
IV. ENVIRONMENTAL IMPACT ANALYSIS
D. BIOLOGICAL RESOURCES
1. FLORA AND FAUNA

A Biological Technical Report for the proposed project was prepared by Glenn Lukos Associates (GLA) in June 2003 to analyze the potential biological resources impacts associated with the proposed project. A summary of the Biological Technical Report with respect to potential biological resource impacts is set forth below. The Biological Technical Report, which is incorporated herein by this reference, is included as Appendix G (as a CD-ROM) to this Draft EIR and is available for public review (in hard copy form) at the Los Angeles Department of City Planning, 200 N. Spring Street, Room 763, Los Angeles, California 90012.

ENVIRONMENTAL SETTING

Introduction

Biological surveys were conducted from March 2002 to February 2003 within the “Study Area”, which includes the 887-acre project site and the 56-acre Duke Property.¹ Biologists, regulatory specialists, a certified arborist from Glenn Lukos Associates, Inc. (GLA), and a Registered Consulting Arborist from Dudek and Associates (Dudek) conducted all of the surveys. The Study Area supports native habitats, including shrublands, woodlands and limited areas of disturbed non-native grasslands. Native vegetation communities include southern arroyo willow riparian, southern coast live oak-sycamore woodland, Venturan coastal sage scrub, mixed chaparral, and chaparral-sage scrub ecotone. Non-native associations include ruderal roadside vegetation. No federally- or state-listed threatened or endangered plant or animal species were detected/identified onsite.

Methods and Survey Limitations

Data regarding biological resources in the Study Area were obtained through literature review and field investigations. The field surveys were conducted beginning in March 2002, continuing through May 2003. Focused surveys for special-status species and vascular plants were generally limited to the proposed development area on the project site and the areas affected by the access road on the adjacent Duke Property, extending approximately 300 to 500 feet beyond the grading limits to account for potential indirect impacts. Focused surveys for special-status lichens were conducted across the Study Area.

¹ *One of the alternatives to the proposed project consists of alternative roadway access across the Duke Property to Development Area A (the “Duke Access Alternative”), which is the reason the Duke Property was included in the biological survey efforts.*

Literature Review

Sensitive biological resources present, or potentially present were identified through a literature review using the following sources: U.S. Fish and Wildlife Service (USFWS)²; California Department of Fish and Game (CDFG)^{3,4,5}; California Natural Diversity Data Base (CNDDDB)^{6,7}; the California Native Plant Society,⁸ Rancho Santa Ana Botanic Garden,⁹ Lichens of the Greater Sonoran Desert Region,¹⁰ and the California Lichen Society¹¹. Field guides and other literature pertinent to the project area were also consulted.

A broad “literature review” was conducted relative to wildlife movement, including documents that address general characteristics of wildlife movement and theories regarding corridor requirements, as well as documents specific to the region. The review included the following: field guides; scientific papers; symposia proceedings^{12,13}; Master Theses¹⁴; letters responding to the Notice of Preparation

² U.S. Fish and Wildlife Service. 1997. *USFWS: Presence/Absence Survey Guidelines for the Coastal California Gnatcatcher*, 28 July.

³ California Department of Fish and Game. 1988. *California's Wildlife. Volume I: Amphibians and Reptile. State of California Resources Agency. Sacramento, California.*

⁴ California Department of Fish and Game. 1990. *California's Wildlife. Volume II: Birds. State of California Resources Agency. Sacramento, California.*

⁵ California Department of Fish and Game 1990. *California's Wildlife. Volume III: Mammals. State of California Resources Agency. Sacramento, California.*

⁶ California Natural Diversity Data Base (CNDDDB). 2002. *Element reports for the Burbank and Sunland 7.5' USGS Quadrangles. Heritage section, California Department of Fish and Game.*

⁷ California Natural Diversity Data Base (CNDDDB). 2002. *List of Special Plants. California Department of Fish and Game, Sacramento. January, Biannual Publication.*

⁸ Tibor, David. 2001. *California Native Plant Society's Inventory of Rare and Endangered Plants of California. California Native Plant Society Special Publication No. 1, Sixth Edition, Sacramento, CA.*

⁹ Soza, V. and LeRoy Gross. 2002. *Preliminary Checklist for the Verdugo Mountains and San Rafael Hills, Los Angeles County. Herbarium, Rancho Santa Ana Botanic Garden, Claremont, CA. Unpublished checklist.*

¹⁰ Nash, T.H. III, B.D. Ryan, C. Gries, and F. Bungartz. 2002. *Lichen Flora of the Greater Sonoran Desert Region. Vol I: the pyrenolichens and most squamulose and macrolichens. Lichens Unlimited, Arizona State University, Tempe.*

¹¹ Magney, D. 1999. *Preliminary list of rare California lichens. Bulletin of the California Lichen Society 6: 22-27.*

¹² Swift, C., A. Collins, H. Gutierrez, H. Lam, and I. Ratiner. 1993. *Habitat linkages in an urban mountain chain. In Interface between ecology and land development in California. Edited by J. E. Keeley. Southern California Academy of Sciences, Los Angeles.*

¹³ Beier, P. 1992. *Cougars, corridors and conservation. Abstracts of the annual meeting of the Southern California Academy of Sciences, Los Angeles, CA.*

