING

The Newhall District provides elementary school service (grades K through 6), while the Hart District serves the project area for junior high education (grades 7 and 8) and high school education (grades 9 through 12).

#### NEWHALL SCHOOL DISTRICT

There are a total of nine elementary schools within the Newhall District, with a total enrollment 6,716 students in the 2004/2005 school year.<sup>1</sup> State School Construction Bonds were approved by the California electorate in November 2002 authorizing \$13.2 billion of school facility construction funding which eliminated a backlog of approximately \$4 billion, and provides substantial additional funds for new construction. In addition, the Newhall District has voted to incur debt in order to fund future school construction. A new school will be opening in September, 2005 in the Westridge community. The shift of student populations will affect some capacity numbers and many enrollment numbers at various sites at that time. However, the schools closest to Lyons Canyon Ranch are experiencing student populations approaching or above capacity.

Wiley Canyon Elementary School, located approximately 0.9 miles east of the project site in Newhall, or Pico Canyon Elementary School, located approximately 0.3 miles northwest of the project site in Stevenson Ranch, would serve students living in the project area. As illustrated in Table 5.12-1, *Newhall District Enrollment/Capacity*, six of the elementary schools are over capacity, including Pico Canyon Elementary, and the remaining three elementary schools are near capacity.

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<sup>1</sup> Per phone conversation with Mike Clear, Assistant Superintendent of Business Services for the Newhall School District, on November 10, 2004.

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**Table 5.12-1  
Newhall District Enrollment/Capacity**

School	Capacity	Current Enrollment
McGrath	624	695
Meadows	624	679
Newhall	744	712
Old Orchard	600	594
Peachland	576	626
Pico Canyon Elementary School	816	851
Stevenson Ranch	888	1,008
Valencia Valley	696	772
Wiley Canyon Elementary School	792	779

Source: Per written communication with Marc Winger, Ed.D., Superintendent, Newhall School District on March 18, 2004.

**WILLIAM S. HART UNION HIGH SCHOOL DISTRICT**

There are a total of six junior high schools and six high schools within the William S. Hart Union High School District (Hart District). Total student capacity within the District is 23,298 students, including the temporary capacity provided by relocatable classrooms. Total student enrollment in the District as of October 2004 was 20,026 students. The District opened one new junior high school and two high schools in the fall of 2004. Golden Valley High School opened in the fall of 2004 with 35 classrooms and 25 relocatable classrooms for a total capacity of 2,600 students. West Ranch High School includes 35 classrooms and 25 relocatable classrooms with a total capacity of 2,600 students. Currently, West Ranch High School accommodates 9<sup>th</sup> and 10<sup>th</sup> Grades, and one grade will be added every year after that, with anticipated full buildout by the fall of 2007. Rancho Pico Junior High School opened with 23 classrooms and six relocatable classrooms for a total capacity of 1,200 students. These schools are being funded through SB 50 (discussed below) and Hardship funds under SB 50. In addition, the Hart District has voted to incur debt in order to fund future school construction.

Placerita Junior High School, located approximately 1.5 miles northeast of the project site, and Hart High School, located approximately 1.5 miles east of the project site, would potentially serve students living in the project area. As illustrated in Table 5.12-2, Hart District Enrollment/Capacity, only Hart High School is operating over capacity.

**Table 5.12-2  
Hart District Enrollment/Capacity**

School	Capacity	Current Enrollment
Arroyo Seco Junior High School	1,589 <sup>1</sup>	1,302
La Mesa Junior High School	1,394 <sup>1</sup>	1,165
Placerita Junior High School	1,236 <sup>1</sup>	1,178
Rancho Pico Junior High School	1,200	642
Rio Norte Junior High School	1,568 <sup>1</sup>	1,121
Sierra Vista Junior High School	1,221 <sup>1</sup>	1,422
Canyon High School	2,538 <sup>1</sup>	2,747
Golden Valley High School	2,600	989
Hart High School	2,315 <sup>1</sup>	2,847

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Saugus High School	2,273 <sup>1</sup>	2,718
Valencia High School	2,764 <sup>1</sup>	3,217
West Ranch High School	2,600 <sup>2</sup>	678 <sup>2</sup>
Notes:		
1. Capacity includes temporary capacity provided by relocatable classrooms.		
2. Opened fall 2004 for 9 <sup>th</sup> grade only. Permanent campus with 35 classrooms and 24 relocatable classrooms will open in August 2005.		
Source: Per communication with Lorna Burrill, William S. Hart Union High School District. March 28, 2005.		

### SCHOOL FUNDING

The State of California has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the State passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

Senate Bill 50 (SB 50) and Proposition 1A (both of which passed in 1998) provided a comprehensive school facilities financing and reform program by, among other methods, authorizing a \$9.2 billion school facilities bond issue, school construction cost containment provisions, and an eight-year suspension of the Mira, Hart, and Murrieta court cases. Specifically, the bond funds are to provide \$2.9 billion for new construction and \$2.1 billion for reconstruction/modernization needs. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions (e.g., general plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart, and Murrieta court cases. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation.” These provisions are in effect until 2006 and will remain in place as long as subsequent state bonds are approved and available.

SB 50 establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a district.

However, to accommodate students from the proposed development project, both the Newhall and Hart school districts have established School Facilities Funding and Mitigation Agreements with the project developer. These special resolutions and agreements have allowed the school districts to collect school mitigation funds in excess of the developer fees allowed under SB 50 for the purposes of funding permanent school facilities to service the additional elementary and secondary school students generated by the proposed project. Please refer to Appendix P of this Draft EIR for the full text of these school mitigation agreements.

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### **5.12.2 SIGNIFICANCE THRESHOLD CRITERIA**

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to schools/education. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

### **5.12.3 IMPACTS AND MITIGATION MEASURES**

#### **NEWHALL SCHOOL DISTRICT**

- ◆ ***PROJECT IMPLEMENTATION WOULD INCREASE STUDENT ENROLLMENT WITHIN THE NEWHALL SCHOOL DISTRICT.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** The Newhall District estimates that the proposed project would generate approximately 44 elementary age students.<sup>2</sup> Project elementary students would likely attend Wiley Canyon Elementary School or Pico Canyon Elementary School. As illustrated in Table 5.12-1, Wiley Canyon Elementary School has a current capacity of 792 students and as of the 2004/2005 school year, a total enrollment of 779 students. Newhall District projects enrollment for the 2007/2008 school year of 947 students. Therefore, it is projected that Wiley Canyon Elementary School would be over capacity by the year 2010 (anticipated project buildout).

As illustrated in Table 5.12-1, Pico Canyon Elementary School has a current capacity of 816 students and as of the 2004/2005 school year, a total enrollment of 851 students. Newhall District projects enrollment for the 2005/2006 school year to reach 868 students and a projected enrollment for the 2007/2008 school year of 1,044 students. Therefore, it is projected that Pico Canyon Elementary School would be over capacity by the year 2010 (anticipated project buildout).

Since neither Wiley Canyon Elementary School nor Pico Canyon Elementary School have capacity to accept additional students, students generated from the proposed project would likely have to be bussed to other schools within the District. However, as also illustrated in Table 5.12-

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<sup>2</sup> Per written communication with Marc Winger, Ed.D., Superintendent, Newhall School District on February 26, 2004.

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1, all the other schools are currently either near or over capacity. In addition, the Newhall District has stated that they would not displace currently assigned neighborhoods to accommodate new students, resulting in significant impacts.<sup>3</sup>

Pursuant to SB 50, payment of fees to the Newhall District is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Therefore, the Newhall District has required the project applicant to enter into a mitigation agreement that would require payment of fees in excess of the statutory limit, so that space can be constructed at the nearest sites to accommodate the impact of project-generated students. Project participation in the mitigation agreement would reduce impacts to the Newhall District to a less than significant level.

### **Mitigation Measures:**

- SE1      Project participation in a mitigation agreement with the Newhall District fully mitigates project specific impacts on this district. This agreement would provide full funding of the costs to construct new facilities necessary to house the additional students generated by the project. Therefore, the developer shall enter into a School Facilities Funding and Mitigation Agreement with Newhall School District prior to issuance building permits for the first residential unit.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### **HART DISTRICT**

- ◆      ***PROJECT IMPLEMENTATION WOULD INCREASE STUDENT ENROLLMENT WITHIN THE HART DISTRICT.***

*Level of Significance Prior to Mitigation:* Significant Impact.

***Impact Analysis:*** The Hart District provides student generation rates based upon the type of residential development. As illustrated in Table 5.12-3, Hart Student Generation Rates, the proposed project would result in a total of 16 junior high school students and 23 high school students.

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<sup>3</sup> *Ibid.*

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**Table 5.12-3**  
**Hart Student Generation Rates**

School	Student Generation Factor	Single-Family Detached	Project Total <sup>1</sup>
Junior High School	0.1713	95	16
High School	0.2466	95	23
Notes: 1. Project Total assumes that 95 single-family detached units 95 senior units would be developed. The 95 senior units were assumed to have no school impact. Source: Student generation rates adopted by the Governing Board on March 16, 2005.			

Project junior high school students would likely attend Placerita Junior High School and high school students would likely attend Hart High School. As illustrated in Table 5.12-2, Placerita Junior High School only has capacity for an additional 58 students. In addition, Hart High School is already over capacity. Since neither Placerita Junior High School nor Hart High School have capacity to accept additional students, students generated from the proposed project would likely have to be bussed to other schools within the District. However, as also illustrated in Table 5.12-2, most of the other schools are currently either near or over capacity. In addition, the Hart District has stated that they would not displace currently assigned neighborhoods to accommodate new students, resulting in significant impacts.

Pursuant to SB 50, payment of fees to the Hart District is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. The Hart District therefore has required the applicant to enter into a fair share mitigation agreement so that space can be constructed at the nearest sites to accommodate the impact of project-generated students. Compliance with the fee payment requirements as specified within fair share mitigation agreement would reduce impacts to the Hart District to a less than significant level.

### **Mitigation Measures:**

- SE2      Project participation in the fair share mitigation agreement with the Hart District fully mitigates project specific impacts on this district. This agreement would provide full funding of the costs to construct new facilities necessary to house the additional students generated by the project. Therefore, the developer shall enter into a School Facilities Funding and Mitigation Agreement with the William S. Hart School District prior to issuance building permits for the first residential unit.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

#### 5.12.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED PROJECTS WOULD INCREASE THE DEMAND FOR SCHOOL FACILITIES WITHIN THE NEWHALL AND HART SCHOOL DISTRICTS.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** A significant cumulative impact could occur if a project does not contribute its fair share to mitigate adverse effects on school facilities. However, the school funding agreements into which the project applicant has entered with respective school districts are intended to mitigate the project impacts so that it will not contribute to education impacts. Cumulative impacts on schools may be mitigated through the school facilities funding agreements between the districts and proposed project applicant, or through other mechanisms, such as SB 50, the Valley-Wide Joint Fee Resolution, and/or future facilities funding agreements between the districts and the developers of new residential projects. Assuming such mechanisms are implemented for each new residential development included in the related projects, cumulative impacts on schools caused by other future residential development would be mitigated to less than significant.

***Mitigation Measures:*** Refer to Mitigation Measures SE1 and SE2. No additional mitigation is required as prescribed by State Law.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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### 5.13 FIRE SERVICES

This section provides an analysis of fire services, which is based on information provided by the County of Los Angeles Fire Department (Fire Department). The Fire Department maintains ultimate review and approval authority over aspects of the proposed development that relate to fire protection, and may identify further recommendations and/or requirements.

#### 5.13.1 ENVIRONMENTAL SETTING

##### FIRE PROTECTION SERVICES

The County of Los Angeles Fire Department provides fire protection service to the unincorporated area. The Santa Clarita Valley is supported by eight fire stations and three fire camps. The jurisdictional station for the Specific Plan area is Fire Station 124, located at 25111 Pico Canyon Road.<sup>1</sup> Additional fire protection services would be provided by the closest available district response units. Should a significant incident occur, the project site would be served by the resources of the Fire Department including the eight stations that have primary jurisdiction within the Santa Clarita Valley.

A description of the operational characteristics of the stations closest to the site is provided below.

- ◆ Los Angeles County Fire Station 124 is located at 25111 Pico Canyon Road, approximately 3.0 miles north of the project site. The station maintains one fire engine and one paramedic squad, and is supported by five firefighters, two of whom are paramedics. The response time from the station to the project site would range from approximately 5.5 minutes to 9.3 minutes.<sup>2</sup>
- ◆ Los Angeles County Fire Station 73 is located at 24875 N. San Fernando Rod and is approximately 4.0 miles northeast of the project site. The station maintains an engine company and a paramedic squad, for a total staffing of seven personnel. The response time from the station to the project site would range from approximately 7.4 minutes to 10.7 minutes.<sup>3</sup>

The Fire Department also maintains three fire camps with three fire crews, which include Los Angeles County Jail inmate teams of 12 to 15 fire laborers. These camps are located in San Francisquito Canyon, in Soledad Canyon, and at the Peter Pitchess Honor Rancho. An additional County non-inmate crew of eight to ten members provides wildland fire fighting protection for the Santa Clarita Valley area.

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<sup>1</sup> Per written correspondence with David R. Leininger, Chief, Forestry Division Prevention Bureau, on April 8, 2003.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

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The level of service provided to areas within the unincorporated area is determined by the Fire Department. Nationally recognized response time targets for urban areas is five minutes for a basic life support unit (engine company) and eight minutes for an advanced life support unit (paramedic squad). The Fire Department is currently meeting these standards.<sup>4</sup> The average response time in the City of Santa Clarita during 2003 was five minutes and 43 seconds.<sup>5</sup> It should be noted that the City encompasses rural and undeveloped areas as well as urban areas.

The Fire Department annually updates their Five-Year Capital Plan. This plan identifies anticipated facilities that would be constructed during the five-year planning horizon. Funding used for land acquisitions, facility improvements, and partial funding of new equipment is generated through the Fire Department's Developer Fee Program, which is collected at the time building permits are issued. Funding used for increases in staffing is generated from local property taxes. The applicant is required to pay fees under the County Fire Department Developer Fee Program for land and construction of fire stations, and the full cost of fire fighting equipment.

### **WILDLAND FIRE HAZARD POTENTIAL**

The Fire Department designates lands in the county in regards to their potential for wildland fire hazards. These designations are made by the County Forester, and are based on criteria, including an area's accessibility, amount and type of vegetative cover, water availability, and topography. The two designations used by the Fire Department are Moderate Fire Hazard Zone and Very High Fire Hazard Severity Zone. Areas within the County not designated as either a Moderate Fire Hazard Zone or Very High Fire Hazard Severity Zone are not considered to be subject to wildland fire hazards.

The differences between Moderate Fire Hazard Zone and Very High Fire Hazard Severity Zone designations are relatively minor, in that one or more of the four criteria (access, topography, vegetation, and water) may pose less of a constraint in Moderate Fire Hazard Zone than in the Very High Fire Hazard Severity Zone. Additionally, the Very High Fire Hazard Severity Zone has more restrictive building requirements than the Moderate Fire Hazard Zone, and is considered to be the most severe fire zone. The Fire Department has designated the project site as a Very High Fire Hazard Severity Zone.<sup>6</sup>

However, the frequency of fire events may be diminished as a result of fire prevention and fire suppression activities. Fire prevention activities include prescribed burns, vegetation thinning/removal, and creation of buffer zones; whereas fire suppression involves measures, which control fires once they have started (i.e., fuel breaks, use of fire fighting equipment, etc.).

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<sup>4</sup> Per written correspondence with David R. Leininger, Chief, Forestry Division Prevention Bureau, on April 8, 2003.

<sup>5</sup> Telephone communication with Danny Kolker, Planning Analyst, Planning Division, Los Angeles County Fire Department, June 24, 2005.

<sup>6</sup> Per written correspondence with David R. Leininger, Chief, Forestry Division Prevention Bureau, on April 8, 2003.

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Generally, fire prevention for urban development in wildland fire hazard areas focuses on restricting the types of building materials used, building design, and incorporating setbacks. Development within the Very High Fire Hazard Severity Zone is required to meet the building construction requirements specified in the City's Building and Safety Code (refer to the *Fire Codes and Guidelines* discussion).

### FIRE CODES AND GUIDELINES

The availability of sufficient on-site water pressure is a basic requirement of the Fire Department. The Fire Department requires sufficient capacity for fire flow for public hydrants at residential locations of 2,000 gallons per minute (gpm) residual pressure for a two-hour duration for single-family residential and 3,000 gpm residual pressure for a three-hour duration for multi-family residential.<sup>7</sup> These rates are determined based upon square footage of proposed structures.

Either the Newhall County Water District (NCWD) or the Valencia Water Company (VWC) could provide adequate fire flows in addition to meeting domestic demands.<sup>8</sup>

Due to the relatively high fire hazard potential that exists in the Very High Fire Hazard Severity Zone, development within these areas is subject to various governmental codes, guidelines, and programs which are aimed at reducing the hazard potential to acceptable levels. The County of Los Angeles has prepared Fuel Modification Plan Guidelines, which set forth guidelines and landscape criteria for all new construction to implement ordinances relating to fuel modification planning and help reduce the threat of fires in high hazard areas.<sup>9</sup> Per Section 1117.2.1 of the County Fire Code: "*A fuel modification plan, a landscape plan and an irrigation plan ... shall be submitted with any subdivision of land or prior to any new construction ... where the structure or subdivision is located within areas designated as a Very High Fire Hazard Severity Zone in the Los Angeles County Building Code.*" A 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, fire resistant plants.

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<sup>7</sup> The Los Angeles County Fire Department (LACFD) Fire Flow Requirements by building type are referenced from Azusa Light and Water Department's *Year 2000 Water System Master Plan Update*, adopted 2000.