¹⁴ Lyren, L. M. 2001. *Movement patterns of coyotes and bobcats relative to roads and underpasses in the chino hills area of southern California. Masters Thesis. California State Polytechnic University, Pomona.*

regarding preparation of this Draft EIR¹⁵; personal communication with Paul Edelman¹⁶ of the Santa Monica Mountains Conservancy and Paul Beier,¹⁷ a national expert on wildlife movement at Northern Arizona University; EIRs prepared for projects in northern and western Los Angeles County and eastern Ventura County; wildlife movement studies prepared for projects in the region¹⁸; and other pertinent documents.¹⁹ Where appropriate, information provided by local residents regarding observations of large mammals such bobcats, coyotes and the American badger was also included.²⁰

Field Reconnaissance

Field studies focused on a number of primary objectives: (1) vegetation mapping; (2) floristic surveys for vascular plants; (3) floristic surveys for lichens; (4) special-status plant surveys; (5) special-status lichen surveys; (6) a detailed wildlife movement study (see Appendix A to the Biological Technical Report) (7) focused surveys for the coastal California gnatcatcher (*Poliioptila californica californica*) and other special-status scrub-dependant avifauna; (8) focused surveys for least Bell's vireo (*Vireo belli pusillus*) and other special-status riparian-dependant avifauna; (9) focused surveys for special-status reptiles; (10) focused surveys special-status raptors; (11) tree surveys pursuant to the City of Los Angeles Municipal Code (see Appendix B to the Biological Technical Report); and (12) delineation of areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) and the CDFG (see Appendix C to the Biological Technical Report). During performance of all of the above-mentioned surveys, opportunistic observations of special-status status species were recorded along with general floral and faunal observations.

Vegetation Mapping

Vegetation associations were mapped in the field directly onto acetate overlays of a 200-scale color aerial photograph of the project site and Duke Property. Vegetation associations were mapped based

¹⁵ Santa Monica Mountains Conservancy. September 23, 2002. Comment Letter addressed to Maya Zaitzevsky.

¹⁶ Edelman, Paul. 2002. Personal Communication with Jeff Ahrens of GLA via email regarding lack of Mountain Lion sightings in Verdugo Mountains.

¹⁷ Beier, Paul. 2002. Personal Communication with Jeff Ahrens of GLA via email regarding lack of radio-collared Mountain Lions in Verdugo Mountains.

¹⁸ Envicom Corporation. 1993. A Consideration of Wildlife Movement in the Santa Susana Mountains. Prepared for HMDI, Inc. Los Angeles California. Envicom Corporation. 1993. A Study of Wildlife Movement in Dry Canyon. Prepared for HMDI, Inc. Los Angeles California.

¹⁹ Noss, R.F. 2001. Final Report to Los Angeles and San Gabriel River Watershed Council, Task 3: Final Conservation Strategy and Map of Corridor Opportunities.

²⁰ Crouch, Steve. 2003. Mr. Crouch, who is associated with the conservation group Canyon Area Preservation (or "CAP"), provided a list of species he has allegedly observed on or in the vicinity of the project site to Jeff Ahrens at GLA via email.

upon descriptions provided by Holland²¹ with, as appropriate, modifications to more accurately characterize site conditions. Vegetation mapping was conducted during April and May of 2002 and refined during subsequent field visits. Figure IV.D-1 depicts the vegetation communities identified in the field.

Vascular Flora

All plant species encountered during the field surveys were identified and recorded following the guidelines adopted by the California Native Plant Society (CNPS) and CDFG, as described by Nelson²². Scientific nomenclature and common names used in this analysis follow Hickman²³. When not available in Hickman, common names are taken from McAuley²⁴, Roberts²⁵ or Beauchamp²⁶. A complete list of the plant species observed during the surveys is provided in Appendix D to the Biological Technical Report.

Lichen Flora

Lichen species encountered during the field surveys were identified and recorded following standard practices, and guidelines and micro-site observation described by Neele²⁷ for the San Gabriel Mountains. Scientific nomenclature used in this analysis follows Nash et al. A list of the lichen species collected and/or observed during the project surveys is provided in Appendix D to the Biological Technical Report.

²¹ Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-Game Heritage Program. California Department of Fish and Game. Sacramento, California.*

²² Nelson, J. R. 1994. *Guidelines for Assessing Effects of Proposed Developments on Rare Plants and Plant Communities, In California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, eds. M. W Skinner and B. M. Pavlik, California Native Plant Society Special Publication Number 1, 5th edition, Sacramento, California.*

²³ Hickman, J. C., Ed. 1993. *The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.*

²⁴ McAuley, M. 1985. *Wildflowers of the Santa Monica Mountains. Canyon Publishing Co. Canoga Park, California.*

²⁵ Roberts, Fred M. Jr. 1998. *A Checklist of the Vascular Plants of Orange County, California, 2nd ed. F.M. Roberts Publications, Encinitas, California.*

²⁶ Beauchamp, R. M. 1986. *A Flora of San Diego County, California. Sweetwater River Press. National City, California.*

²⁷ Neele, M. 1988. *Lichens and air pollution in the San Gabriel Wilderness, Angeles National Forest, California. Earth Resources Monograph 13; 53 pp. Forest Service/USDA Region 5.*

Figure IV.D-1

Vegetation Map

Figure IV.D-2

Sensitive Species Location Map

Special-Status Plant Surveys

Focused surveys were conducted for the 39 special-status plant species that were determined to have even minimal potential to occur in the Study Area. Table IV.D-1 provides each species and its status. The locations of sensitive plant species are provided on Figure IV.D-2.

Table IV.D-1
Special-Status Species
Considered for Focused Plant Surveys
Canyon Hills Project

Botanical Name	Common Name	Status
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	Federal: Endangered State: none CNPS: List 1B
<i>Atriplex coulteri</i>	Coulter's Saltbush	Federal: none State: none CNPS: List 1B
<i>Atriplex parishii</i>	Parish's saltscale	Federal: none State: none CNPS: List 1B
<i>Berberis nevinii</i>	Nevin's barberry	Federal: Endangered State: Endangered CNPS: List 1B
<i>Chorizanthe parryi</i> var. <i>Fernandina</i>	San Fernando Valley spineflower	Federal: Candidate State: Candidate CNPS: List 1B
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	Federal: Endangered State: Endangered CNPS: List 1B
<i>Aster greatae</i>	Greata's aster	Federal: none State: none CNPS: List 1B
<i>Baccharis malibuensis</i>	Malibu baccharis	Federal: none State: none CNPS: List 1B
<i>Boykinia rotundifolia</i>	Round-leaved boykinia	Federal: none State: none CNPS: considered but rejected (too common)
<i>Calochortus catalinae</i>	Catalina mariposa lily	Federal: none State: none CNPS: List 4

Table IV.D-1 (continued)
Special-Status Species
Considered for Focused Plant Surveys
Canyon Hills Project

Botanical Name	Common Name	Status
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily	Federal: none State: none CNPS: List 1B
<i>Calochortus plummerae</i>	Plummer's mariposa lily	Federal: none State: none CNPS: List 1B
<i>Calystegia peirsonii</i>	Peirson's Morning-Glory	Federal: none State: none CNPS: List 4
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Federal: none State: none CNPS: List 3
<i>Convolvulus simulans</i>	Small-Flowered Morning Glory	Federal: none State: none CNPS: List 4
<i>Deinandra minthornii</i>	Santa Susana Tarplant	Federal: none State: none CNPS: List 1B
<i>Dudleya densiflora</i>	San Gabriel Mountains dudleya	Federal: none State: none CNPS: List 1B
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	Federal: none State: none CNPS: List 1B
<i>Harpagonella palmeri</i>	Palmer's Grappling Hook	Federal: none State: none CNPS: List 4
<i>Juglans californica</i> var. <i>californica</i>	Southern California black walnut	Federal: none State: none CNPS: List 4
<i>Juncus acutus</i> ssp. <i>Leopoldi</i>	Southwestern spiny rush	Federal: none State: none CNPS: List 4
<i>Microseris douglasii</i> var. <i>platycarpha</i>	Small-flowered microseris	Federal: none State: none CNPS: List 4
<i>Nolina cismontane</i>	Chaparral Bear Grass	Federal: none State: none CNPS: List 1B

Table IV.D-1 (continued)
Special-Status Species
Considered for Focused Plant Surveys
Canyon Hills Project

Botanical Name	Common Name	Status
<u><i>Quercus engelmannii</i></u>	Engelmann oak	Federal: none State: none CNPS: List 4
<u><i>Lepechinia fragrans</i></u>	Fragrant pitcher sage	Federal: none State: none CNPS: List 4
<u><i>Lepidium virginicum</i> var. <i>robinsonii</i></u>	Robinson's pepper grass	Federal: none State: none CNPS: List 1B
<u><i>Lilium humboldtii</i> ssp. <i>Ocellatum</i></u>	Ocellated Humboldt lily	Federal: none State: none CNPS: List 4
<u><i>Pentachaeta aurea</i></u>	Golden-rayed daisy	Federal: none State: none CNPS: List 4
<u><i>Pentachaeta lyonii</i></u>	Lyon's pentachaeta	Federal: Endangered State: Endangered CNPS: List 1B
<u><i>Piperia cooperi</i></u>	Chaparral rein orchid	Federal: none State: none CNPS: List 4
<u><i>Polygala cornuta</i> var. <i>fishiae</i></u>	Fish's milkwort	Federal: none State: none CNPS: List 4
<u><i>Senecio aphanactis</i></u>	Rayless ragwort	Federal: none State: none CNPS: List 2
<u><i>Sidalcea neomexicana</i></u>	Salt spring checker bloom	Federal: none State: none CNPS: List 2
<u><i>Thelypteris puberula</i> var. <i>sonorensis</i></u>	Sonoran maiden fern	Federal: none State: none CNPS: List 2
<u><i>Malacothamnus davidsonii</i></u>	Davidson's bushmallow	Federal: none State: none CNPS: List 1B
<u><i>Castilleja gleasonii</i></u>	Mt. Gleason Indian paintbrush	Federal: none State: Rare CNPS: List 1B

Table IV.D-1 (continued)
Special-Status Species
Considered for Focused Plant Surveys
Canyon Hills Project

Botanical Name	Common Name	Status
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	Federal: none State: none CNPS: List 1A
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	Federal: none State: none CNPS: List 1B
<i>Romneya coulteri</i>	Coulter's matilija poppy	Federal: none State: none CNPS: List 4
<i>Calandrinia breweri</i>	Brewer's calandrinia	Federal: none State: none CNPS: List 4

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Sixth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five categories. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as Threatened and Endangered by CDFG. CNPS has developed five categories of rarity that are summarized in Table IV.D-2.