<sup>8</sup> *SB 610 Water Supply Assessment for the Lyons Canyon Ranch Project*, Science Applications International Corporation, September 2004.

<sup>9</sup> Fuel Modification Plan Guidelines for Projects Located in Fire Zone 4 of Very High Fire Hazard Severity Zones, County of Los Angeles Fire Department, Prevention Bureau, Forestry Division, Brush Clearance Section, Adopted January, 1998.

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### **5.13.2 SIGNIFICANCE THRESHOLD CRITERIA**

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to fire services. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Additionally, based upon the Los Angeles County Fire Code, the proposed project would create a significant threat to the safety of future residents and users of the project site if the project:

- ◆ Is located in a high fire hazard area (such as Very High Fire Hazard Severity Zone);
- ◆ Is in a high fire hazard area, and is served by inadequate access due to length, width, surface material, turnarounds, or grade of access roads;
- ◆ Is in a high fire hazard area and has more than 75 dwelling units on a single means of access;
- ◆ Is located in an area having inadequate water and pressure to meet fire flow standards; or
- ◆ Is located in close proximity to potential dangerous fire hazard conditions or uses such as refineries, storage of flammable materials, or explosives manufacturing.

### **5.13.3 IMPACTS AND MITIGATION MEASURES**

#### **CONSTRUCTION-RELATED IMPACTS**

- ◆ ***CONSTRUCTION OF THE PROPOSED PROJECT WOULD RESULT IN AN INCREASED DEMAND FOR FIRE SERVICES.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Currently, the project site is undeveloped and does not have fire hydrants or water mains serving the site. Unimproved dirt roads extend onto the project site; however, these roads do not meet fire equipment access standards. Due to the lack of fire equipment access and water lines providing fire flows on the project site, construction activities would have a significant impact on fire protection without mitigation.

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Mitigation measures that would reduce construction-related fire impacts to a less than significant level would include conducting brush clearance prior to the initiation of construction activities, availability of adequate water to service construction activities, and that all construction-related requirements of the Fuel Modification Plan, landscape plan and irrigation plan, as approved by the Fire Department, be fulfilled. As the proposed project builds out, construction would also be required to comply with all applicable Building and Fire Code requirements for such items as types of roofing materials, building construction, brush clearance, water mains, fire hydrant flows, hydrant spacing, access and design, and other hazard reduction programs for Very High Fire Hazard Severity Zone, as set forth by the County Forester and Fire Warden. Implementation of the recommended mitigation measures would reduce impacts to a less than significant impact.

### **Mitigation Measures:**

FS1 All proposed development on the site must comply with applicable state and County code and ordinance requirements for fire protection.

FS2 Prior to the issuance of a certificate of occupancy, the project applicant shall dedicate to the Los Angeles County Fire Department, a 1.26 acre fire station site at the northeast corner of the proposed project. The fire station site must be constructed and dedicated to the Los Angeles County Fire Department in accordance with the provisions of the AGREEMENT BETWEEN THE CONSOLIDATED FIRE PROTECTION DISTRICT OF LOS ANGELES COUNTY AND WESTERN PACIFIC HOUSING – LYONS CANYON PARTNERS, LLC.

Please refer to Appendix P of this Draft EIR for the full text of this agreement.

FS3 The project shall prepare a Fuel Modification Plan (which includes a landscape plan and irrigation plan) as required for projects located within a Very High Fire Hazard Severity Zone. The Fuel Modification Plan shall be submitted and approved by the County Fire Department and the Department of Regional Planning prior to issuance of grading permit. The Fuel Modification Plan shall depict a fuel modification zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision. The fuel modification plan shall not conflict with the revegetation plan as directed in Section 5.6, *Biological Resources*.

FS4 Brush clearance shall be conducted prior to initiation of construction activities in accordance with Los Angeles County Fire Department requirements.

FS5 Adequate access to all buildings on the project site shall be provided for emergency vehicles during the building construction process.

FS6 Adequate water availability shall be provided to service construction activities.

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*Level of Significance After Mitigation:* Less Than Significant Impact.

## OPERATIONAL IMPACTS

◆ ***OPERATIONS OF THE PROPOSED PROJECT COULD RESULT IN AN INCREASED DEMAND FOR FIRE SERVICES.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis** The buildout of the project site, development would involve the construction of 190 dwelling units. Fire Station 124 is currently the jurisdictional company for the project site with primary responsibility for fire protection services. This station is located approximately three miles from the project site at Stevenson Ranch Parkway and Pico Canyon Road.

The Fire Department had stated that the previously proposed project (consisting of 835 residential units) would be required to provide a fire station site as a condition of approval for the project. The current proposal to construct 190 single-family residences would not require construction of this new fire station site. Nevertheless, the project applicant is voluntarily proposing to construct the 1.26 acre site to improve fire and emergency service in the area. The new 8,000-square-foot fire station would be located on a 1.26-acre site, located at the northeast corner of subject site. Direct access would be provided via "A" Street and would serve the proposed project and surrounding communities, as necessary. In addition, Fire Stations 73 and 126, which are in reasonable proximity to the project site, could provide additional fire protection services for the proposed project.

Paramedic services are provided by the Los Angeles County Fire Department from their fire stations and a private ambulance company under contract with the City of Santa Clarita.

Development of the fire station on-site is considered an in-lieu donation in place of payment of the Fire Department's Developer Fees Program. Future developments within the County would be required to pay for Fire Department Developer Fees program, which would provide the tax revenues for the operation and staffing of the fire station. Finally, the proposed project would be required to meet County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. As a result, operation of the proposed project would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, and would not create a special fire protection problem on the site that would result in a decline in existing services levels in the Valley. Therefore, implementation of the recommended mitigation measures and development of a fire station on-site would reduce fire service impacts to a less than significant level.

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### Mitigation Measures:

#### General

- FS7.** The project shall comply with the Los Angeles County Fire Department Development standards with respect to access roadways, building orientation, brush clearance, fire flows,

*Level of Significance After Mitigation:* Less Than Significant Impact.

#### WILDLAND FIRE HAZARDS

- ◆ ***DEVELOPMENT OF THE PROPOSED PROJECT COULD INCREASE WILDLAND FIRE HAZARDS.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** Development of the proposed project would result in the construction of residential uses in areas that have been designated as Very High Fire Hazard Severity Zone. Characteristics of the project site that contribute to this designation include: access, lack of adequate water supplies, topography, and vegetative cover. An analysis of the site's fire hazard potential relative to these factors is presented below.

#### Access

Two primary entrances are proposed from The Old Road: the primary entry in the northern project boundary and a secondary project entry approximately ¼ mile south. A primary residential street extends from each entry. The secondary residential street connects to "A" Street farther to the south. The simple circulation system would provide adequate emergency access to all development sites.

County/City code requirements specify that no more than 75 dwelling units can be built on a single means of access within the project area. The internal circulation system for the proposed project would be consistent with County standards regarding access. The proposed project would be required to comply with all circulation and access requirements imposed upon the project by the Fire Department (refer to Mitigation Measures FS7 through FS9). Consequently, no significant vehicular access-related impacts are expected to occur as a result of project implementation.

#### Water Supply

The proposed water system for the proposed project would provide water service for domestic and non-domestic uses (refer to *Section 5.11, Water and Wastewater*, for further information). This system would also provide water supplies sufficient to support fire suppression activity in the event of wildland or structural fires. The proposed water supply system would include water mains and fire hydrants, and the provision of fire flows to meet County standards. Given that a

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long-term source of water must exist for the proposed project prior to the issuance of building permits, and that a water supply system is proposed that would meet County fire flow requirements, no significant water-related fire hazards would occur.

### Topography

The project site is characterized by hilly topography on either side of the site's central feature, the east-west trending Lyon Canyon drainage.<sup>10</sup> Elevations in the project site range from approximately 1,325 feet above mean sea level (msl) to approximately 1,702 msl and the topography consists of gradual to very steep slopes.<sup>11</sup> Lyons Canyon trends easterly across the southwesterly portion of the project site and turn northerly in the central and northern portions. Numerous tributary canyons "branch" out from Lyons Canyon and extend to the southerly property boundary. The southerly portion of the project site encompasses the northern ridges and canyons of Towsley Canyon.<sup>12</sup>

### Vegetative Cover

The project site was completely burned as a result of the October 2003 Simi Wildfire, which has significantly altered the vegetation on-site. The fire burned all vegetation on-site and killed several wildlife species.<sup>13</sup> Prior to the wildfire, the canyon floors were typically covered with native grasses, shrubs and trees and natural slopes were typically covered with moderately dense to dense shrubs. The predominant vegetation types on-site included Riparian Scrub, Riparian Woodland, California Annual Grassland, Coastal Sage Scrub, Chaparral, California Walnut Woodland, and Coast Live Oak Woodland.<sup>14</sup> The majority of the above described habitat is beginning to recover. However, the overall density has been substantially decreased.

The project site is adjacent to limited areas with moderate to heavy vegetative cover. The plant communities that make up this cover are highly combustible and, without mitigation, would present a high fire hazard to development in these areas, which would be a significant impact because development in these areas would pose a special fire protection problem. As development of the project site occurs, fire hazards associated with the natural vegetative cover would be eliminated due to the replacement of this cover with urban landscape vegetation, which is irrigated and less combustible than the existing vegetation. The potential for wildland fire hazards would still exist at the wildland/urban interface due to: vacant and/or limited development to the west, increased human activity, and the potential for fires due to accidental and arson-related causes.

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<sup>10</sup> *Phase I Cultural Resources Assessment for Lyons Canyon Ranch Specific Plan*, BonTerra Consulting, November 5, 2004.

<sup>11</sup> *Biological Technical Report*, BonTerra Consulting, November 2004.

<sup>12</sup> *Preliminary Geotechnical Report*, Pacific Soils Engineering, Inc. March 10, 2004.

<sup>13</sup> *Delineation of Jurisdictional Waters and Riparian Habitats for Lyon Canyon Ranch*, David Magney Environmental Consulting, March 2004.

<sup>14</sup> *Ibid.*

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Without mitigation, such impacts could be significant. The proposed project would be required to meet County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. This includes preparation of a Fuel Modification Plan, landscape plan and irrigation plan. Consequently, no significant impacts with regard to vegetative cover would occur. In conclusion, while the project site is located within a Very High Fire Hazard Severity Zone, project components (development of a fire station on-site), compliance with County codes and implementation of the recommended mitigation measures would reduce hazards associated with wildland fires to a less than significant level.

**Mitigation Measures:** Refer to Mitigation Measures FS1 through FS15.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### 5.13.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREASE DEMANDS FOR FIRE PROTECTION SERVICES IN THE SANTA CLARITA VALLEY.***

**Level of Significance Prior to Mitigation:** Less Than Significant Impact.

**Impact Analysis:** Future development of the proposed project within the County, future development within surrounding incorporated and unincorporated areas, and related projects would be required to provide funds to the Fire Department Developer Fees program, as deemed appropriate by the LACFD, which would provide the tax revenues for the operation and staffing of local fire service facilities. If determined necessary, the LACFD may require the construction of new fire protection facilities to meet anticipated service demands, as is the case with the proposed project. Based on the LACFD's standard developer fee of \$0.3716 per square foot of development, the proposed project and related projects would require payment of approximately \$229,463 to maintain adequate fire service<sup>15</sup>. In-lieu of developer fee payment, the project applicant has entered into an agreement with the Los Angeles County Fire Department for dedication of a 1.26 acre fire station site in the northeast corner of the project. Furthermore, the proposed project and related projects are required to meet County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. Additionally, because development projects in the Santa Clarita Valley are subject to review and approval by the LACFD, all developments must meet LACFD's fire flow, fuel modification, and site access requirements to protect developments against structure and wildland fire hazards. Consequently, operation of cumulative projects would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, and would not create a special fire protection problem on the various sites that would

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<sup>15</sup> Fee calculations assume an average square footage of 3,250 x 190 x \$0.3716 = \$229,463

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result in a decline in existing service levels in the area or pose a an unacceptable fire risk to people or structures. Therefore, payment of fees or the development of new fire facilities, as required by the LACFD, would reduce cumulative fire service impacts to a less than significant level.

**Mitigation Measures:** No mitigation measures are required.

***Level of Significance After Mitigation:*** Not applicable.

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### 5.14 SHERIFF SERVICES

This section provides an analysis of police services, which is based on information provided by the Los Angeles County Sheriff's Department (Sheriff's Department) and the California Highway Patrol (CHP). The Sheriff's Department maintains ultimate review and approval authority over aspects of the proposed development that relate to police protection, and may identify further recommendations and/or requirements.

#### 5.14.1 ENVIRONMENTAL SETTING

##### LOS ANGELES COUNTY SHERIFF'S DEPARTMENT

The Santa Clarita Valley Station of the Los Angeles County Sheriff's Department is responsible for providing general law enforcement to the City of Santa Clarita through a vesting contract between the two agencies. The current contract between the City of Santa Clarita and the County of Los Angeles was renewed on June 30, 2004 and will extend until June 2009. Funding for the Sheriff's Department in the City is provided by the City under the terms of the vesting contract.

The Santa Clarita Valley Sheriff Station would be responsible for providing general law enforcement to the Specific Plan area. The sheriff's station is located near the intersection of Magic Mountain Parkway and Valencia Boulevard, at 23740 Magic Mountain Parkway in Valencia, which is approximately three to four miles from the project site.<sup>1</sup> The Sheriff station maintains a staff of 171 sworn deputies, and serves an area of 656 square miles and a population of approximately 200,000 (including the City itself). The Sheriff's Department has an ideal population ratio of one deputy per 1,000 residents. With current staffing of 171 sworn deputies currently assigned, the existing ratio is 1 deputy per 1,169 residents.<sup>2</sup> Equipment and services provided to the Santa Clarita Valley include 24-hour designated County cars, helicopters, search and rescue, mounted posse, and emergency operation centers.<sup>3</sup>

The Sheriff's Department also conducts Search and Rescue operations through its Santa Clarita Valley station. Search and Rescue operations conducted by the Sheriff's Department are generally conducted in mountainous terrain (i.e., downed plane or lost hikers). The Santa Clarita Station Search and Rescue team uses the station's helicopter and has access to the Antelope Valley station's helicopter. Mutual aid exists with other Search and Rescue teams located both within and outside of Los Angeles County, and is organized through the State's Office of Emergency Services. Search and Rescue operations are funded through the Reserve Forces Bureau and private sources. Urban search and rescue operations, (i.e., rescues from building collapse), are performed by the Los Angeles County Fire Department.

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<sup>1</sup> Per written communications with Patti A. Minutello, Captain of the Santa Clarita Valley Station, on July 28, 2005.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

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### STATE EMERGENCY RESPONSE/EVACUATION PLANS

After the 1993 Oakland fire, the State of California passed legislation authorizing the State's Office of Emergency Services to prepare a Standard Emergency Management System (SEMS) program which sets forth measures by which a jurisdiction handles emergency disasters. By December 1996, each jurisdiction was required to show the Office of Emergency Services that it is in compliance with SEMS through a number of measures, including having an up-to-date emergency management plan, which would include an emergency evacuation plan. Non-compliance with SEMS can result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

The California Office of Emergency Services coordinates an emergency organizational network of local Emergency Operations Centers (EOCs) in the state's cities, regional EOCs within each county, and the California Office of Emergency Services. The regional office of the California Office of Emergency Services is located in Los Alamitos, and the Los Angeles County's EOC is located in downtown Los Angeles. The County Office of Emergency Management has prepared the County's Multi-Hazard Functional Plan, which details the coordination of County agencies during and after a catastrophic event and establishes the framework for the mutual aid agreements with the CHP, and federal, state, and other local governments in the region. It also serves as the emergency management plan (including emergency evacuation plan) for the entire County. The Los Angeles County Board of Supervisors adopted a revised plan on February 17, 1998.

### EMERGENCY RESPONSE/EVACUATION PLANS

The County of Los Angeles is in compliance with SEMS and is responsible for emergency operations within the County boundaries.

The City of Santa Clarita serves as the EOC for the Santa Clarita Valley area. The Santa Clarita EOC works in cooperation and coordination with local and regional offices of the California Office of Emergency Services and the Los Angeles County Fire and Sheriff's Departments to coordinate community action in the event of a disaster, such as fire suppression, search and rescue, evacuation, post-disaster safety inspections, and clean-up efforts in its service area, which includes the City of Santa Clarita. The City's EOC can be entirely self-sustaining during disaster operations.<sup>4</sup>

### CALIFORNIA HIGHWAY PATROL (CHP)

The CHP provides traffic regulation enforcement for unincorporated Santa Clarita Valley and surrounding areas from its station located at 28648 The Old Road, near the interchange of I-5 and State Route 126. The CHP patrols a service area of approximately 700 square miles, which includes Interstate 5, State Route 126, State Route 14, and all unincorporated areas and roadways, including the project site. This service area extends westerly to the Ventura County

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<sup>4</sup> *Ibid.*

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line, east to Agua Dulce, north to State Route 138 (and along State Route 138 to Avenue 22 East), and south to State Route 118.

The primary responsibility of the CHP is to patrol State Highways and County roadways in the previously identified service area, enforce traffic regulations, respond to traffic accidents, and to provide service and assistance for disabled vehicles. In the Santa Clarita Valley area, the CHP maintains a Mutual Aid Agreement with the Los Angeles County Sheriff's Department. The Newhall CHP area is staffed by 73 uniform and nine non-uniform personnel.<sup>5</sup> The Los Angeles and Orange County areas are served on a limited basis by a helicopter and a fixed wing aircraft based out of Fullerton Airport. From May 2004 through May 2005, the CHP responded to approximately 86,197 calls/contacts in its service area, including calls which involved enforcement contacts (tickets and arrests), accidents, and motorist services (disabled vehicles).<sup>6</sup>

### 5.14.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to sheriff services. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

In addition to the above, the Sheriff Department's threshold of 1 deputy per 1,000 residents has been used for impact analysis.