Special-Status Lichen Surveys

Focused surveys were conducted for 63 lichen species. These included 20 of the 38 lichen species proposed as rare by Magney²⁸ based on even minimal potential to occur onsite, as well as 24 species proposed for special-status listing by the California Lichen Society (http://128.32.109.44/red_page.html), 19 species thought to be rare, uncommon and/or limited in distribution to intermediate elevations and/or montane areas of Southern California according to Hale and Cole²⁹, Brodo et al.³⁰, and Nash et al. (2002), and one species reported from the San Gabriel

²⁸ Magney, D. 1999. Preliminary list of rare California lichens. *Bulletin of the California Lichen Society* 6: 22-27.

²⁹ Hale, M. and M. Cole. 1988. *Lichens of California*. University of California Press, Berkeley.

Mountains and new to North America. Table IV.D-3 provides a list of all lichen species considered for focused surveys.

Table IV.D-2
Summary of CNPS Lists 1, 2, 3 and 4
Canyon Hills Project

CNPS List	Comments
List 1A – Presumed Extinct in California	Thought to be extinct in California based on a lack of observation or detection for many years.
List 1B – Rare or Endangered in California and Elsewhere	Species generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
List 2 – Rare or Endangered in California, More Common Elsewhere	Species rare in California but more common outside of California.
List 3 – Need More Information	Species that are thought to be rare or in decline, but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
List 4 – Plants of Limited Distribution	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for List 3 species above, CNPS lacks survey data to accurately determine status in California. Many species have been placed on List 4 in previous editions of the “Inventory” and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.

³⁰ Brodo, I., S. Duran Sharnoff, and S. Sharnoff. 2001. *Lichens of North America*. Yale University Press. 532 pgs.

Table IV.D-3
Lichen Species Included in Focused Surveys
Canyon Hills Project

Lichens Proposed as Rare by Magney (1999)
<i>Bacidina californica</i>
<i>Caloplaca subpyraceella</i>
<i>Cyphelium brunneum</i>
<i>Gyalecta herrei</i>
<i>Lecania cyathiformis</i>
<i>Phaeophyscia decolor</i>
<i>Phaeophyscia kairamoi</i>
<i>Phaeophyscia sciastra</i>
<i>Protoparmelia badia</i>
<i>Punctelia punctilla</i>
<i>Pyrrhospora russula</i>
<i>Rhizocarpon concentricum</i>
<i>Teloschistes exilis</i>
<i>Teloschistes flavicans</i>
<i>Texosporium sancti-jacobi</i>
<i>Toninia submexicana</i>
<i>Toninia verrucarioides</i>
<i>Xanthoparmelia angustiphylla</i>
<i>Xanthoparmelia californica</i>
<i>Xanthoparmelia mougeotii</i>
Lichens Proposed for Listing by the California Lichen Society
<i>Aspicilia californica</i>
<i>Caloplaca ignea</i>
<i>Cladonia conista</i>
<i>Cladonia pulvinella</i>
<i>Cladonia squamosa</i>
<i>Dimelaena californica</i>
<i>Hydrothyria venosa</i>
<i>Lecanora collatolica</i>
<i>Lecanora mellea</i>
<i>Massalongia microphylliza</i>
<i>Mobergia angelica</i>
<i>Peltula michoacanensis</i>
<i>Peltula richardsii</i>

Table IV.D-3 (continued)
Lichen Species Included in Focused Surveys
Canyon Hills Project

<i>Pertusaria velata</i>
<i>Pertusaria pseudocorallina</i>
<i>Placidium (Catapyrenium) acarosporoides</i>
<i>Placopyrenium (Catapyrenium) caeruleopulvinum</i>
<i>Placopyrenium (Catapyrenium) heppioides</i>
<i>Ramonia ablephora</i>
<i>Rhizoplaca glaucophana</i>
<i>Rhizoplaca marginalis</i>
<i>Staurothele monicae</i>
<i>Thelenella weberi</i>
<i>Thelopsis isiaca</i>
Lichens Identified as Rare, Uncommon, or of Limited Distribution to Mid-Elevations and/or Montane Areas of Southern California
<i>Fuscopannaria pulveracea</i>
<i>Leptochidium albociliatum</i>
<i>Pertusaria albescens</i>
<i>Physcia Americana</i>
<i>Physcia halei</i>
<i>Physcia neglecta</i>
<i>Physcia poncinsii</i>
<i>Physconia leucoleiptes</i>
<i>Polychidium muscicola</i>
<i>Pseudephebe pubescens</i>
<i>Psora globifera</i>
<i>Psora hyporubescens</i>
<i>Psora pacifica</i>
<i>Psora tuckermanii</i>
<i>Rhizoplaca subdiscrepens</i>
<i>Thelenella hassei</i>
<i>Thelenella modesta</i>
<i>Thelenella sychogonioides</i>
<i>Xanthoparmelia lavicola</i>
Additional Lichen Species Considered for Focused Surveys
<i>Xanthoparmelia pertinax</i>

Of the above-mentioned species, only one of them (*Texosporium sancti-jacobi*) is additionally listed as a CDFG Species of Special Concern (SPOC). In comparison, only six of all lichen species occurring statewide are listed as special taxa by CDFG.

General Wildlife Surveys

Wildlife species, as detected during field surveys by sight, calls, tracks, scat, or other sign were recorded. In addition to species actually observed, expected wildlife usage of the Study Area was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. A complete list of wildlife species observed or detected in the Study Area is provided in Appendix D to the Biological Technical Report.

Scientific nomenclature and common names for vertebrate species referred to in this analysis follow Collins³¹ for amphibians and reptiles, Jones, et al., for mammals³² and AOU Checklist for birds³³.

Special-Status Animals

Focused surveys or a habitat assessment were conducted for the 31 special-status animal species that were determined to have even minimal potential to occur in the Study Area. Table IV.D-4 provides each species and its status evaluated in this analysis. Figure IV.D-2 depicts the locations of special-status animals identified during the surveys.

Table IV.D-4
Special-Status Animal Species Evaluated
Canyon Hills Project

Scientific Name	Common Name	Legal Status
Birds		
<i>Accipiter cooperii</i>	Cooper's Hawk	Federal: none State: SPOC
<i>Aimophila ruficeps canescens</i>	Ashy Rufous-Crowned Sparrow	Federal: none State: SPOC

³¹ Collins, J. T. 1997. *Standard common and scientific names for North American amphibians and reptiles. Herpetological Circular (25), 4th ed. Society for the Study of Amphibians and Reptiles, Lawrence, Kansas.*

³² Jones, J. K., R. S. Hoffman, D. W. Rice, C. Jones, R. S. Baker, and M. D. Engstrom. 1992. *Revised Checklist of North American Mammals North of Mexico, 1991. Occasional Papers The Museum Texas Tech University (146):1-23.*

³³ [AOU] American Ornithologists' Union. 1998. *Check-list of North American Birds. 7th ed. American Ornithologists' Union, Washington, DC.*

Table IV.D-4 (continued)
Special-Status Animal Species Evaluated
Canyon Hills Project

Scientific Name	Common Name	Legal Status
<i>Campylorhynchus brunneicapillus anthonyi</i>	Cactus Wren	Federal: none State: SPOC
<i>Chaetura vauxi</i>	Vaux's Swift	Federal: SPOC State: SPOC
<i>Circus cyaneus</i>	Northern Harrier	Federal: none State: SPOC
<i>Dendroica petechia</i>	Yellow Warbler	Federal: none State: SPOC
<i>Eremophila alpestris actia</i>	California Horned Lark	Federal: none State: SPOC
<i>Elanus leucurus</i>	White-Tailed Kite	Federal: SPOC State: Fully Protected
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	Federal: Endangered State: none
<i>Icteria virens</i>	Yellow-Breasted Chat	Federal: none State: SPOC
<i>Lanius ludovicianus</i>	Logger-Head Shrike	Federal: SPOC State: SPOC
<i>Poliptila californica californica</i>	Coastal California Gnatcatcher	Federal: Threatened State: SPOC
<i>Vireo belli pusillus</i>	Least Bell's Vireo	Federal: Endangered State: Endangered
Mammals		
<i>Lepus californicus bennettii</i>	San Diego Black-Tailed Jackrabbit	Federal: none State: SPOC
Reptiles and Amphibians		
<i>Anniella pulchra pulchra</i>	Silvery Legless Lizard	Federal: SPOC State: SPOC
<i>Bufo microscaphus californicus</i>	Arroyo Southwestern Toad	Federal: Endangered State: SPOC
<i>Cnemidophorus hyperythrus beldingi</i>	Orange-Throated Whiptail	Federal: none State: SPOC
<i>Cnemidophorus tigris multiscutatus</i>	Coastal Western Whiptail	Federal: none State: Special Animal
<i>Crotalus ruber ruber</i>	Northern Red-Diamond Rattlesnake	Federal: none State: SPOC

<i>Clemmys marmorata pallida</i>	Southwestern Pond Turtle	Federal: SPOC State: SPOC
<i>Phrynosoma coronatum blainvillei</i>	San Diego Horned Lizard	Federal: none State: SPOC
<i>Rana aurora draytoni</i>	Red-Legged Frog	Federal: Threatened State: SPOC
<i>Rana muscosa</i>	Mountain Yellow-Legged Frog	Federal: Endangered State: SPOC
<i>Scaphiopus hammondii</i>	Western Spadefoot Toad	Federal: SPOC State: SPOC
<i>Taricha torosa torosa</i>	Coast Range California Newt	Federal: none State: SPOC
<i>Thamnophis hammondii</i>	Two-Striped Garter Snake	Federal: none State: SPOC
Fish		
<i>Catostomus santaanae</i>	Santa Ana Sucker	Federal: Threatened State: SPOC
<i>Gila Orcutti</i>	Arroyo Chub	Federal: none State: SPOC
<i>Rhinichthys osculus</i>	Santa Ana Speckled Dace	Federal: none State: SPOC
Invertebrates		
<i>Streptocephalus woottoni</i>	Riverside Fairy Shrimp	Federal: Endangered State: none
<i>Branchinecta lynchii</i>	Vernal Pool Fairy Shrimp	Federal: Endangered State: none
<i>Branchinecta sandiegonensis</i>	San Diego Fairy Shrimp	Federal: Endangered State: none

Wildlife Movement

GLA conducted wildlife movement surveys from March to December 2002 within the approximately 887-acre project site, the adjacent 56-acre Duke Property, and other offsite areas such as Tujunga Wash and areas between Tujunga Wash and the northwest corner of the project site. A detailed discussion of wildlife movement is provided in Section IV.D.3 (Wildlife Movement).