### 5.14.3 IMPACTS AND MITIGATION MEASURES

#### CONSTRUCTION-RELATED IMPACTS

- ◆ ***CONSTRUCTION OF THE PROPOSED PROJECT COULD RESULT IN AN INCREASED DEMAND FOR SHERIFF SERVICES.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

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<sup>5</sup> Per information from the Riverpark Draft EIR, written communication from Captain B. M. Kilmer, Commander, California Highway Patrol, Santa Clarita Valley Station, November 15, 2002.

<sup>6</sup> Per information from telephone interview with Lieutenant Todd Hoose, California Highway Patrol, Santa Clarita Valley Station, July 5, 2005.

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**Impact Analysis:** During the construction phase, Sheriff's service requirements on the project site would be increased over existing demands as a result of both increased persons and the presence of buildings and equipment on the project site. The daytime population would increase due to the presence of construction workers on the project site. This increase in the daytime population would vary due to the type of construction activities being conducted (i.e., site grading, construction of structures, or infrastructure improvements).

There is a potential for increased calls for service to the project site as a result of the increased number of persons at the project site. Due to the presence of building materials, construction equipment, and related temporary office buildings, the potential for vandalism and theft is greater; thereby, increasing Sheriff's calls for service demands for property protection. During the construction phase of the proposed project, response times for emergency and non-emergency calls are not expected to vary from those currently experienced by residential uses located to the north of the project site.

During the construction phase, private security patrols would be utilized to protect the project site; thereby reducing potential demands on the existing Sheriff's Department resources. Given the provision of private security personnel, the proposed project is not expected to affect the existing level of service being provided by the Sheriff's Department. With incorporation of this mitigation measure (refer to Mitigation Measure SS1), no significant impacts are anticipated during the construction phase.

Construction-related traffic on the project site is not expected to result in impacts on the CHP, which regulates traffic in the unincorporated areas of the Santa Clarita Valley. Slow-moving construction-related traffic on adjacent roadways could reduce optimal traffic flows and could delay emergency vehicles traveling through the area. However, they would not result in a significant impact on traffic flows because construction-related traffic would only occur during short periods of time during the day and would cease upon project completion, resulting in less than significant impacts in this regard.

### **Mitigation Measures:**

SS1      During construction, private security patrols shall be utilized to protect the project site.

**Level of Significance After Mitigation:** Less Than Significant Impact.

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## OPERATIONAL IMPACTS

◆ ***OPERATIONS OF THE PROPOSED PROJECT COULD RESULT IN AN INCREASED DEMAND FOR SHERIFF SERVICES.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** The County of Los Angeles Sheriff's Department would have the responsibility to provide general law enforcement services for the project site under their existing contract with the County of Los Angeles. It is anticipated that demands for Sheriff's services in the project area would increase above current levels upon buildout of the proposed project.

The Sheriff's Department projects a response time to the Lyons Canyon Ranch Project area for emergency calls of approximately five to eight minutes, a response time for priority calls of approximately eight to ten minutes, and a response time for non-emergency calls of approximately 20 to 30 minutes.<sup>7</sup> These response times are approximations only, and would be dependent on both the deployment of area radio cars and traffic conditions. However, response times to the project area are within the optimal response times as defined by the Sheriff's Department. It is important to note that due to the current undeveloped state of the project area, emergency and non-emergency calls to the project area are rare.

The Sheriff's Department utilized the January 1998 California Department of Finance (DOF) residential dwelling unit factor of 3.011 persons per dwelling unit and determined that the proposed project would generate a population increase of 572 persons.<sup>8</sup> This EIR utilized the 2004 DOF residential dwelling unit factor of 3.081 persons per household. Using this factor, the proposed project would result in a project population of 585 ( $3.081 \times 190 = 585$ ) new residents to the project site. Considering the Sheriff's Department's ideal population ratio of 1 officer per 1,000 persons, the number of deputies required by the proposed project has conservatively been rounded up. Based upon this conservative estimation, at buildout, the proposed project would require one additional deputy.

Without additional Sheriff's Department staffing and facilities, the proposed project population increase would decrease the existing level of service of the Sheriff's Department in the County and would result in a significant impact to Sheriff services. As the proposed project is developed, tax revenues from property taxes would be generated and deposited in the County of Los Angeles General Fund. A portion of these revenues would then be allocated, in accordance with the County of Los Angeles, to maintain staffing and equipment levels for the Santa Clarita Valley Sheriff's Substation in response to related demands. It is anticipated that the existing level of service would be provided for the proposed project through existing funding sources. Although the proposed project would increase demands for Sheriff's services, these service demands can be met through the allocation of revenues collected from the proposed project using existing sources; therefore, no significant impacts are anticipated.

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<sup>7</sup> Per written communications with Patti A. Minutello, Captain of the Santa Clarita Valley Station, on July 28, 2005.

<sup>8</sup> Per written communication with Patti A. Minutello, Captain Santa Clarita Valley Station, on July 28, 2005.

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In addition, potential significant impacts to Sheriff services could arise as a result of project design, landscape materials and building orientation. However, with the incorporation of safety design techniques into the project design (refer to Mitigation Measures SS2 through SS6), potentially significant security impacts to persons and property would be reduced to a less than significant level.

### **Mitigation Measures:**

- SS2 Final building plans shall be submitted to the County Sheriff for approval. All Sheriff's Department design requirements which reduce demands for service and ensure adequate public safety (such as those pertaining to site access, site security lighting) shall be incorporated into the final building designs prior to issuance of a building permit.
- SS3 Project design shall landscape the project site with low-growing groundcover and shade trees, rather than a predominance of shrubs which could conceal potential criminal activity around buildings and parking areas.
- SS4 Project design shall provide lighting, to the satisfaction of the Sheriff's Department, around and throughout the development to enhance crime prevention and enforcement efforts.
- SS5 Project design shall provide clearly visible (during the day and night) address signs and/or building numbers for easy identification during emergencies.
- SS6 Project design shall provide visibility of doors and windows from the street and between buildings.

***Level of Significance After Mitigation:*** Less Than Significant.

### ◆ ***OPERATIONS OF THE PROPOSED PROJECT COULD IMPACT LOS ANGELES COUNTY EMERGENCY RESPONSE/EVACUATION PLANS.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** Upon buildout, the resident and daytime populations of the project site would increase above current levels. These populations would be subject to potential emergencies (e.g., earthquake, fire, etc.).

Two primary entrances are proposed from The Old Road: one is located the northern project boundary, and the secondary access is located approximately 1,100 feet to the south. A primary residential street extends from each entry, providing access to each neighborhood. The simple circulation system would provide alternative evacuation routes for the site, which is easily accessible to Interstate 5. Given these alternative evacuation routes, it is not anticipated that the design of the proposed project would preclude implementation of an evacuation plan, which

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would provide for the safe movement of future residents. Consequently, no significant impacts are expected to occur with regard to emergency evacuation of the project site or its surroundings.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Not applicable.

◆ ***OPERATIONS OF THE PROPOSED PROJECT COULD RESULT IN AN INCREASED DEMAND FOR CALIFORNIA HIGHWAY PATROL SERVICES.***

**Level of Significance Prior to Mitigation:** Less Than Significant Impact.

**Impact Analysis:** Upon buildout, demands for CHP services on highways in the unincorporated areas surrounding the project site would increase due to vehicular traffic generated by the project. There is no guarantee that additional funding will be increased to either the State General Funds or the budget allocation to the CHP. Therefore, the increased demand on CHP services may not be offset by an increase in staffing in the Santa Clarita Valley. However, the incremental impact on CHP services is not determined to be significant.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.

### 5.14.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

#### POLICE PROTECTION SERVICES

◆ ***DEVELOPMENT OF THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREASE DEMANDS FOR POLICE PROTECTION SERVICES IN THE SANTA CLARITA VALLEY.***

**Level of Significance Prior to Mitigation:** Significant Impact.

**Impact Analysis:** Cumulative population growth attributable to the proposed project and related projects would decrease the existing level of service of the Sheriff's Department in the unincorporated areas in the Santa Clarita Valley. However, as the proposed project and related projects are developed, tax revenues from property would be generated and accrued by Los Angeles County, and the City of Santa Clarita as applicable. A portion of these revenues would then be allocated, in accordance with the County of Los Angeles and City of Santa Clarita contractual service agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Sheriff's Substation in response to related demands. Although the proposed project and related projects would increase demands for Sheriff's services, these service demands can be met through the allocation of revenues collected from the cumulative project developments using existing sources. Therefore, no significant impacts are anticipated.

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Increased revenues generated by the proposed project and related projects via motor vehicle registration fees paid by new on-site residents and businesses would provide funding for additional staffing and equipment for the CHP that could be allocated by the State CHP office to the Santa Clarita Valley Station to meet future demands. Based on the CHP's anticipation to maintain the same level of service, no significant cumulative impacts on CHP services are anticipated.

**Mitigation Measures:** Refer to Mitigation Measures SS1 through SS6. No other mitigation measures are required.

**Level of Significance After Mitigation:** Significant and unavoidable. General funding allocations are determined by the Board of Supervisors.

### EMERGENCY RESPONSE/EVACUATION PLANS

◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS COULD IMPACT COUNTY EMERGENCY RESPONSE/EVACUATION PLANS.***

**Level of Significance Prior to Mitigation:** Significant Impact.

**Impact Analysis:** The resident and daytime populations of the cumulative project sites would increase above current levels upon buildout of the proposed project and related projects. These populations would be subject to potential emergencies (e.g., earthquake, fire, etc.). However, all development projects in the Santa Clarita Valley are subject to review and approval by the Los Angeles County Fire Department, which requires that, among other conditions, adequate access exists for emergency vehicles. Given that the proposed project and related projects would be required to provide adequate emergency vehicle access, cumulative development would not adversely affect or prevent implementation of any emergency response or evacuation plans. As such, impacts would be less than significant in this regard.

**Mitigation Measures:** No mitigation measures are available.

**Level of Significance After Mitigation:** Significant and unavoidable.

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## **5.15 SOLID WASTE**

This section analyzes the solid waste impacts of the project and recommends mitigation measures to reduce the amount of solid waste going to landfills. Specifically, this section compares the solid waste generation of the proposed project with the capacity of the existing landfills operating within Los Angeles County that accept waste from municipalities and unincorporated areas.

### **5.15.1 ENVIRONMENTAL SETTING**

#### **STATE PLANS AND POLICIES FOR SOLID WASTE DISPOSAL**

##### **California Integrated Waste Management Act**

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan, that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. The purpose of AB 939 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.” Noncompliance with the goals and timelines set forth within AB 939 can result in fines up to \$10,000 per day on jurisdictions (cities and counties) not meeting the recycling and planning goals.

The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 established a waste management hierarchy as follows:

- ◆ Source Reduction;
- ◆ Recycling;
- ◆ Composting;
- ◆ Transformation; and
- ◆ Disposal.

As of January 2003, neither the California Integrated Waste Management Board nor the State Legislature has introduced new legislation to set diversion requirements beyond 2000.

#### **REGIONAL PLANS AND POLICIES FOR SOLID WASTE DISPOSAL**

##### **Los Angeles Countywide Siting Element**

In 1997, the County of Los Angeles prepared a countywide siting element that estimates the amount of solid wastes generated in the County and proposes various diversion and alternate disposal options.

The Los Angeles Countywide Siting Element identifies the Los Angeles County Department of Public Works (LACDPW) as the responsible agency to develop plans and strategies to manage

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and coordinate the solid waste generated (including hazardous waste) in the County unincorporated areas and address the disposal needs of Los Angeles County as a whole. The Siting Element is based upon the traditional practice of simply collecting solid waste and disposal of at landfills in the local vicinity. Therefore, currently many jurisdictions (such as the County of Los Angeles) are stating that existing local landfill space may reach capacity in the very near future.

### LOCAL PLANS AND POLICIES FOR SOLID WASTE DISPOSAL

Three private haulers are franchised by the City of Santa Clarita Department of Field Services to collect residential, commercial and industrial waste in the City of Santa Clarita. These haulers operate under two franchise systems: one for commercial/industrial uses and one for residential uses.

In 2003, approximately 182,720 tons of solid waste was generated by uses in the City of Santa Clarita (refer to Table 5.15-1, *Landfills Summary*).<sup>1</sup> Approximately 85 percent (156,035 tons) of Santa Clarita's solid waste is sent to the Chiquita Canyon Sanitary Landfill. The Chiquita Canyon Landfill has been approved for expansion resulting in the extension of its closure date to 2019, assuming a maximum daily tonnage of 6,000 tons of solid waste. This landfill is classified as a major landfill, which is defined as a facility that receives more than 50,000 tons of solid waste per year. Additionally, the Chiquita Canyon Landfill is classified as Class III since it is permitted to accept only non-hazardous wastes. It should be noted that in the future, nearly all of the solid waste from the City will be transferred to the Antelope Valley Public Landfill. The 14 landfills serving Santa Clarita have a total permitted capacity of 210.8 million tons and a remaining capacity of approximately 810.7 million tons.

**Table 5.15-1  
City of Santa Clarita Landfills Summary**

Facility	Amount Disposed from Loma Linda (tons/year) <sup>1</sup>	Permitted Throughput (tons/day) <sup>2</sup>	Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)
Arvin Sanitary Landfill	13	800	11,464,719	2,246,339
Bakersfield SLF	8	4,500	53,000,000	2,985,888
CWMI-B18 Nonhazardous Codisposal	11	8,000	10,700,000	6,000,000
Antelope Valley Public Landfill	10,743	1,400	6,480,000	2,978,143
Azusa Land Reclamation Company, Inc.	740	6,500	66,670,000	34,100,000
Lancaster Landfill and Recycling Center	4,481	1,700	22,645,000	22,645,000
Chiquita Canyon Sanitary Landfill	156,035	6,000	45,889,550	26,024,360
Puente Hills Landfill #6	8,895	13,200	106,400,000	58,800,000
Commerce Refuse-To-Energy Facility	1	1,000	1,000 tons/day	N/A
Sunshine Canyon SLF County Extension	2,793	6,600	23,720,000	16,000,000
Bradley Landfill West and West Extension	8,405	10,000	38,600,000	4,725,968
Frank R., Bowerman Facility LF	8	8,500	127,000,000	98,179,886

<sup>1</sup> *Jurisdiction Disposal and ADC by Facility*, Integrated Waste Management Board, 2004, [www.ciwmb.ca.gov](http://www.ciwmb.ca.gov).

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El Sobrante Landfill	8	10,000	184,930,000	3,674,267
Simi Valley Landfill-Recycling Center	372	3,000	43,500,000	9,473,131
<b>TOTAL</b>	<b>191,513</b>	<b>84,700</b>	<b>810,700,269</b>	<b>287,832,982<sup>1</sup></b>
Sources:				
1. <i>Jurisdiction Disposal and ADC by Facility</i> , Integrated Waste Management Board, <a href="http://www.ciwmb.ca.gov">www.ciwmb.ca.gov</a> and LA County Sanitation District written Correspondence dated March 16, 2006.				
2. <i>Solid Waste Information System (SWIS)</i> , Integrated Waste Management Board, <a href="http://www.ciwmb.ca.gov">www.ciwmb.ca.gov</a> .				

### 5.15.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to solid waste disposal. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Would be served by a landfill with insufficient capacity to accommodate the project's solid waste disposal needs.

### 5.15.3 IMPACTS AND MITIGATION MEASURES

#### CONSTRUCTION-RELATED IMPACTS

- ◆ ***CONSTRUCTION OF THE PROPOSED PROJECT WOULD GENERATE SOLID WASTE, WHICH WOULD INCREMENTALLY DECREASE THE CAPACITY AND LIFESPAN OF LANDFILLS.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** Site preparation (vegetation removal and grading activities) and construction activities would generate a total of approximately 9,428 tons, or an average of approximately 4,714 tons per year of construction wastes over the two year buildout of the project assuming no recycling.<sup>2</sup> However, implementation of the recommended mitigation measure would require the reduction of construction-related solid waste, which assuming a 50 percent reduction, would reduce the amount of construction-related solid waste to 4,712.5 total tons. These waste materials are expected to be typical construction debris, including wood, paper, glass, plastic, metals, cardboard, and green wastes.

Construction activities could also generate hazardous waste products. The wastes generated would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities within Los Angeles County.

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<sup>2</sup> Assumes a generation rate of 90 tons per acre of construction waste. Project gross developable acreage is 104.76 Refer to 3.0, Project Description.

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Implementation of the recommended mitigation measure would result in the generation of approximately 4,712.5 tons of construction-related solid waste, which equals approximately two (2) percent of the annual waste generated within the City of Santa Clarita. In addition, this impact would be short-term and cease upon project completion. Therefore, impacts would be less than significant.

### **Mitigation Measure:**

- SW1 The project applicant/individual project applications shall adhere to all source reduction programs for the disposal of construction materials and solid waste, as required by the County of Los Angeles. Prior to issuance of building permits, a source reduction program shall be prepared and submitted to the Director of Public Works for each future structure constructed on the subject properties to achieve a minimum 50 percent reduction in waste disposal rates, including green waste.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### **OPERATION-RELATED IMPACTS**

- ◆ ***OPERATION OF THE PROPOSED PROJECT WOULD GENERATE SOLID WASTE WHICH WOULD INCREMENTALLY DECREASE THE CAPACITY AND LIFESPAN OF LANDFILLS.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** Buildout of the proposed project is estimated to require approximately two years. At buildout, the project would generate approximately 1,695 pounds of solid waste per day, or 309 tons per year, as shown in Table 5.15-2, *Daily Projected Solid Waste Generation for Project (No Recycling)*. This quantity represents the proposed project's solid waste generation under a worst-case scenario without any recycling activities in place. Under County requirements, however, the uses within the proposed project would be required to provide adequate areas for collecting and loading recyclable materials in concert with Countywide efforts and programs to reduce the volume of solid waste entering landfills.