Focused Surveys for California Gnatcatcher

An initial reconnaissance survey and examination of aerial photography of the Study Area was conducted to review site access, to qualify vegetation types, and estimate the extent of coastal sage scrub (CSS) and CSS/chaparral ecotone habitats potentially suitable for use by the coastal California

gnatcatcher. Areas of potential gnatcatcher habitat within the proposed development areas and portions of the Duke Property in the vicinity of a potential access road were divided into four habitat survey polygons covering less than 80 acres each.

Protocol surveys for the California gnatcatcher were performed in all suitable CSS and CSS/chaparral habitats identified within the proposed Development Areas and vicinity of the potential Duke Access Alternative according to the 1997 guidelines issued by the USFWS, which stipulate that six visits shall be conducted within areas of suitable habitat with at least seven days between site visits when the surveys are conducted during the breeding season.³⁴ All surveys were conducted during the morning hours and were completed prior to 12:00 P.M. Each biologist per day surveyed no more than 80 acres, and no surveys were conducted during windy (>15 miles per hour), rainy, or extremely hot (>95°F) conditions. The protocol presence/absence surveys conducted within suitable CSS and CSS/chaparral ecotone habitats were performed six times between April 29, 2002 and June 5, 2002. Biologists Tony Bomkamp (TE-825679), Rick Riefner (TE-827494-1), and Jeff Ahrens (PRT-0521590) performed the field surveys. These surveys also covered adjacent vegetation communities where appropriate. During performance of the focused surveys for the California gnatcatcher, surveys were also performed for the ashy-rufous crowned sparrow and Bell's sage sparrow, as these species generally occur in the same types of habitat.

Least Bell's Vireo Surveys

Protocol surveys for least Bell's vireo were performed in areas of marginally potential habitat associated with Drainage 4³⁵ and areas of riparian habitat associated with La Tuna Canyon Wash potentially affected by bridges proposed to cross the drainage. Surveys were conducted according to guidelines issued by USFWS in 2000. The guidelines stipulate that surveys be conducted between April 10 and July 31 in all areas of suitable habitat. Eight survey visits are required and the surveys are to be conducted at least 10 days apart. Surveys were conducted between 6:00 and 11:00 a.m., by GLA biologists in accordance with the survey guidelines. During surveys for least Bell's vireo, surveys for other species-status avifauna, including the yellow-breasted chat and yellow warbler, were performed.

³⁴ U.S. Fish and Wildlife Service. 1997. *Coastal California Gnatcatcher (Poliophtila californica californica). Presence/Absence Survey Guidelines, February 28, 1997.*

³⁵ Glenn Lukos Associates. 2003. *Letter Report addressed to Christopher A. Joseph & Associates: Jurisdictional Delineation of Canyon Hills in the City of Los Angeles, Los Angeles County, California. The convention used for the project to name the drainages (e.g., Drainage 4) is set forth in the jurisdictional delineation report, which is attached as Appendix C to the Biological Technical Report.*

Sensitive Reptile Surveys

Surveys for the San Diego horned lizard (*Phrynosoma coronatum blainvillei*), and orange-throated whiptail (*Cnemidophorus hyperythrus*), were conducted during the spring and summer of 2002. Field surveys were performed by GLA biologists Jeff Ahrens (SC-5820) and/or Justin Meyer. Focused reptile surveys were conducted in such a manner as to allow inspection of those areas most likely to support the above-mentioned species. Due to the intense heat experienced early in the day at the Study Area, GLA biologists conducted focused reptile surveys approximately one hour before dusk, when temperature regimes were more conducive to reptile activity. Early afternoon surveys were conducted if temperature regimes were conducive to reptile activity. Surveyors traversed La Tuna Canyon, Drainage 4, areas of Riversidian sage scrub, open areas associated with scrub, rocky outcrops, disturbed areas adjacent to native vegetation, and along wildlife trails and access roads. All reptile species were recorded.

Raptors

Surveys for special-status raptors were conducted in concert with the surveys for the California gnatcatcher, least Bell's vireo and rufous-crowned sparrow.

Tree Surveys

The tree inventory was conducted on June 4, 19, July 1, 10, 12, 16, 17, 19, 23, 24, 25, August 7, 8, 14, 15, 22, December 18, 27, and 30, 2002, and January 30, 31 and February 3, 2003 by Greg Everett, certified arborist (certification number WE-3977A), Rick Riefner, botanist, Dave Moskovitz, botanist, Justin Meyer, biologist, and Jeff Ahrens, biologist, and Martin Rasnick, Regulatory Specialist of Glenn Lukos Associates, Inc. Mr. Everett served as lead arborist for these surveys. Tom Larson of Dudek Associates, a Registered Consulting Arborist, also inspected the project site and participated in the preparation of the tree survey report. A detailed discussion of native trees is provided in Section IV.D.2 (Native Trees).

Survey Limitations

Plant surveys were potentially limited by fairly dry conditions in the vicinity of the Study Area as precipitation in the region during the 2001-2002 rainfall season was only about 30% of normal. Any annual and bulbiferous perennial plant species may fail to germinate or grow during adverse conditions, including sub-optimal rainfall years.

Regulatory Requirements

Impacts to certain habitats and species associated with the Study Area are regulated by federal and State agencies, including the Corps, USFWS and CDFG. In addition, the City is required to review and consider the biological impacts associated with the proposed project pursuant to CEQA.

Regulatory Agencies

U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term “waters of the United States” is defined at 33 CFR Part 328 and includes (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, (4) all impoundments of waters mentioned above, (5) all tributaries to waters mentioned above, (6) the territorial seas, and (7) all wetlands adjacent to waters mentioned above. Wetlands are defined at 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support . . . a prevalence of vegetation typically adapted for life in saturated soil conditions.”

Issuance of a Section 404 Permit to discharge dredged or fill material into jurisdictional waters is considered a federal action and cannot be undertaken by the Corps if the permitted actions could adversely affect federally-listed (or proposed) endangered or threatened species. Where endangered species could be adversely impacted by a permitted action, the Corps must consult with USFWS prior to issuing a Section 404 permit.

U.S. Fish and Wildlife Service

Pursuant to Section 7 of the Federal Endangered Species Act (FESA), any federal agency undertaking a federal action (including issuance of Section 404 permits) which may affect a species listed or proposed as threatened or endangered under the FESA must consult with USFWS. In addition, any federal agency undertaking a federal action that may result in adverse modification of critical habitat for a federally listed species must consult with USFWS.

Pursuant to Section 9 of the FESA, the “take” (e.g., harm, harass, pursue, injure, kill) of an animal species listed as threatened or endangered is prohibited. Destruction or adverse modification of habitat, either directly or indirectly, also constitutes a “take”. A take can only be permitted pursuant to Section 7 or Section 10 of the FESA and is subject to USFWS approval. The USFWS may provide comments

and recommendations outside their regulatory authority even if it is determined that a project will not adversely affect an endangered species.

California Department of Fish and Game (CDFG)

Pursuant to Division 3, Chapter 1.5, Sections 2050-2116 of the California Fish and Game Code, the CDFG prohibits take of state-listed species. If state-listed species are impacted by project implementation, the California Endangered Species Act (CESA) permit would be required. Likewise, the take of plants listed as rare under the California Native Plant Protection Act (CNPPA) are subject to CDFG approval. Impacts to state-listed species must be fully mitigated in order to satisfy CESA and CNPPA requirements.

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.”

Existing Conditions

Verdugo Mountains: Existing Biological Setting/Conditions

The Study Area is located at the eastern end of the Verdugo Mountains, a rugged series of ridgelines and canyons at the base of the San Gabriel Mountains that cover an estimated 11,554-acre area³⁶ that is fully within the cities of Los Angeles, Burbank and Glendale³⁷. The Verdugo Mountains comprise an “island” as they are completely surrounded by urban development and are therefore not connected to other blocks of habitat/open space. Interstate 210 roughly bisects the Verdugo Mountains in a generally southeast-to-northwest alignment and La Tuna Canyon Road bisects the Verdugo Mountains from more-or-less east to west.

Habitats associated with the rugged ridgelines and canyons consist largely of chaparral with limited amounts of coastal sage scrub on the drier south-facing slopes. A number of the steep canyons support oak woodlands. Other than La Tuna Canyon Creek, which traverses a portion of the Study Area, there

³⁶ PCR Services. 2000. *Los Angeles County Significant Ecological Area Update Study 2000: Background Report*. Prepared for the County of Los Angeles Department of Regional Planning.

³⁷ Swift, Cheryl, Allison Collins, Henry Gutierrez, Hilton Lam, and Irina Ratiner. 1993. *Habitat Linkages in an Urban Mountain Chain*. In: J.E. Kelley (ed.) *Interface Between Ecology and Land Development in California*. Southern California Academy of Sciences, Los Angeles.

are no major drainages that traverse the Study Area. The rugged landscape and dense vegetation generally restrict wildlife movement by larger mammals such as coyote and mule deer to existing wildlife trails along ridgelines, roads and firebreaks.

Vegetation Associations Onsite

As depicted in Table IV.D-1, eleven vegetation associations (including ecotonal areas³⁸) were identified within the Study Area. Vegetation associations identified on the project site include Mixed Chaparral (699.31 acres), Coastal Sage Scrub (75.41 acres), Deerweed (*Lotus scoparius*) Scrub (8.13 acres), Mulefat Scrub (0.66 acres), Chamise Chaparral (51.86 acres), Chamise Chaparral/Coastal Sage Scrub Ecotone (8.89 acres), Southern Mixed Riparian Forest (24.59 acres), Southern Coast Live Oak Woodland (2.6 acres), Southern Coast Live Oak Riparian Forest (11.74 acres), Southern Willow Scrub (2.09 acres), and disturbed-Ruderal Vegetation (1.63 acre). The Duke Property exhibits three vegetation types, including mixed chaparral (43.4 acres), Southern Coast Live Oak Woodland (11.0 acres) and Southern Coast Live Oak Riparian Forest (1.6 acres). The acreage for each vegetation association is provided in Table IV.D-5 (Vegetation Associations in Study Area).