Although the proposed project would generate approximately 309 tons per year it can also be assumed that the project would meet the current recycling goals of the community and in actuality only generate approximately 154.5 tons per year due to County diversion rates and a mandate to divert at least 50 percent of potential waste disposal.

Regardless, as a consequence of the finite resources associated with solid waste disposal, and despite the implementation of the recommended mitigation measures, long-term operational impacts would be significant.

**Table 5.15-2**  
**Daily Projected Solid Waste Generation for Project (No Recycling)**

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Land Use	Units	Generation Factor (lbs/day) <sup>1</sup>	Total Waste Generation (lbs/day)	Total Waste Generation (tons/year)
Single-family Residential	100 du	11.18	1,118	204
Multi-Family Residential	90 du	6.41	577	105
<b>Total</b>			<b>1,695</b>	<b>309</b>

**Notes:**  
du = dwelling units  
s.f. = square feet  
1. The solid waste generation rates are derived from the Ventura County Solid Waste Management Department's Guidelines for the Preparation of Environmental Assessments for Solid Waste Impacts. The Los Angeles County solid waste generation factor of 11 pounds/capita/day was not used in this analysis because it is very general and may not yield an accurate solid waste generation analysis for the project. These factors do not reflect any recycling activities.

### Mitigation Measures:

#### General

- SW2 Project will provide recycling/separation areas in close proximity to dumpsters for non-recyclables, elevators, loading docks, and primary internal and external access points.
- SW3 The location of recycling/separation areas shall not be in conflict with any applicable federal, state or local laws relating to fire, building, access, transportation, circulation, or safety.
- SW4 The location of recycling/separation areas shall be convenient for those persons who deposit, collect, and load the recyclable materials.
- SW5 Recycling containers/bins shall be located so that they do not block access to each other.
- SW6 Vegetation in common area landscaping shall consist of low maintenance species that are also drought-tolerant and native to the area. The use of plant species for landscaping that require low maintenance and are drought-tolerant and native will reduce yard waste by requiring less pruning and maintenance when compared to irrigated ornamental landscaping.

#### Residential

- SW7 Kitchen, garage or garden design shall accommodate trash and recyclable components to assist in the County's recycling efforts.
- SW8 Property buyers shall receive educational material on the County's or local waste management efforts.

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- SW9 The applicant shall comply with all applicable state and Los Angeles County regulations and procedures for the use, collection and disposal of solid and hazardous wastes.

*Level of Significance After Mitigation:* Significant and Unavoidable Impact.

### 5.15.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREASE THE DEMAND FOR LANDFILL DISPOSAL CAPACITY.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** Development associated with the proposed project and related projects would generate approximately 100.68 tons of solid waste per day, or 36,748 tons per year.<sup>3</sup> This quantity represents cumulative solid waste generation under a worst-case scenario without any recycling activities occurring. However, the proposed project and related projects would be required to comply with recycling requirements, in support of Countywide efforts and programs to reduce the volume of solid waste entering landfills.

Although the proposed project and related projects would generate approximately 36,748 tons per year, it is anticipated that the proposed project and related projects would meet the current recycling goals. As such, it is assumed that only approximately 18,374 tons per year of cumulative solid waste would require landfill disposal.

The proposed project and related development projects within the Santa Clarita Valley Area Plan planning area would not produce an amount of solid waste that exceeds available landfill capacity or trash hauler service capabilities in the short term. However, future effects of regional growth and the corresponding increase in solid waste disposal needs within the County of Los Angeles would contribute to a significant adverse cumulative impact on solid waste disposal capacity. According to the Los Angeles County Countywide Siting Element (1995), a landfill shortfall will ultimately occur within Los Angeles County within the 15-year planning period (ending in 2010) unless all proposed landfills become operational and all Class III landfills are expanded (this includes expansions of the Antelope Valley, Chiquita Canyon, Lancaster, Scholl Canyon and Sunshine Canyon landfills). However, based on past and current experience in siting new or expanded capacity, it must be recognized that many (or all) of new or expanded landfill sites may encounter strong opposition during the permitting process, and that not all new sites or expansion plans may be approved. Therefore, cumulative solid waste impacts are considered significant and unavoidable.

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<sup>3</sup> The factors for single family dwellings (11.18) and multiple family dwelling (6.41) multiplied times the cumulative list of 16,740 SFD's and 2688 MFD's produce a total of 100.68 tones per day. Tons per year equal 100.68 times 365 or 36,748 tons per year

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**Mitigation Measures:** Refer to Mitigation Measures SW1 through SW9. No additional mitigation measures are required.

**Level of Significance After Mitigation:** Significant and Unavoidable Impact.

## **5.16 ELECTRICITY**

This section addresses the potential impacts of the proposed project with regard to electricity consumption during construction and operation. The analysis identifies the utility that provides electricity services to the project site, describes the existing consumption of electricity at the site, indicates the nature and location of related infrastructure in the local area, and estimates the electricity demands of the proposed project at buildout.

### **5.16.1 ENVIRONMENTAL SETTING**

#### **REGULATORY FRAMEWORK**

The California Public Utilities Commission (CPUC) regulates investor-owned electric power and natural gas utility companies in the State of California. Assembly Bill 1890, enacted in 1996, deregulated the power generation industry, allowing customers to purchase electricity on the open market. Under deregulation, the production and distribution of power that was under the control of investor-owned utilities (e.g., Southern California Edison) was decoupled.

All new construction in the State of California is subject to the energy conservation standards set forth in Title 24, Part 6, Article 2 of the California Administrative Code. These are prescriptive standards that establish maximum energy consumption levels for the heating and cooling of new buildings.

The utilization of alternative energy applications in development projects (including the proposed project), while encouraged, is not required as a development condition. Such applications may include installation of photovoltaic solar panels, active solar water heating systems, or integrated pool deck water heating systems, all of which serve to displace consumption of conventional energy sources (i.e., electricity and natural gas). Incentives, primarily in the form of state and federal tax credits, as well as reduced energy bills, provide a favorable basis for individual builders, property owners, and occupants to install such alternative energy systems.

#### **ELECTRICITY SUPPLY AND DEMAND**

Southern California Edison (SCE), a division of Edison International, currently provides electricity service in the project area. Edison facilities include a hydropower and nuclear power facilities and one coal-powered facility: the Big Creek Hydroelectric Plant, the San Onofre Nuclear Generating Station (SONGS), and the Mojave Generating Station. SCE maintains and operates transmission and distribution infrastructure to provide purchased power to end users throughout its service area.

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According to the California Energy Commission (CEC), SCE is projected to deliver 100.8 million megawatt-hours (MWh) to its customers during 2004.<sup>1</sup> By 2010, SCE's demand is expected to increase to 113.1 million MWh.<sup>2</sup>

Existing electric lines within the project area include underground and above ground 16 kilovolt (kV) lines that extend along The Old Road.

### 5.16.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to electrical service and facilities. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ The project would create demands on electricity supply and infrastructure which exceed the capacity of the utility serving the project site.

### 5.16.3 IMPACTS AND MITIGATION MEASURES

- ◆ ***IMPLEMENTATION OF THE PROPOSED PROJECT WOULD INCREMENTALLY INCREASE DEMANDS ON ELECTRICITY SUPPLIES AND DISTRIBUTION INFRASTRUCTURE.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** The proposed project would result in the construction and operation of 190 residential dwelling units. As shown in Table 5.16-1, Project Electricity Consumption, development of proposed uses would result in the consumption of approximately 1,069 MWh of electricity per year. As previously discussed, SCE deliveries are expected to be 113.1 million MWh per year by project buildout in approximately 2010. As such, the project-related electricity demand would represent only 0.00095 percent of SCE's annual power deliveries.

According to SCE, there are 16 kilovolt (kV) lines that extend underground along The Old Road that would serve the proposed project. These existing pipelines are considered adequate to serve the project's electricity demands. The electrical loads of the proposed project are within the parameters of projected load growth, which SCE is planning to meet in the area.<sup>3</sup> All on-site

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<sup>1</sup> California Energy Commission. California Energy Demand 2000-2010. Technical Report to California Energy Outlook 2000. Docket #99-CEO-1. June 2000.

<sup>2</sup> Ibid.

<sup>3</sup> Per written communications with Joe Montoya, Customer Service Planner with Southern California Edison on September 13, 2004.

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electricity lines would be installed to serve proposed uses, at the expense of the project applicant. No other improvements related to electricity are necessary.

**Table 5.16-1  
Project Electricity Consumption**

Land Use	Development Statistics <sup>1</sup>	Consumption Factor <sup>2</sup>	Electricity Consumption
Residential	190 d.u.	5,626.5 kWh/d.u./year	1,069 MWh/year
<b>Total</b>			<b>1,069 MWh/year</b>
<small>Notes: kWh = kilowatt-hour s.f. = square feet d.u. = dwelling unit MWh = Megawatt-hour            1) Development statistics provided by Western Pacific Housing, Lyons Canyon, LLC. Retail factor used for 22,000 s.f. of Shopping Center and Gas Station/Convenience Market with 12 vehicle fueling positions. Shopping Center, Restaurant, and Gas Station uses the maximum buildable area on the project's commercial planning areas, which totals 24,500 square feet.            2) Consumption factors from South Coast Air Quality Management District <i>CEQA Air Quality Handbook</i> (April 1993).</small>			

Although the proposed project would create additional demands on electricity supplies and distribution infrastructure, these demands are well within the service capabilities of SCE. Thus, impacts would be less than significant in this regard.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.

## 5.16.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREMENTALLY INCREASE DEMANDS ON ELECTRICITY SUPPLIES AND DISTRIBUTION INFRASTRUCTURE.***

**Level of Significance Prior to Mitigation:** Less Than Significant Impact.

**Impact Analysis:** The proposed project and related projects would result in the construction and operation of single and multi-family residential dwelling units, as well as office, retail, industrial, and educational uses, all of which would consume electricity. Development of the proposed project and related projects would result in the consumption of approximately 106.9 MWh of electricity per year. As previously discussed, SCE deliveries are expected to be 113.1 million MWh per year by 2010. As such, the cumulative electricity demand would represent 0.00095 percent of SCE's annual power deliveries.

It is expected that the electrical loads of the proposed project and related projects are within the parameters of projected load growth, which SCE is planning to meet in the area. All electricity lines and other system improvements would be installed, in whole or in part, at the expense of development project applicants, and would serve to avoid adverse impacts to the electricity distribution system.

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Although the proposed project and related projects would create additional demands on electricity supplies and distribution infrastructure, these demands are well within the service capabilities of SCE. Thus, cumulative impacts would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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### 5.17 NATURAL GAS

This section addresses the potential impacts of the proposed project with regard to natural gas consumption during construction and operation. The analysis identifies the utility that provides natural gas services to the project site, describes the existing consumption of natural gas at the site, indicates the nature and location of related infrastructure in the local area, and estimates the natural gas demands of the proposed project at buildout.

#### 5.17.1 ENVIRONMENTAL SETTING

##### CALIFORNIA NATURAL GAS REGULATION AND INFRASTRUCTURE

The California Public Utilities Commission (CPUC) regulates natural gas utility service for approximately 10.5 million customers that receive natural gas from Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SCGC), San Diego Gas & Electric Company (SDG&E), Southwest Gas, and several smaller natural gas utilities. Most of California's natural gas customers are residential and small commercial customers (referred to as "core" customers) who accounted for approximately 40 percent of the natural gas delivered by California utilities in 2003. Large consumers, like electric generators and industrial customers (referred to as "non-core" customers) accounted for approximately 60 percent of the natural gas delivered by California utilities in 2003. The CPUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2003, California customers received 42 percent of their natural gas supply from basins located in the Southwest, 26 percent from Canada, 14 percent from the Rocky Mountains, and 18 percent from basins located within California.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The five major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, and Mojave Pipeline. Another pipeline, the North Baja Pipeline, takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, the CPUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers.

Most of the natural gas transported via the interstate pipelines, as well as some of the California-produced natural gas, is delivered into the PG&E and SCGC intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered into the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large non-core customers take natural gas directly off the high-pressure backbone pipeline systems, while core customers and other non-core customers take natural gas off the utilities' distribution

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pipeline systems. The CPUC has regulatory jurisdiction over 100,000 miles of utility-owned natural gas pipelines, which transported 85 percent of the total amount of natural gas delivered to California's gas consumers in 2003.

Some of the natural gas delivered to California customers may be delivered directly to them without being transported over the regulated utility systems. For example, the Kern River/Mojave pipeline system can deliver natural gas directly to some large customers, "bypassing" the utilities' systems. Much of California-produced natural gas is also delivered directly to consumers.

PG&E and SCGC own and operate several natural gas storage fields that are located in northern and southern California. These storage fields, and two independently owned storage utilities – Lodi Gas Storage and Wild Goose Storage – help meet peak seasonal natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently.

California's regulated utilities do not own any natural gas production facilities. All of the natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the FERC in the mid-1980's and is determined by "market forces". Prior to the late 1980's, California's regulated utilities provided virtually all natural gas services to natural gas customers. Since then, the CPUC has gradually restructured the natural gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to continue receiving utility-provided services. The CPUC decides whether California's utilities have taken reasonable steps in order to minimize the cost of natural gas purchased on behalf of their core customers.

Although most of California's core customers purchase natural gas directly from the regulated utilities, core customers have the option to purchase natural gas from independent natural gas marketers. Most of California's non-core customers, on the other hand, make natural gas supply arrangements directly with producers or purchase natural gas from marketers.

Another option resulting from the natural gas industry's restructuring process occurred in 1993, when the CPUC removed the utilities' storage service responsibility for non-core customers, along with the cost of this storage service from non-core customers' rates. In 1993, the CPUC also adopted specific storage reservation levels for the utilities' core customers.

In a 1997 decision, the CPUC adopted PG&E's "Gas Accord," which unbundled backbone transmission costs from non-core transportation rates, and gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone pipeline system. The Gas Accord also required PG&E to set aside a certain amount of pipeline capacity in order to deliver natural gas to its core customers. In Decision (D.) 03-12-061, issued in December 2003, the CPUC modified and extended the initial terms of the Gas Accord.

In December 2001, the CPUC adopted the "Gas Industry Restructuring" decision (D. 01-12-018). This decision adopted a market and regulatory structure for SCGC similar to the Gas Accord structure for PG&E. In D.04-04-015, the CPUC adopted the tariffs to implement

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restructuring of the SCGC system, but stayed that decision to consider issues in a major Rulemaking, R.04-01-025.

### **2001 TITLE 24, PART 6 CALIFORNIA'S ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL AND NONRESIDENTIAL BUILDINGS**

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. New standards were adopted by the Commission in 2001 as mandated by Assembly Bill 970 to reduce California's electricity demand. The new standards went into effect on June 1, 2001. The standards (along with standards for energy efficient appliances) have saved more than \$20 billion in electricity and natural gas costs. It is estimated the standards will save \$57 billion by 2011.

### **SOUTHERN CALIFORNIA GAS COMPANY**

Natural gas service is provided to the proposed project site by SCGC. According to the California Energy Commission (CEC), SCGC is expected to provide 818.5 billion cubic feet (bcf) of natural gas to its customers in 2004.<sup>1</sup> By 2010, annual natural gas deliveries to SCGC customers are expected to increase to 890.4 bcf.<sup>2</sup> In the proposed project vicinity, SCGC operates two supply pipelines: a four-inch and a six-inch medium-pressure pipeline located in The Old Road.<sup>3</sup>

### **5.17.2 SIGNIFICANCE THRESHOLD CRITERIA**

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to natural gas service and facilities. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ The project would create demands on natural gas supply and infrastructure which exceed the capacity of the utility serving the project site.

### **5.17.3 IMPACTS AND MITIGATION MEASURES**

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<sup>1</sup> California Energy Commission. California Energy Demand 2000-2010. Technical Report to California Energy Outlook 2000. Docket #99-CEO-1. June 2000.

<sup>2</sup> Ibid.

<sup>3</sup> Russo, Jack. Planning Associate, Valencia District, Southern California Gas Company. Written Correspondence. Will Serve Letter for: Lyons Canyon Ranch (Gas Co. Atlas(es) C2042N). March 18, 2004.

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◆ **IMPLEMENTATION OF THE PROPOSED PROJECT WOULD INCREMENTALLY INCREASE DEMANDS ON NATURAL GAS SUPPLIES AND DISTRIBUTION INFRASTRUCTURE.**

**Level of Significance Prior to Mitigation:** Less Than Significant Impact.

**Impact Analysis:** The proposed project would result in the construction and operation of 100 single-family residential units and 90 senior condominium units. As shown in Table 5.17-1, Project Natural Gas Consumption, development of proposed uses would result in the consumption of approximately 1,027,535 cubic feet (cf) of natural gas per month, or 12,330 kcf per year. As previously discussed, SCGC deliveries are expected to be 890.4 billion cubic feet (bcf) by project buildout in approximately 2010. As such, the project-related natural gas demand would represent only 0.0014 percent of SCGC’s annual deliveries.

**Table 5.17-1  
Project Natural Gas Consumption**

Land Use	Development Statistics <sup>1</sup>	Consumption Factor <sup>2</sup>	Natural Gas Consumption
Single-family/Senior Residential	100 d.u.	6,665.0 c.f./d.u./month	666.5 k.c.f./month
Senior Condominium	90 d.u.	4,011.5 c.f./d.u./month	361.0k.c.f./month
<b>Total</b>			<b>1,027.5 k.c.f./month</b>
Notes: c.f. = cubic feet s.f. = square feet d.u. = dwelling unit k.c.f. = thousand cubic feet			
1) Development statistics provided by Western Pacific Housing, Lyons Canyon, LLC			
2) Consumption factors from South Coast Air Quality Management District <i>CEQA Air Quality Handbook</i> (April 1993). Commercial factor used to estimate demand of proposed Shopping Center, Restaurant(s), and Gas Station with Convenience Market.			

According to SCGC two medium-pressure natural gas pipelines exist adjacent to the project site in The Old Road (one four-inch and one six-inch pipeline). These existing pipelines are considered adequate to serve the project’s natural gas demands. All on-site natural gas distribution pipelines would be installed to serve proposed uses, at the expense of the project applicant. No other improvements related to natural gas are necessary.

Although the proposed project would create additional demands on natural gas supplies and distribution infrastructure, these demands are well within the service capabilities of SCGC. Thus, impacts would be less than significant in this regard.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.

#### 5.17.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREMENTALLY INCREASE DEMANDS ON NATURAL GAS SUPPLIES AND DISTRIBUTION INFRASTRUCTURE.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** The proposed project would result in the construction and operation of single- and multi-family residential dwelling units, all of which would consume natural gas. Development associated with the proposed and related projects would result in the consumption of approximately 1,265,800 cubic feet (cf) of natural gas per month, or approximately 15,189.6 kcf per year (refer to Appendix D for cumulative natural gas consumption calculations). As previously discussed, annual SCGC deliveries are expected to be 890.4 bcf by 2010. As such, the cumulative natural gas demand would represent 0.0017 percent of SCGC's annual deliveries.

Where necessary, natural gas distribution pipelines would be installed to serve development associated with the proposed project and related projects at the expense of the project applicants.

Although the proposed project and related projects would create additional demands on natural gas supplies and distribution infrastructure, these demands are well within the service capabilities of SCGC. As such, cumulative impacts would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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## **5.18 LIBRARY SERVICES**

Information in this section was derived from the Los Angeles County Development Monitoring System (DMS) and from communication with representatives of the Los Angeles County Public Library.

### **5.18.1 ENVIRONMENTAL SETTING**

#### **LOS ANGELES COUNTY PUBLIC LIBRARY**

The Los Angeles County Public Library operates facilities and services countywide in both unincorporated and incorporated areas of the County.

#### **SANTA CLARITA VALLEY PUBLIC LIBRARIES**

The Los Angeles County Public Library services the entire Santa Clarita Valley with three libraries and mobile library services. The three libraries include the Valencia Library, the Canyon Country Jo Anne Darcy Library, and the Newhall Library. A description of the three libraries and the mobile book service as of July 2004 follows.<sup>1</sup>

##### **Valencia Library**

The Valencia Library, located at 23743 West Valencia Boulevard in Valencia, serves as the main library within the Santa Clarita Valley and is located approximately 3.4 miles north of the project site. This library is a government publications repository. The library is approximately 23,966 square feet in size and contains 284,928 items including 17,255 audio recordings; 14,698 video recordings; 25,000 government publications; 332 magazine and newspaper subscriptions; other special materials such as telephone directories, microforms, topographic maps, local history information; and parenting information materials in its collection. The library maintains a staff of 13 full-time employees, 40 part-time employees, and 10 volunteers who work 35 hours per week.

##### **Newhall Library**

The Newhall Library, located at 22704 West 9th Street in Newhall, is approximately 2.0 miles northeast of the project site, serves as a branch library to the Valencia Library. This library is approximately 4,482 square feet in size and the current collection totals 81,243 items. This collection is comprised of 71,730 books; 5,227 audio recordings including audio books; 4,247 video recordings and DVDs; 83 magazine and newspaper subscriptions; and a local history collection. The library maintains a staff of four full-time employees, 11 part-time employees, and four volunteers who work 21 hours per week.

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<sup>1</sup> County of Los Angeles Library. *Community Libraries*. County Library Website: <http://www.colapublib.org/libs>. Accessed July 20, 2004.

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### Canyon Country Jo Anne Darcy Library

The Canyon Country Jo Anne Darcy Library, located at 18601 Soledad Canyon Road in Canyon Country, is approximately 7 miles northeast of the project site, also serves as a branch library to the Valencia Library.

The Canyon Country Jo Anne Darcy Library is a 17,000-square foot facility, with the library utilizing approximately 12,864 square feet, while the other 4,136 square feet have been leased to College of the Canyons by the City of Santa Clarita. The library contains a total of 101,439 items, including 87,706 adult and children's books; 102 newspaper and magazine subscriptions, an audiovisual collection with 7,273 audio recordings including books-on-tape; and 6,358 video recordings including DVDs. The library also has telephone books for most geographic areas in California; pamphlets; and a local history collection. The library maintains a staff of five full-time employees, 20 part-time employees, and five volunteers who work 26 hours per week.

### Mobile Library Services

A mobile library service is also provided to the outlying areas of the Valley, such as Castaic, Acton, Agua Dulce, Val Verde and the Friendly Valley Senior Community. This mobile library consists of one vehicle and contains 10,940 books, 1,442 audio recordings, 1,964 video recordings, and nine magazines. The project site is not in an outlying area.

## FUNDING AND LEVEL OF SERVICE

Funding sources for the Public Library consist of, in descending proportions: property taxes, County General Fund allocation, a special tax, and revenue from fines, fees and other miscellaneous sources.<sup>2</sup> The Board of Supervisors has for several years made an allocation from the County General Fund. However, there is no guarantee of ongoing funding from the County General Fund as a specific budget allocation. Decisions on funding for the Public Library are made on an annual basis by the Board of Supervisors based on total available funding for all County services.

In 1994, the County Board of Supervisors adopted a community facilities district for extended library services and facilities in the unincorporated areas of the County and 12 cities, including the unincorporated area of the Santa Clarita Valley. On June 3, 1997, Proposition L was passed by a two-thirds majority, which assesses a special yearly tax of \$22.00 per parcel for library services.<sup>3</sup> Proposition L affects the unincorporated areas and eleven cities, including the City of Santa Clarita.

On October 27, 1998, the County Board of Supervisors established a permanent library fee of \$569.87 per residential unit, on all new residential development in the Santa Clarita Valley to mitigate impacts to County Library facilities. Currently, the County Library assesses a

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<sup>2</sup> Per information from the *Riverpark Draft Environmental Impact Report*, written correspondence from Michele Mathieu, County of Los Angeles Public Library, Library Headquarters, November 26, 2002.

<sup>3</sup> Per information from the *Riverpark Draft Environmental Impact Report*, telephone interview with Fred Hungerford, Staff Services, Los Angeles County Public Library, July 7, 1997.

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mitigation fee of \$665.00 per residential unit, which is subject to an annual Consumer Price Index (CPI) adjustment.

Currently, the only funding available for the replacement or expansion of library facilities is that generated from the developer fee program. The developer fees collected in the Santa Clarita planning area are currently insufficient for the construction of new facilities.<sup>4</sup>

The County Library has adopted a planning standard of 0.50 gross square feet and 2.0 items (books, periodicals, audio cassettes, videos, etc.) per capita. Currently, Valley-wide library square footage totals 41,672 square feet and 481,965 items. The library facilities and books and other materials in the Santa Clarita Valley area are at 0.23 square feet per capita and 2.47 items per capita, respectively.<sup>5</sup> Therefore, the Santa Clarita Valley area does not meet the County Public Library's desired planning standard for library space, but exceeds the standard for library items.

Other library resources may be available to area residents, including those located at local colleges (e.g., College of the Canyons, Masters College, and California Institute of the Arts), high schools, and junior high schools. These services augment County facilities by providing some residents with alternative sources for library materials. However, public and private educational facilities have rules and regulations concerning availability and general public use of library facilities. Some of these library facilities charge a fee to use their materials, and their use can be restricted.

### 5.18.2 SIGNIFICANCE THRESHOLDS

- ◆ Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to library services. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs: Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

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<sup>4</sup> Per information from the *Riverpark Draft Environmental Impact Report*, written correspondence from Michele Mathieu, County of Los Angeles Public Library, Library Headquarters, November 26, 2002.

<sup>5</sup> *Ibid.*

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### **5.18.3 IMPACTS AND MITIGATION MEASURES**

- ◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD INCREASE DEMAND ON LIBRARY SERVICES PROVIDED IN THE SANTA CLARITA VALLEY, THEREBY INCREASING THE EXISTING NEED FOR ADDITIONAL FACILITIES AND BOOKS.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** The proposed project would involve the construction of 190 dwelling units with an estimated population of 585 residents (refer to Section 5.21, Population/Housing/Employment)

The Santa Clarita Valley area is currently under-served with regard to library facilities. Based on current conditions, the level of service provided by existing library facilities in the Santa Clarita Valley is not adequate to meet the increased demand of the proposed project. Specifically, based on Los Angeles County Library planning guidelines of 0.50 square feet of library facilities per capita and 2.0 library books per capita, it is anticipated that the proposed project population of 585 would require a total of 293 gross square feet of library facilities and 1,170 additional materials for the library system's collection.

Funding sources for the County Library consist of property taxes, County General Fund allocation, a special tax, and revenue from fines, fees and other miscellaneous sources collected by the City of Santa Clarita. Residents that would occur due to development of the proposed project would generate new tax revenues. However, per Michele Mathieu, of the County of Los Angeles Public Library, this level of increased funding addresses only library operations and, because of the uncertainty of the level of General Fund contribution, it is not adequate to offset the impact of the proposed project on the County Library's ability to construct new libraries and purchase new items (books, periodicals, audio cassettes, videos, etc.).<sup>6</sup> As such, the revenues collected would not adequately cover all the costs of serving the proposed project, and it would create a significant impact on the library system if library facility construction and items are not provided.

However, it is the opinion of the County Board of Supervisors and the County Public Library that payment of the library mitigation fee of \$665.00 per residential unit, would mitigate new development impacts on the County Public Library to a less than significant level. Based on the current library mitigation fee of \$665.00 per unit, the estimated fees that would be collected from the project to pay for new library construction and item purchases would be \$126,350, if all proposed units are constructed.<sup>7</sup>

#### **Mitigation Measures:**

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<sup>6</sup> Written correspondence from Michele Mathieu, County of Los Angeles Public Library, Library Headquarters, November 26, 2002.

<sup>7</sup> This calculation is determined by multiplying \$665.00 by 190 residential units, which totals \$126,350.

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- LIB1 The project applicant shall pay the standard Los Angeles County Library mitigation fee of \$665 per dwelling unit, or other amount determined to be appropriate by the County of Los Angeles Public Library at the time of building permit issuance.

*Level of Significance After Mitigation:* Less Than Significant Impact.

### 5.18.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- ◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREASE DEMANDS FOR LIBRARY SERVICES AND MATERIALS IN THE SANTA CLARITA VALLEY.***

*Level of Significance Prior to Mitigation:* Significant Impact.

**Impact Analysis:** The proposed project and related projects would create additional demand for library services, facilities, and materials within the Santa Clarita Valley. Nonetheless, as previously discussed, the Los Angeles County Board of Supervisors considers payment of fees for new residential development projects adequate mitigation for library service impacts. Based on the amount of residential development proposed as part of the proposed project and related projects, the County would require payment of \$665 per dwelling unit to mitigate library service impacts. Given that the proposed project and related projects would pay requisite library fees to the County, cumulative impacts to library facilities and services would be less than significant.

**Mitigation Measures:** Please Refer to Mitigation Measure LIB1. No additional mitigation is required.

*Level of Significance After Mitigation:* Less than significant.

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## **5.19 PARKS AND RECREATION**

Information in this section is derived from the County of Los Angeles Santa Clarita Area Plan, and local, county, state and federal recreation facility records.

### **5.19.1 ENVIRONMENTAL SETTING**

#### **LOCAL AND REGIONAL PARKS**

##### **City of Santa Clarita Parks**

As shown in Table 5.19-1, City of Santa Clarita Parks, the City has a total of 5 parks within approximately 2 miles of the project site totaling 37.4 acres. The developed parks contain amenities, such as children's play areas, multi-purpose fields, restrooms, volleyball courts, picnic tables, etc.

**Table 5.19-1  
City of Santa Clarita Parks**

<b>Parks</b>	<b>Acreage</b>	<b>Location</b>
Almendra Park	4.30	23420 Alta Madera Drive, Valencia
H.M. Newhall Memorial Park	14.30	24923 Newhall Avenue, Newhall
Old Orchard Park	5.40	25023 Avenida Rotella, Valencia
Valencia Glen Park	7.30	23750 Via Gavola, Valencia
Valencia Meadows Park	6.10	25671 Fedala Road, Valencia
<b>Total Park Acreage</b>	<b>37.4</b>	

Source: Per Jessica Humphries, City of Santa Clarita Department of Park, Recreation and Community Services, March 30, 2005.

##### **County of Los Angeles Parks**

County parks located within the jurisdictional boundaries of the City of Santa Clarita or within its established planning area are described in Table 5.19-2, Existing and Proposed County and State Parks and Recreation Facilities in the City of Santa Clarita Valley Area Plan Planning Area. Most of the County's parks are community-orientated and regional in nature, having parkland in excess of ten acres in area. Of the 23 County existing and proposed parks in the City's planning area, two are 50 acres or larger in area.

The largest of these parks is the 8,700-acre Castaic Lake State and County Recreation Area. This multi-use park is located north of the project site in the unincorporated area of Castaic and includes 2,600 surface acres of water contained in an upper and lower reservoir system. Castaic Lake reservoir and surrounding land is owned by the state; however, the County has a lease on the land and operates the upper lake, Castaic Lake Reservoir, and the lower lake, Castaic Lagoon.<sup>1</sup> Facilities at the upper lake include major boat ramps and supporting facilities with fishing, boating, water and jet skiing, and parking for boats and trailers. Development around

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<sup>1</sup> Per communication with Lillie Lowery, Los Angeles County Department of Parks and Recreation, January 7, 2003.

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the 180-acre Castaic Lagoon includes major picnic areas for groups and families, swimming beaches, parking areas, non-motorized boat facilities, and general day-use recreation facilities, such as comfort stations. It is important to note that only the Santa Clarita Woodlands Park (located directly south of the proposed project) and the Pico Canyon Park would directly serve the project, given their relatively close proximity.

**Table 5.19-2  
Existing and Proposed County Parks and Recreation Facilities  
in the Santa Clarita Valley Planning Area**

	Acres	Type		Acres	Type
<b>CITY OWNED PARKLAND</b>			<b>COUNTY OWNED PARKLAND</b>		
Almendra Park	4.3	Neighborhood	Acton Park	12.5	Neighborhood
Begonias Lane Park	4.2	Neighborhood	Acton Open Space	76.8	Regional
Bouquet Canyon Park	10.5	Neighborhood	Castaic Sports Complex	51.0	Recreation
Bridgeport Park	16.0	Community	Chesebrough Park	5.1	Neighborhood
Canyon Country Park	19.3	Community	Del Valle Park	5.8	Neighborhood
Central Park	80.0	Metro-Regional	Hasley Canyon Park	5.4	Neighborhood
Circle J Ranch Park	5.3	Neighborhood	Jake Kuredjian Park	5.0	Neighborhood
Creekview Park	5.0	Neighborhood	Pico Canyon Park	18.0	Neighborhood
Newhall Park	14.3	Community	Plum Canyon/David March Park	12.9	Neighborhood
North Oaks Park	2.3	Special Use	Northbridge Park <sup>1</sup>	9.8	Neighborhood
Oak Springs Canyon Park	5.7	Neighborhood	Richard Rioux Park	15.4	Community
Old Orchard Park	5.4	Neighborhood	Val Verde Park	57.6	Regional
Pamplico Park	7.6	Neighborhood	William S. Hart Park <sup>2</sup>	224.0	Regional
Santa Clarita Park	7.3	Neighborhood	<i>Subtotal</i>	499.3	
Valencia Glen Park	7.3	Neighborhood	<b>STATE OWNED PARKLAND<sup>3</sup></b>		
Valencia Meadows Park	6.1	Neighborhood	Castaic Lake State Recreation Area	8,700.0	Regional
<i>Subtotal</i>	200.6		Placerita Canyon Nature Center	341.0	Regional
			Santa Clarita Woodlands Park	3,169.7	Regional
			Vazquez Rocks Park	739.5	Reservation
			<i>Subtotal</i>	12,950.2	
<b>Total</b>	<b>13,650.1</b>				

1,2. These parks are located within City of Santa Clarita limits, but are maintained by the County of Los Angeles.

3. State Owned Parklands are located in the unincorporated portions of the Planning Area and are operated by Los Angeles County.

Source: City of Santa Clarita Department of Parks, Recreation and Community Services 2003, County of Los Angeles Department of Parks and Recreation 2003

## STATE PARKS

The two state parks within the SCV Planning Area are the Santa Clarita Woodlands State Park and the Placerita Canyon State Park, which are described below.

### Santa Clarita Woodlands State Park

This 3,000 plus-acre state park is located west of Interstate 5, adjacent to the Ed Davis Park, and may be accessed via either the Lyons Avenue or the Calgrove/The Old Road interchanges. The creation of this park involved a land transaction that included the City of Santa Clarita, Chevron,

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and the Santa Monica Mountains Conservancy as the primary participants.<sup>2</sup> The transaction involved the donation of 851 acres of land historically owned by Chevron, with the Conservancy purchasing another 2,184 acres.

Santa Clarita Woodlands State Park includes the 145-acre Ed Davis/Towsley Canyon Park at 24255 The Old Road in Newhall, the three-mile Pico Canyon Trail, the 2.4-mile Rice Canyon Trail, and the 3.8-mile East Canyon Trail. The facilities at Towsley Canyon Park include trails for hiking, mountain biking and equestrian uses; picnic areas; the Sonia Thompson Nature Center; the Towsley Canyon Lodge available for daily or overnight use; and restroom facilities with a drinking fountain.

This park is located directly south of the proposed project.

### **Placerita Canyon Park**

Placerita Canyon Park is located east of the Antelope Valley Freeway and is accessible from Placerita Canyon Road. It is a state park that is operated by the Los Angeles County Department of Parks and Recreation, and it contains a nature center, picnic areas, overnight and day camping facilities, a children's play area, hiking trails, and an equestrian campground.

### **FEDERAL PARKS**

The SCV Planning Area encompasses a portion of the Angeles National Forest and is adjacent to the Los Padres National Forest. Each of these federal parks is briefly described below.

#### **Angeles National Forest**

Portions of the planning area encompass a portion of the 650,000-acre Angeles National Forest, which offers a wide range of camping (with fees) and picnicking facilities. A segment of the Pacific Crest National Trail extends for 160 miles through the forest, providing views of the Antelope Valley; varied terrain, vegetation, and wilderness; and the San Gabriel Mountains. In addition, there are hundreds of miles of trails in the forest. The water reservoirs charge entrance fees, as well as boat launching, boat rental, and overnight camping fees. In addition to providing recreational opportunities, the forest provides a home for an array of wildlife. User fees (Adventure Pass) are required for any use of the Angeles National Forest.

#### **Los Padres National Forest**

The 311,294-acre Ojai Ranger District of the nearly two million-acre Los Padres National Forest is located primarily in the northern section of Ventura County; however, a portion of the Los Padres National Forest crosses the Los Angeles/Ventura County line and is within the SCV planning area boundary.

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<sup>2</sup> The Santa Monica Mountains Conservancy is a state agency created in 1980 under the auspices of the Resources Agency. It was initially established to preserve land and to provide opportunities for recreation in the Santa Monica Mountains and the Rim of the Valley Corridor. The Conservancy is primarily responsible for funding the acquisition of land with statewide and regional significance.

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Various recreation facilities are provided in the Los Padres National Forest, including hiking, equestrian and off-road vehicle trails, and camping areas (with fees) accessible by road and trail. There are 57 dispersed trail camps, 19 developed family campgrounds, and one developed group campground. There are many miles of recreation roads utilized by visitors as scenic drives and by off-highway vehicles. The forest has inventoried 373.7 miles of trails, including 17.7 miles of the scenic Gene-Marshall-Piedra Blanca National Recreation Trail, which begins at Reyes Creek Campground and ends at Lion Campground.<sup>3</sup> User fees (Adventure Pass) are required for any use of the Los Padres National Forest.

### TRAILS

#### Los Angeles County Trails

The County of Los Angeles Department of Parks and Recreation plans and maintains an extensive system of regional riding and hiking trails within the County, many of which extend to and within the SCV Planning Area. County trails located within the vicinity of the proposed project are listed in Table 5.19-3, Existing and Proposed County Trails, and are described below.

**Table 5.19-3**  
**Existing and Proposed County Trails**

Trail Name	Length (Miles)	Condition
Pico Canyon Trail	9.0	Proposed
Gavin Canyon Trail	8.0	Proposed
<b>Total</b>	<b>17.0</b>	

Source: Per James McCarthy, Trails Coordinator, Los Angeles County Department of Parks and Recreation.

#### *Pico Canyon Trail*

Pico Canyon Trail is proposed to be approximately nine miles in length beginning at the intersection of Potrero Canyon and the Santa Clara River just east of the Los Angeles/Ventura County line. Moving in an easterly direction, the trail is generally proposed to follow Potrero Canyon, and then connect to Pico Canyon ending at the mouth of the canyon just west of Interstate 5. At this juncture, the trail will connect to another County proposed trail (Gavin Canyon Trail) that will connect to the partially built Rim of the Valley Trail.

#### *Gavin Canyon Trail*

This approximately eight mile trail links Pico Canyon to Rim of the Valley Trail. The Rim of the Valley/Corridor Trail is discussed immediately below.

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<sup>3</sup> Ventura County General Plan, Public Facilities and Services Appendix, May 1988.

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### Regional Trails in the SCV Planning Area

#### *Rim of the Valley Corridor/Trail*

The Santa Monica Mountains Conservancy Rim of the Valley Corridor includes land in the mountains that surround the San Fernando, Simi, Conejo, and La Crescenta Valleys (i.e., the San Rafael and Simi Hills, and the Verdugo, San Gabriel, and Santa Susana Mountains). It is actually an overlay on private property and the Corridor is a proposal envisioning an approximately 200 mile state trail. At the present time, only ten miles have been acquired in the Santa Susana Mountains. Located on both public and private land within the Rim of the Valley Corridor, it will connect many of the regional trails that, in turn, connect to the local trails within the unincorporated portions of Los Angeles County and the City of Santa Clarita.

#### *Pacific Crest National Trail*

A segment of the Pacific Crest National Trail extends for 160 miles through the Angeles National Forest, providing views of the Antelope Valley, varied terrain, vegetation, wilderness, and the San Gabriel Mountains. Campgrounds, picnic areas, and staging areas are available along the trail. In all, the Pacific Crest National Trail traverses 2,500 miles from Canada to Mexico. The trail was established under the National Trails System Act of 1968 and is part of the National System of Recreation and Scenic Trails. Only foot and equestrian travel is permitted on the trail; motorized vehicles and mountain bicycles are prohibited. Other trails that connect to the Pacific Crest National Trail include Fish Canyon Trail, Bear Canyon Trail and Gillette Mine Trail. All of these trails are located within the Angeles National Forest land and are north of Castaic Lake. The proposed County Castaic Creek Trail would connect to these trails.

#### **City of Santa Clarita Trail System**

The City of Santa Clarita has adopted a system of trails to provide pedestrian, bicycle and equestrian connections to residential communities within the City of Santa Clarita and to the County of Los Angeles regional trail system as well. City trails in the vicinity of the proposed project are listed below in Table 5.19-4, City of Santa Clarita Trails.

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**Table 5.19-4  
Existing and Proposed City Trails**

Trail Name	Length (Miles)
Newhall Ranch Road Trail	1.0
South Fork Trail	6.8
<b>Total Trail Miles</b>	<b>7.8</b>
Source: Per Jessica Humphries, City of Santa Clarita Department of Park, Recreation and Community Services, March 30, 2005.	

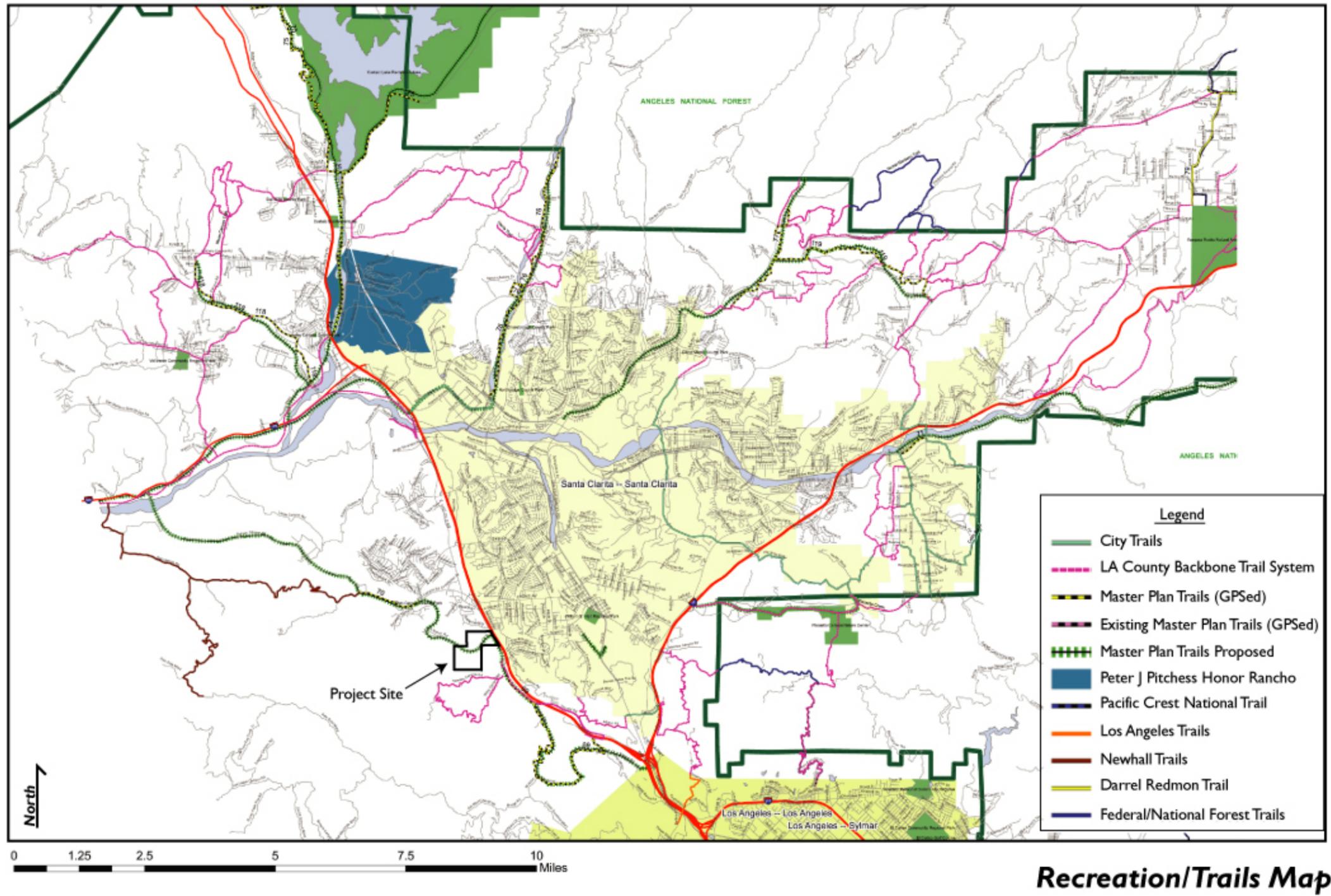
***Newhall Ranch Road Trail***

The Newhall Ranch Road Trail totals 1.0 mile and extends from McBean Parkway to Bouquet Creek.

***South Fork Trail***

This 6.8-mile trail runs along the South Fork of the Santa Clara River from Newhall at Orchard Village Road north to the Santa Clara River Trail in Saugus. An extension of this trail from Orchard Village Road to Towsley Canyon Park is proposed.

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Source: Los Angeles County Department of Parks and Recreation

Exhibit 5.19-1

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### COUNTY OF LOS ANGELES PARK STANDARDS

Current Los Angeles County parkland dedication requirements for the proposed project (as described in sections 21.24.340, 21.24.350, 21.28.130, and 21.28.140 of the Los Angeles County Code, Title 21, Subdivision Ordinance) specify 3.0 acres of regional park area for each 1,000 residents.

Long-term Los Angeles County park planning standards specify 6 acres of regional park area for each 1,000 residents. The regional park standard applies to both incorporated and unincorporated areas. The local park planning standard used by the County requires 4 acres per 1,000 residents.<sup>4</sup>

### CURRENT AND FUTURE NEEDS

As of January 1, 2003, approximately 13,439 acres of regional parks (existing regional and metro-regional parks and reservation), and 379.5 acres of local parks (210 acres of existing special use, neighborhood and community parks and 169.5 acres of passive parkland), were identified in the Santa Clarita Valley Area Plan planning area. The planning area population in 2000 was 212,611. Using current park standards applied to the 2000 population, the Planning Area would need 1,275 acres of regional parks and 850 acres of local parks to meet established standards.

### 5.19.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to parks and recreation. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and
- ◆ Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Additionally, The State of California (California Government Code, Section 66477 [Quimby Act]) has established a standard of three acres per 1,000 population as the proportionate amount of land necessary to satisfy the park requirement for new subdivisions. This standard is consistent with the current County of Los Angeles park requirements for new subdivisions. Fees in-lieu of the dedicated parkland, construction of amenities on dedicated parkland that total less than the standard, but are of equal dollar value to the park fee, or a combination of the three are all considered to satisfy the requirement.

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<sup>4</sup> One Valley, One Vision, Community Services, Section 5.2, Parks and Recreation, page 5-36, Standards.

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### 5.19.3 IMPACTS AND MITIGATION MEASURES

#### PROPOSED PARKS AND TRAILS IN THE PROJECT

##### Trails

Lyon Canyon Ranch proposes a private and publicly maintained trail system as part of its recreation component (refer to [Exhibit 3-7, Trails Plan](#)). The plan recognizes that bicycle, pedestrian, and possibly equestrian circulation is fundamental to creating a pedestrian-friendly/open space-oriented community. The proposed project includes the dedication of a 12-foot wide regional trail easement (Gavin Canyon Trail) that will traverse the central portion of the site from the Old Road to areas west of the project site. These areas are planned for future trail development by the County of Los Angeles Department of Parks and Recreation and the project developer. This trail will be open to the public and will be accessible to equestrians, hikers, joggers, and bicyclists. Local trails are also proposed within the project site that will be open to the public and will be maintained by the project's HOA. The internal street system proposed for Lyons Canyon Ranch will also provide pedestrian walkways along the collector roads and all neighborhood streets.

All circulation elements within the proposed neighborhoods have been located and designed to be as accessible as possible to meet Los Angeles County construction standards. To the extent feasible, off-street trail connections and the existing regional trails will not contain prohibitively steep topography that will limit their design and use. In addition, the final location of all on-site trails will be determined through consultation with the Los Angeles County Parks and Recreation Department and the Department of Regional Planning to help ensure minimal impacts to the environment during both construction and use of the trail systems.

Santa Clarita Valley Regional Trails are located on the south and northwest sides of the project area. These trails are a part of the Towsley Canyon Park and a larger informal regional trail system that currently cross the project site. The trail connections through the project area would be maintained by the proposed project, providing trail access to the existing residential development to the north and other regional destinations.

##### Parks

To provide usable areas for passive and active recreational activities, Lyon Canyon Ranch includes four open space areas, which can support passive recreational uses, a 1.39-acre Recreation Lot, and recreational areas within the senior housing development.

The four Open Space Lots will primarily be used for passive recreation, include use as a trailhead, hiking and nature interpretation, and limited areas for picnicking. These open spaces have natural meadows and native oak trees. For protection and preservation of the on-site Oak trees, the areas below the oak tree drip line shall be kept free of landscaping and irrigation.

The 1.39-acre Recreation Lot area is planned for use as an active recreation area for residents of the Lyons Canyon Ranch project. This park is envisioned as a small open area with paths along

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the street edges and an open turf area. However, the project developer has reserved the right to construct a pool and pool house based on market demand. The Recreation Lot area and improvements will be for resident use only and will be maintained by the project's HOA.

The area proposed for senior housing will also include a private active recreational area for use by residents of Lyons Canyon Ranch.

### NEIGHBORHOOD AND COMMUNITY PARKS

◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD INCREASE USAGE OF NEIGHBORHOOD AND COMMUNITY PARKS.***

***Level of Significance Prior to Mitigation:*** Significant Impact.

***Impact Analysis:*** The County of Los Angeles has adopted park dedication requirements for new subdivisions that are applicable to the proposed project. These requirements are that land be dedicated, or equivalent fees be paid, for neighborhood and community park or recreational purposes at the rate of three acres per 1,000 persons residing within the project.<sup>5</sup>

As previously described, the proposed project includes 5 open space lots, 6 debris/detention basin lots, and 1 recreation lot. Open space and recreational components are divided into five large dedicated areas totaling approximately 123.6 acres. Approximately 72.5 percent of Lyon Canyon Ranch project is proposed as open space and recreational use; large open space areas surround each of the residential development clusters, providing a natural setting for the neighborhoods and preserving the vast majority of native oak trees and slopes on the site for passive recreational opportunities.

The project proposes to improve a 1.39 acre park for active recreation, and recreational opportunities within the area proposed for senior housing. These improvements, combined with the dedication of land for open space preservation and construction of the Gavin Canyon regional public trail will exceed the County's parkland dedication requirements.

### **Mitigation Measures:**

PR1 The project shall comply with the County Ordinance and/or Quimby Act by paying the in-lieu fees totaling \$364,931 to the County of Los Angeles.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

Implementation of the recommended mitigation measure, which requires that project-related park requirements be met, based on the County Ordinance and Quimby Act standards through a combination of park development and/or fee payments, would reduce impacts to a less than significant level.

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<sup>5</sup> Per the County of Los Angeles Parks and Recreation Department Conceptual Park Obligation Estimate, the proposed project is required to develop or dedicate 1.54 acres for public or private park purposes.

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### REGIONAL PARKS

- ◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD INCREASE USAGE OF REGIONAL PARKS.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** While it is possible that project residents would use the adjacent Santa Clarita Woodlands Park, no significant regional parkland impacts are expected. Since the project proposes a total of 8.25 acres of active and passive park within 129.5 acres of dedicated open space, it is not expected that the project residents would, in any appreciable manner, need to use regional parks that are located off-site. This is not to say the project residents would not use off-site facilities. In fact, the Lyons Canyon Ranch project would provide trail linkages to the extensive trail network and parks within the Santa Monica Mountains Conservancy (SMMC) property located south of the project site and trail alignments planned by the County of Los Angeles located west of the project site. However, by providing a neighborhood park, private recreation areas, and walking trails, the proposed project would help alleviate the existing Countywide shortage of parkland because facilities throughout the County serve all communities. Consequently, impacts to regional parks would be considered less than significant.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

### STATE AND FEDERAL RECREATION/FORESTS

- ◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD INCREASE USAGE OF STATE AND FEDERAL RECREATION/FORESTS.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** It is anticipated that new residents of the proposed project would use the state and federal recreation areas and forests. In fact, the Lyons Canyon Ranch plan would provide trail linkages to the SMMC property located south of the project site. As such, increased usage would be considered a potentially adverse impact. However, the State and National Forest facilities charge user fees for water sports and overnight camping at the reservoirs and camping areas. Additionally, state and federal taxes, which would be paid by residents and businesses located within the project site, would be available for maintenance of these facilities. Consequently, as with regional and local off-site facilities, no significant state or federal parkland impacts would occur.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

### TRAILS

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◆ ***DEVELOPMENT OF THE PROPOSED PROJECT WOULD INCREASE USAGE OF LOCAL TRAILS.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** As previously discussed, the Trails Plan for the Lyons Canyon Ranch Project area includes a trail system that provides access to the regional trail network within the SMMC property located south of the project site, open areas and connections between living areas, shopping, work, entertainment, schools, and civic and recreational facilities.

New residents of the proposed project are expected to use the existing and proposed City of Santa Clarita public trails and the County's existing and proposed trail systems in the Santa Clarita Valley area as they are constructed. Anticipated use of the surrounding trails would increase the density of users on such trails once they are constructed. After project completion, the trails would connect to local and regional trails. The proposed trail alignments would provide linkages to local and regional trails.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

## **5.19.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES**

◆ ***DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED PROJECTS WOULD INCREASE DEMANDS FOR PARKS AND RECREATIONAL FACILITIES IN THE SANTA CLARITA VALLEY.***

***Level of Significance Prior to Mitigation:*** Less Than Significant Impact.

***Impact Analysis:*** The County of Los Angeles' park dedication requirements for new subdivisions are applicable to the proposed project and related projects in the County that include residential development. Per the Quimby Act, the County requires that land be dedicated, or equivalent fees be paid, for neighborhood and community park or recreational purposes at the rate of three acres per 1,000 persons residing within the project. The expected cumulative population growth associated with the proposed project and related projects, of 60,395 persons, would create a need for an additional 181 acres of parkland, regardless of whether this growth occurs within the City of Santa Clarita or unincorporated areas. The proposed project includes the development of a 1.39 acre neighborhood park and the dedication of 129.5 acres for open space and trail usage, while the related projects include 28 acres of parks, some or all of which would count toward park dedication requirements, as applicable. As previously discussed, fees may also be used to satisfy parkland requirements in-lieu of the dedicated parkland. The actual park dedication calculations and credit determinations would be based on the subdivision maps submitted for each residential development among the cumulative projects. Given compliance with park dedication requirements and/or fees, as applicable, cumulative parks and recreation impacts would be less than significant.

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**Mitigation Measures:** Refer to Mitigation Measure PR1. No additional mitigation is required.

***Level of Significance After Mitigation:*** Less Than Significant Impact.

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## 5.20 LAND USE

The purpose of this section is to identify the existing land use conditions, analyze proposed project compatibility with existing uses and consistency with relevant planning policies and to recommend mitigation measures to avoid or lessen the significance of potential impacts. Information presented in this section is based upon the County of Los Angeles General Plan (adopted by the Los Angeles County Board of Supervisors on November 25, 1980), the Santa Clarita Valley Area Plan (adopted by the Los Angeles County Board of Supervisors on February 16, 1984) as well as the Southern California Association of Governments (SCAG) Regional Comprehensive Plan and Guide Policies and strategies of the SCAG Compass Growth Visioning Program. The General Plan (countywide chapters and elements) “address issues which transcend local community interests, and are intended to identify and promote the broader public interests of the County.”<sup>1</sup> This section identifies on-site and surrounding land use conditions and land use policy requirements set forth by the County of Los Angeles for the unincorporated portions of the Santa Clarita Valley.

### 5.20.1 ENVIRONMENTAL SETTING

#### ON-SITE LAND USES

The Lyons Canyon Ranch project site encompasses approximately 234.8-acres of vacant land located adjacent to the western City of Santa Clarita boundary in unincorporated Los Angeles County. The property is contiguous to The Old Road, west of Interstate 5, just south of Sagecrest Circle and north of Calgrove Boulevard near Towsley Canyon State Park. The project site is currently undeveloped vacant land and no active land uses currently exist on-site.

The Land Use policies set forth in the Land Use Element of the Area Plan cover a wide range of issues, including projected land use and urban growth accommodation, the pattern of population and land use distribution, costs of population and urban growth, environmental hazards and constraints, environmental sensitivities, compatibility, adequacy of public services, traffic and circulation, recycling, and resource conservation.

The Los Angeles County Santa Clarita Valley Area Plan (SCVAP) designates the 234.8 acre proposed project site as follows:

**Non-Urban 2 (N2):** A total of 51 acres are designated as N2. The SCVAP describes compatible Non-Urban 2 land uses as low density residential with a density ranging from 0.5 to 1.0 dwelling units per acre. Residential density allocations within the SCVAP should be considered average densities to promote clustering, the provision of additional open space, and the avoidance of hazardous lands.

**Hillside Mountainous (HM):** A total of 120.5 acres are designated as HM. The SCVAP describes the HM land use designation as “non-urban” where the slope typically exceeds 25%. “Within these areas, it is intended that development will occur in the most suitable and least

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<sup>1</sup> Los Angeles Count General Plan, Page 4.

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environmentally sensitive areas, and will be designed in terms of scale and intensity in a manner compatible with the natural resource values and character of the area<sup>2</sup>.”

Hillside Mountains – Significant Ecological Area (HM-S): A total of 61 acres are designated as HM-S. The SCVAP describes the HM-S land use designation as those lands that are “...ecologically important or fragile land and water areas valuable as plant or animal communities.”<sup>3</sup> In addition to the HM-S land use designations that describe the type, intensity, and density of development throughout the Santa Clarita Valley planning area, the General Plan Land Use map contains overlay designations, which identify additional potential for development and/or preservation.

The project site contains portions of two designated SEAs: the Santa Susana Mountains SEA (SEA No. 20) and the Lyon Canyon SEA (SEA No. 63). The General Plan Land Use Element indicates that the Significant Ecological Area (SEA) designation requires site level analysis of proposed development projects within Significant Ecological Areas to insure that adverse impacts upon resources within identified Significant Ecological Areas are mitigated.”

The General Plan land use and zoning designations for the project vicinity are shown in Exhibit 5.20-1, Existing General Plan and Zoning Map.

### **SURROUNDING LAND USES**

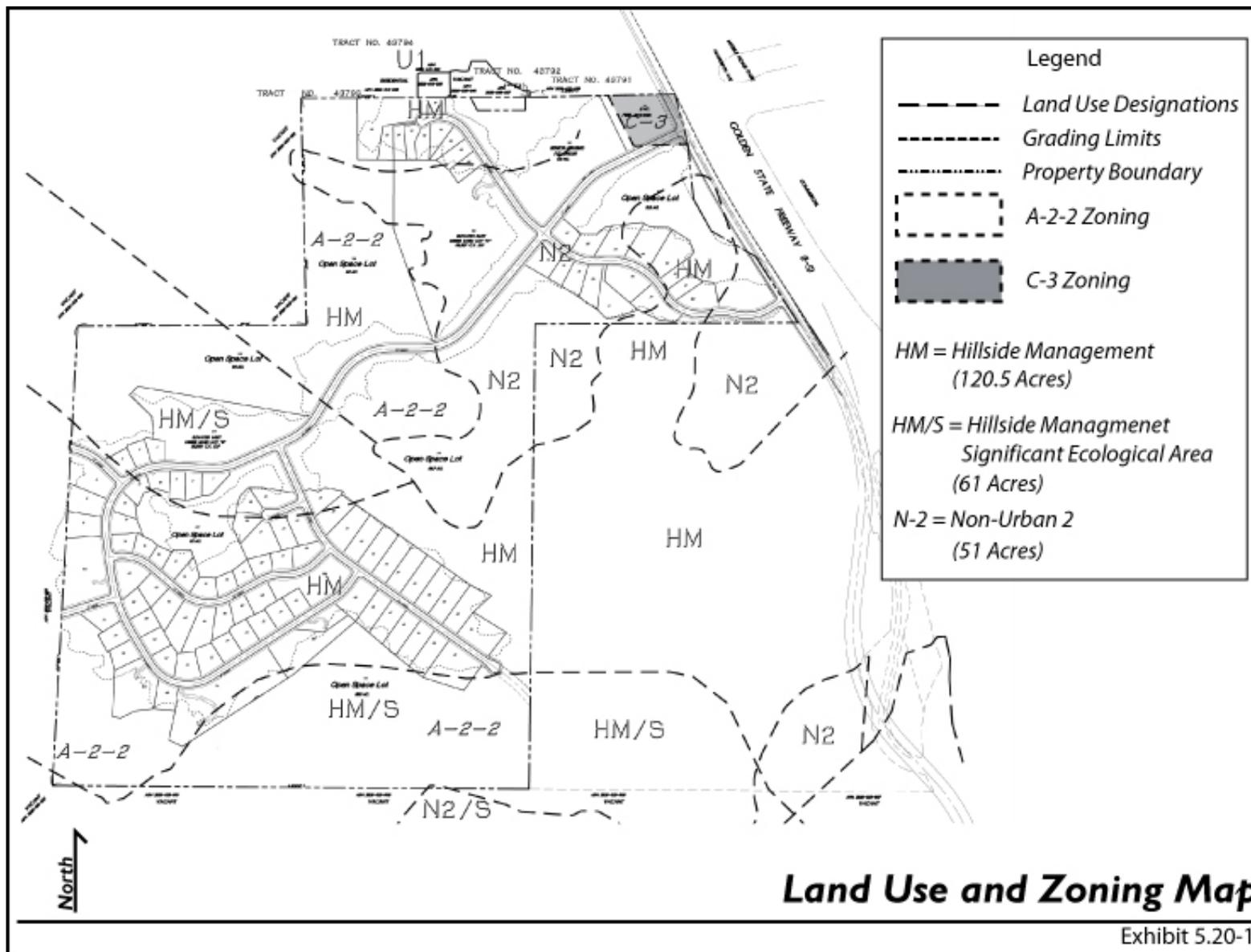
The project site is bounded to the north by residential uses on Sagecrest Circle and the Stevenson Ranch development opposite of Sagecrest Circle; on the east by The Old Road, Interstate 5, and residential uses; on the south by Towsley Canyon State Park and vacant land (owned by the United States Department of the Interior Bureau of Land Management [BLM], the Santa Monica Mountains Conservancy [SMMC], and private landowners); and on the west by vacant land (owned by BLM, SMMC, and private landowners). Surrounding land uses are depicted in Exhibit 5.20-2, Surrounding Land Uses.

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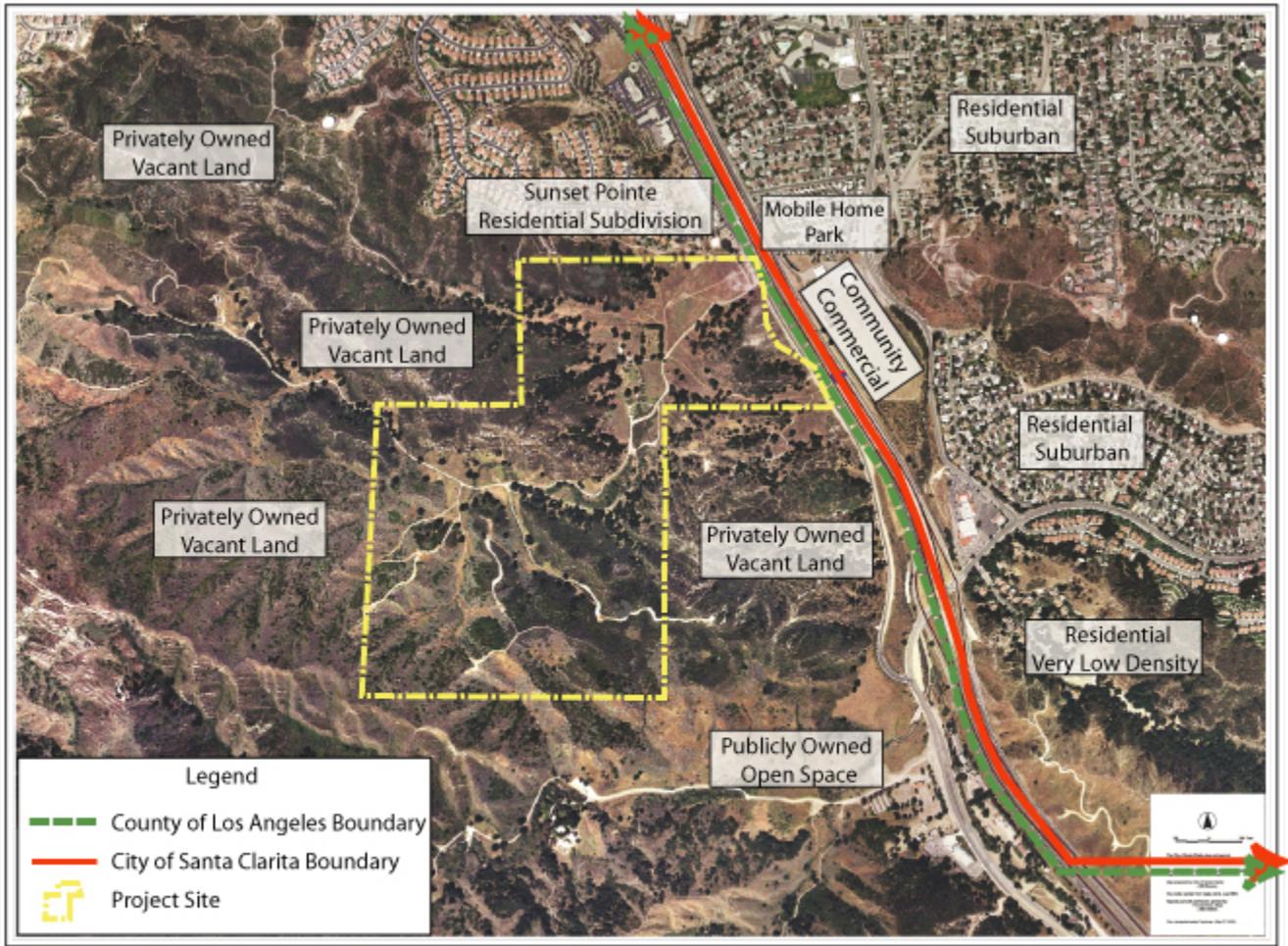
<sup>2</sup> Santa Clarita Valley Area Plan, Page 39.

<sup>3</sup> Santa Clarita Valley Area Plan, Page 41.

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**Surrounding Land Uses Map**

Exhibit 5.20-2

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## RELEVANT PLANNING DOCUMENTS

### County of Los Angeles Santa Clarita Valley Area Plan

The Santa Clarita Valley Area Plan was adopted by the Los Angeles County Board of Supervisors in 1984, with other Chapters and Elements of the Los Angeles County General Plan. The Area Plan was comprehensively updated and approved in December, 1990. Currently the City of Santa Clarita and Los Angeles County are in the process of creating a new Area Plan for this region of the County.

The Santa Clarita Valley Area Plan comprehensive update in 1990 provided for a major upward revision in the land use allocations projections for population, employment, and housing. The policies in the Area Plan cover Land Use, Housing, Community Revitalization, Community Design, Economic Development, Circulation, Public Services and Facilities, Environmental Resource Management, Noise, Safety, and Energy Conservation. A discussion of the primary purpose for each element is provided below.

## ON-SITE ZONING DESIGNATIONS

The project site is currently located within unincorporated Los Angeles County and is zoned as Heavy Agricultural (A-2-2/A-2-1). Please refer to Exhibit 5.20-1 to view the project's Zoning designations.

### 5.20.2 SIGNIFICANCE THRESHOLD CRITERIA

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to land use. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- ◆ Disrupt or physically divide an established community (including a low-income or minority community);
- ◆ Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- ◆ Conflict with any applicable habitat conservation plan or natural community conservation plan, and/or policies by agencies with jurisdiction over the project.

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### **5.20.3 IMPACTS AND MITIGATION MEASURES**

The project site is vacant and, as such, it will not physically divide an established community, including any low-income or minority community; therefore, this significance criterion does not apply to the project. For the purposes of this impact analysis, a significant impact would occur if implementation of the proposed project would result in inconsistencies or conflicts with the adopted goals and policies of the County of Los Angeles Santa Clarita Valley Area Plan and/or County of Los Angeles Development Code Burden of Proof Statements for a Conditional Use Permit ( including CUPs for Hillside Management Areas, Significant Ecological Areas, Density Controlled Developments, Senior Housing Density Bonus, and Oak Trees).

The Lyons Canyon Ranch project has been designed to achieve compatible, orderly, and efficient development of the project area.

The project further establishes the following:

- ◆ Identification, location, character, and intensities of the planned residential development activities;
- ◆ Alignment and formal design of the vehicle and pedestrian circulation system;
- ◆ Identification and location of all public and private facilities and infrastructure necessary to facilitate the project; and
- ◆ A compatible design theme for the project area, creating continuity within the project area and compatibility with existing and proposed surrounding land uses.

To establish consistency with County of Los Angeles land use policies and guidelines, the project's Burden of Proof statements serve as both the County's policy consistency statement regarding development of the project site, as well as a tool to implement the provisions of the County's General Plan as it applies to the project site. Therefore, the Lyons Canyon Ranch Burden of Proof Statements were used to confirm the project's consistency with the County General Plan as required by the following thresholds of significance established by CEQA Appendix G.

- ◆ **WOULD THE PROPOSED PROJECT CONFLICT WITH ANY APPLICABLE LAND USE PLAN, POLICY, OR REGULATION OF AN AGENCY WITH JURISDICTION OVER THE PROJECT ADOPTED FOR THE PURPOSES OF AVOIDING OR MITIGATING AN ENVIRONMENTAL EFFECT?**
- ◆ **IS THE PROPOSED PROJECT CONSISTENT WITH APPLICABLE HABITAT CONSERVATION PLANS OR NATURAL COMMUNITY CONSERVATION PLANS, AND/OR POLICIES BY AGENCIES WITH JURISDICTION OVER THE PROJECT?**

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**Level of Significance Before Mitigation:** Significant Impact.

Impact Analysis: In order to be found consistent with the goals and policies of the Santa Clarita Valley Area Plan, the project needs to demonstrate consistency with the Burden of Proof statements required for a Conditional Use Permit for development within the Hillside Management land use designation, a Conditional Use Permit for development within a Significant Ecological Areas, and a Conditional Use Permit for a Density Bonus.

### **Conditional Use Permit Burden of Proof**

A project requesting a Conditional Use Permit (22.56.040) must demonstrate that the project, as proposed, meets the following burden of proof:

- 1) The project would not adversely affect the health, peace, comfort or welfare of persons residing or working in the surrounding area, or
- 2) The project would not be materially detrimental to the use, enjoyment or valuation of property of other persons located in the vicinity of the site, or
- 3) The project would not jeopardize, endanger or otherwise constitute a menace to the public health, safety or general welfare.

The following statement establishes the project's consistency with the statements above:

The proposed project would be located within the close vicinity of a variety of land uses including: large single-family estate housing, multi-family housing, agricultural activities, parkland and open space (Towsley Canyon Park), commercial office uses, and smaller lot detached single-family dwellings. Although there is not a singular land use type in the project vicinity, there is a noticeable suburban character throughout the nearby land uses. A feeling of openness, natural beauty, and sub-urban design themes help to create this character.

In order to remain consistent with the surrounding area and ensure that the project will not: (1) adversely affect the health peace, comfort or welfare of community members, (2) negatively affect the value and/or enjoyment of nearby property, or (3) jeopardize the public health, safety or general welfare, the proposed project incorporates a mix of land uses that are consistent in size, architectural quality, density, and topographic orientation when compared to the surrounding existing commercial, residential, and open space uses to the north and south.

Within the project boundaries, larger estate lots are proposed in the southern portion of the development, while the northern portion of the project is proposed to include smaller lots with smaller detached homes, and attached condominiums for senior citizens. Both active and passive recreational opportunities are proposed to support both development areas within the subject site. The proposed residences will be consistent with the suburban character of the surrounding Stevenson Ranch community and will include recreational amenities such as active recreation areas and trails. The establishment of a suburban residential community, with open space areas, and on-site recreational amenities will serve to perpetuate the use, enjoyment and value of future residents as well as other residents located in the vicinity of the site.

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The proposed project also intends to dedicate a fire station site located in the northeast corner of the site. This facility, which will be built by the County of Los Angeles Fire Department, will improve emergency and fire prevention services in the area and thus help preserve public health and safety.

The proposed site is adequate in size (234.8 acres) and shape to accommodate the yards, walls, fences, parking and loading facilities, landscaping and other development features prescribed in the Los Angeles County Development Code, or as is otherwise required in order to integrate the proposed project uses with the uses in the surrounding area. Overall, larger residential lots are proposed, which will provide ample opportunity to accommodate setbacks, walls, fences, parking and loading facilities, and on-site landscaping.

The subject site can adequately accommodate proposed development of 93 detached single-family residences and 93 senior housing condominiums consistent with Title 21 and Title 22 of the Los Angeles County Code. The proposed project is consistent with the site's General Plan Land Use and Zoning Designations and will therefore include the permitted yard areas, wall heights, boundary fences, landscaping requirements, and parking and loading facilities.

The proposed site is adequately served:

- ◆ By highways or streets of sufficient width and improved as necessary to carry the kind and quantity of traffic such use would generate, and
- ◆ By other public or private services as required.

The proposed project will be served by the Old Road, and the I-5 Freeway. These two roadways are designed to convey the kind and quantity of traffic the proposed project would generate. Interior roadways will be designed consistent with County of Los Angeles roadway design criteria. Right-of-way widths for interior streets are proposed at 64 feet, and 60 Feet feet. These street designs are consistent with Los Angeles County Department of Public Works standards. Both a primary and secondary means of access is proposed, thus meeting the vehicle circulation requirements established by the Los Angeles County Fire Department.

Other public services, such as law enforcement, fire prevention, water, sewer, library services, education, and solid waste would either provided by the appropriate County of Los Angeles Agency (law enforcement, fire prevention, sewer, and library), appropriate private company (water service provider), or local state agency (local school districts). An analysis of public services impacts was completed as part of the Environmental Impact Report. This report concluded that all public services could be provided to the proposed project without significantly impacting the servicing agency.

**Consistency Determination:** The proposed project meets the above described burden of proof criteria. It is important to note that certain elements of the project were found to create significant unavoidable impacts pursuant to the thresholds of significance established for Geology, Soils and Seismic Activity, Noise, Air Quality, Biological Resources, and Aesthetics and Visual Resources sections of this EIR. Please refer to the appropriate sections of this EIR for a more detailed analysis of these issues.

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### **Density Bonus Conditional Use Permit Burden of Proof**

A project requesting a Density Bonus pursuant to Section 22.56.202 C of the Los Angeles County Code must demonstrate that the project, as proposed, meets the following burden of proof:

- 1) The proposed project at the location proposed has been designed to be compatible with the surrounding area in terms of land use patterns, designs, and established community character;
- 2) The proposed will assist in satisfying affordable housing needs, and is viable in terms of continuing availability to meet such housing needs;
- 3) The proposed project shall be reasonably proximate to public transit, shopping, and except for senior citizen housing, employment centers; and
- 4) The requested incentives or concessions are required to make affordable housing units economically feasible.

- ◆ *The proposed project at the location proposed has been designed to be compatible with the surrounding area in terms of land use patterns, designs, and established community character;*

The proposed project would be located within the close vicinity of a variety of land uses including: larger lot single-family housing, multi-family housing, agricultural activities, parkland and open space (Towsley Canyon Park), commercial office uses, and smaller detached single-family dwellings. Although there is not a singular land use type in the immediate vicinity, there is a noticeable suburban character throughout the different array of nearby land uses. A feeling of openness, natural beauty, and predominantly residential design themes create this character.

The proposed project has been designed consistent with the community character of the surrounding areas. The project is proposed at an overall density of 0.79 residential units per acre and will include a mixture of single-family detached housing and multi-family senior housing. The existing residential tract development located north of the project site was constructed at a similar density with similar variation in residential product type. To help ensure compatibility with the surrounding open space and recreational uses surrounding the site, the proposed project will allocate 71% of the site as open space. A public trail system is proposed within these open space areas that will connect to the existing regional trail network established by the Santa Monica Mountains Conservancy and the County of Los Angeles. Future trails planned by the Santa Monica Mountains and the County of Los Angeles will also have the opportunity to connect.

- ◆ *The proposed project will assist in satisfying affordable housing needs, and is viable in terms of continuing availability to meet such housing needs;*

The proposed project will include 93 residential units designated for seniors (55 and older). This number of units represents 50% of the total project density. While the project does not include “affordable” housing units (as defined by the County of Los Angeles), the County’s adopted Housing Element identifies senior housing as an issue in need of special consideration, especially as a growing number of citizens reach retirement age and no longer desire to reside in their current households. The proposed senior housing will provide a residential product that is more

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affordable for senior citizens. In addition, the relocation of senior citizens from their current residence to the proposed project will create additional supply of much needed single-family housing. Therefore, the proposed project will assist in satisfying the County's overall housing needs.

- ◆ *The proposed project shall be reasonably proximate to public transit, shopping, and except for senior citizen housing, employment centers;*

The nearest fixed route-transit stops are Santa Clarita Transit Routes 5 and 6, which passes through the intersection of the Old Road and Pico Canyon Road, which is just over one-mile north of the project site. These transit stops provide direct access to the Stevenson Ranch Area, Hart High School, the Valencia Town Center and Canyon Country. Therefore, the proposed project should be considered reasonably proximate to public transit, shopping, and employment centers.

- ◆ *That the requested incentives or concessions are required to make affordable housing units economically feasible.*

The requested density bonus for seniors housing will provide equal numbers of traditional single-family and age restricted seniors housing. The requested increase in density will provide the project developer with the opportunity to provide a quality housing product in a setting and at a price more desirable for seniors. The requested increase in density from 124 units to 186 units will help offset the substantial site improvement costs and will allow the project developer to sell the restricted condominium units at a more affordable price (when compared to the detached single-family residences). The increase in density will also offset the additional costs associated with the construction and maintenance of public and private on-site recreational facilities (such as trails, parks, and a senior recreation area).

**Consistency Determination:** The proposed project meets the above described burden of proof criteria.

### **Hillside Management Conditional Use Permit Burden of Proof**

A project requesting development within an area designated as Hillside Management (Section 22.56.215 f.1) demonstrate that the project, as proposed, meets the following burden-of-proof:

- 1) The proposed project is located and designed so as to protect the safety of current and future residents, and will not create significant threats to life and/or property due to the presence of geologic, seismic, slope instability, fire, flood, mud flow or erosion hazard;
- 2) The project is compatible with the natural, biotic, cultural, scenic, and open space resources of the area;
- 3) The project is conveniently served by (or provides) neighborhood shopping and commercial facilities, can be provided with essential public services without imposing undue costs on the total community, and is consistent with the objectives and policies of the General Plan; and
- 4) The proposed project development demonstrates creative and imaginative design resulting in a visual quality that will complement community character and benefit current and future residents.

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- ◆ *The proposed project is located and designed so as to protect the safety of current and future residents, and will not create significant threats to life and/or property due to the presence of geologic, seismic, slope instability, fire, flood, mud flow or erosion hazard*

All proposed development areas will be constructed on competent building pads created with the compacted cut and fill. The Geotechnical Investigation completed for the proposed project has confirmed that the project can be feasibly constructed without creating unacceptable geologic hazards, seismic hazards, and/or slope instability. No known active or potentially active faults exist within, or project onto, the proposed project site. As such, there would be no potential for surface fault rupture of an active or potentially active fault.

Groundshaking accompanying earthquakes on nearby faults is anticipated to be felt within the Lyon Canyon site, as is the case for most of southern California. However, the proposed structures would be required to be designed, engineered, and constructed to meet all applicable local and State seismic safety requirements, including those of the Uniform Building Code.

The proposed project site is located in a high fire zone. Therefore, all structures will be required to comply with Uniform Building Code and Los Angeles County Fire Department regulations for fire retardant building materials. In addition, fuel modification must be completed around all structures to the satisfaction of the Los Angeles County Fire Department. The fire station site, proposed in the northeast corner of the project will help the County of Los Angeles Fire Department improve response times in and around the project area.

The project's drainage plan includes the construction of debris basins, catch basins, storm drains, other drainage facilities (such as adequately sized culvert crossings), construction related BMPs and structural BMPs which will improve the quality of water entering downstream areas. These drainage improvements will also reduce the potential for on and off-site flooding, mud-flows and soil erosion. The proposed project landscaping will include native vegetation that will also reduce the potential for on and off-site erosion, mudflows, and flooding through its direct influence on soil water retention, surface soil stability, and erosion control.

- ◆ *The project is compatible with the natural, biotic, cultural, scenic, and open space resources of the area.*

The project has been designed to be compatible with the biotic, cultural, scenic, and open space resources of the area. The majority of on-site open space areas have been set aside as either permanent open space and/or passive recreational areas. The open space areas proposed on-site will include the most sensitive waterbodies/wetlands, significant ridgeline and watershed areas, oak woodlands, and other sensitive habitat areas. The project's proposal to provide approximately 166 acres (71%) as disturbed and natural open space illustrates the development's commitment to natural resource conservation.

- ◆ *The project is conveniently served by (or provides) neighborhood shopping and commercial facilities, can be provided with essential public services without imposing undue costs on the total community, and is consistent with the objectives and policies of the General Plan.*

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The areas of development directly north of the project site include a variety of both neighborhood shopping and regional shopping and commercial facilities. Recreational opportunities are also located within close proximity to the subject site (north and south). County (police, fire, wastewater, and solid waste) and private agencies (water) would provide services to the proposed project. The project can be adequately served by all of the applicable service agencies.

The project design, including the provision of needed senior housing, active/passive recreation areas, additional single-family housing, development of a fire station site to sustain health and safety, and the construction of regional public improvements are all consistent with the goals and policies of the Los Angeles County General Plan.

- ◆ *The proposed project development demonstrates creative and imaginative design resulting in a visual quality that will complement community character and benefit current and future residents.*

The proposed project avoids substantial intrusion into areas identified as significant ridgelines and scenic viewshed areas. The interior development design provides for aesthetically pleasing residential neighborhoods, complimented by existing oak woodlands, mountainous terrain, and streams/wetlands. A complex network of on-site trails is also proposed, which will link not only new members of the community to the on-site amenities, but will provide a publicly accessible connection point to adjacent open space areas and nearby commercial services.

**Consistency Determination:** The proposed project is consistent with the above described burden of proof criteria.

### **Significant Ecological Areas Conditional Use Permit Burden of Proof**

A project requesting development within an area designated as Hillside Management – Significant Ecological Areas (Section 22.56.215 f.2) must demonstrate that the project, as proposed, meets the following burden-of-proof:

- 1) The requested development is designed to be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas;
- 2) The requested development is designed to maintain water bodies, watercourses, and their tributaries in a natural state;
- 3) The requested development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state;
- 4) The requested development retains sufficient natural vegetative cover and/or open spaces to buffer critical resource areas from said requested development;
- 5) Where necessary, fences or walls are provided to buffer important habitat areas from development; and
- 6) Roads and utilities serving the proposed development are located and designed to not conflict with critical resources, habitat areas or migratory paths.

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- ◆ *The requested development is designed to be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas;*

The majority of on-site natural areas will be set aside as either permanent open space and/or passive recreational areas, including on-site waterbodies/wetlands, significant ridgeline and viewshed areas, oak woodlands, and other sensitive habitat areas. The project proposes to preserve approximately 166 acres as disturbed and natural open space (approximately 71 percent of the site). Located within this open space area are the majority of on-site oak woodlands, on-site streams and waterbodies, riparian habitats, Chamise chaparral, and other significant biological habitats. On-site landscaping is also proposed, which will include locally indigenous and/or non-invasive plant specimens designed to create aesthetically pleasing communities while being compatible with the surrounding native habitat.

- ◆ *The requested development is designed to maintain water bodies, watercourses, and their tributaries in a natural state;*

The majority of onsite waterbodies, watercourses, and their tributaries have been set aside as either permanent open space and/or passive recreational areas. The project proposes to preserve approximately 127.06 acres of natural open space (approximately 56% percent of the site).

- ◆ *The requested development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state;*

The proposed dedication of on-site open space is directly adjacent to known migratory paths (including the Lyons Canyon SEA # 63 and Santa Susana Mountains SEA # 20). The proposed project proposes to preserve the natural habitat areas directly adjacent to these two SEAs, thereby preserving the linkage between known wildlife movement corridors.

- ◆ *The requested development retains sufficient natural vegetative cover and/or open spaces to buffer critical resource areas from said requested development;*

The majority of on-site waterbodies, watercourses, and their tributaries are proposed for preservation as either permanent open space (via an appropriate legal instrument), and/or passive recreational areas. Including these areas and additional disturbed open space areas (i.e. debris basins and landscaped slopes) the project will include 166 acres of disturbed and natural open space (71% of the subject site). By keeping intrusion to a minimum within the sensitive areas and by re-vegetating disturbed and degraded habitats on-site with locally indigenous plant species, the project will result in the retention of sufficient natural vegetative cover and an open space buffer for critical resources.

- ◆ *Where necessary, fences or walls are provided to buffer important habitat areas from development;*

All proposed development areas adjacent to important on-site habitat areas will be fenced off to prohibit human and domestic animal intrusion. Designated trail head, and staging areas will be provided within the proposed development to reduce the potential for unnecessary intrusion into the preserved natural habitat areas.

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- ◆ *Roads and utilities serving the proposed development are located and designed to not conflict with critical resources, habitat areas or migratory paths.*

All proposed development areas adjacent to important onsite habitat areas will be fenced off from human and domestic animal intrusion. Designated trailhead and staging areas will be provided within the proposed development to reduce the potential for unnecessary intrusion into the preserved natural habitat areas. Project access will be provided by a roadway system design to Los Angeles County standards. Almost all of the proposed circulation system was designed outside of the critical on-site waterbodies and streams and on-site oak woodlands. Therefore, critical natural resources and wildlife movement corridors will be maintained.

**Consistency Determination:** With mitigation, the proposed project is consistent with the above described criteria. Please refer to Section 5.6 Biological Resources, Section 5.1 Geology, Soils and Seismicity, Section 5.4 Noise, Section 5.3 Hazards, and Section 5.9 Aesthetics and Visual Resources for list of applicable mitigation measures designed to ensure compatibility to the above referenced policies.

**Level of Significance After Mitigation:** Less Than Significant

### 5.20.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

**DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT, ALONG WITH OTHER CUMULATIVE PROJECTS, WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE LAND USE AND PLANNING IMPACTS.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

Impact Analysis: Development of the Lyons Canyon Ranch project, as proposed, would not contribute to any cumulative significant land use impacts as other projects are implemented in the area. Each development project proposed within the County of Los Angeles would undergo the same project review process as the proposed Lyons Canyon Ranch project in order to preclude potential land use compatibility issues and planning policy conflicts. It is assumed that cumulative development would progress in accordance with the criteria set forth within the jurisdiction in which the cumulative project is located. Each project would be analyzed independent of other land uses, as well as within the context of existing and planned developments to ensure that the goals, objectives and policies of the General Plan are consistently upheld.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance After Mitigation:** Less Than Significant Impact.