Mixed Chaparral

Mixed Chaparral is one of the dominant vegetation associations in the Study Area, consisting of large sclerophyllous shrubs that reach up to eight feet in height. In many areas, the chaparral is mature, exhibits a closed canopy and is nearly impenetrable. Mixed chaparral generally exhibit low diversity with the canopy layer dominated by chamise (*Adenostoma fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), black sage (*Salvia mellifera*). Scrub oaks, *Quercus berberidifolia* or *Q. durata* var. *gabrielensis*, are locally dominant in some areas and laurel sumac (*Malosma laurina*) occurs as individuals throughout the Study Area. Understory is typically sparse with occasional herbs.

The southeast corner of the Study Area, immediately adjacent to La Tuna Canyon Road, burned in in the late 1990s. This portion of the Study Area is characterized by a dense, scrubby growth of deerweed, morning-glory (*Calystegia macrostegia*), California chicory (*Rafinesquia californica*). Resprouting chamise (*Adenostoma fasciculatum*) and laurel sumac (*Malosma laurina*) are common along with seedlings of hoaryleaf ceanothus (*Ceanothus crassifolius*), and coastal sage scrub components. Understory components include brome grasses, wild oats, fascicled tarweed (*Deinandra fasciculata*), black mustard and California aster (*Lessingia filaginifolia*).

³⁸ Ecotonal areas are characterized by a blending of two or more distinct vegetation types.

Table IV.D-5
Vegetation Associations in Study Area
Canyon Hills Project

Vegetation Associations	Total Acres
Canyon Hills Project Site	
Mixed Chaparral	699.31
Venturan Coastal Sage Scrub	75.41
Deerweed Scrub	8.13
Mulefat Scrub	0.66
Chamise Chaparral	51.86
Chamise Chaparral-Coastal Sage Scrub Ecotone	8.89
Southern Mixed Riparian Forest	24.59
Southern Coast Live Oak Woodland	2.6
Southern Coast Live Oak Riparian Forest	11.74
Southern Willow Scrub	2.09
Distrubed-Ruderal	1.63
<i>Subtotal</i>	886.93 ³⁹
Duke Property	
Mixed Chaparral	43.4
Southern Coast Live Oak Woodland	11.0
Southern Coast Live Oak Riparian Forest	1.6
<i>Subtotal</i>	56.0
TOTAL	943.0

Venturan Coastal Sage Scrub

Most of the Study Area is dominated by chaparral; however, Venturan Coastal Sage Scrub is dominant on many of the south-facing slopes, particularly the slopes that overlook La Tuna Canyon Road. Venturan coastal sage scrub is comprised of California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), California brickelbush (*Brickellia californica*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), deerweed (*Lotus scoparius*), and white sage (*Salvia apiana*). The understory is often comprised of wild oats (*Avena barbata*), red brome (*Bromus rubens*), tocalote (*Centaurea melitensis*), long-stemmed buckwheat (*Eriogonum elongatum*), black mustard (*Brassica nigra*) and many other native and non-native species of forbs (i.e., herbs).

³⁹ The 886.93 acres has been rounded throughout this Draft EIR to 887 acres.

Coastal sage scrub vegetation is the preferred habitat for the federally listed threatened coastal California gnatcatcher; however, focused protocol surveys conducted within all areas of coastal sage scrub within the proposed Development Areas in 2002 did not detect any coastal California gnatcatchers in the Study Area. Many of the slopes that support coastal sage scrub are very steep, while gnatcatchers generally prefer areas that exhibit more gentle topography. As such, the lack of detection of gnatcatchers is in large measure due to unsuitable topography.

Deerweed Scrub

Artificial slopes adjacent to Interstate 210 are vegetated with near monocultures of deerweed (*Lotus scoparius*).

Mulefat Scrub

Mulefat scrub occurs in small patches along or within drainages. This association supports Mulefat (*Baccharis salicifolia*) with occasional individuals of arroyo willow (*Salix lasiolepis*). Understory varies and includes mugwort (*Artemisia douglasiana*) along with non-native grasses and forbs.

Chamise Chaparral

Chamise Chaparral is dominant near the north-central portion of the project site. Unlike mixed chaparral that supports a number of species, the chamise chaparral consists of near monocultures of chamise (*Adenostoma fasciculatum*) with occasional individuals of black sage (*Salvia mellifera*). Understory elements are typically sparse and where they occur consist of deerweed and brome grasses.

Chamise Chaparral/Coastal Sage Scrub Ecotone

Chamise Chaparral/Coastal Sage Scrub Ecotone represents a transition zone between chaparral and coastal sage scrub with chamise co-dominant with sage scrub species including California sagebrush (*Artemisia californica*), buckwheat (*Eriogonum fasciculatum*) or white sage (*Salvia apiana*).

Southern Mixed Riparian Forest

Southern Mixed Riparian Forest occurs within Drainage 4, which is located near the eastern edge of the project site, as well as within substantial portions of La Tuna Canyon Wash that traverses the southern boundary of the project site. The southern mixed riparian forest is dominated by coast live oak (*Quercus agrifolia*), arroyo willow (*Salix lasiolepis*), Mexican elderberry (*Sambucus mexicana*), western sycamore (*Platanus racemosa*), and white alder (*Alnus rhombifolia*)⁴⁰. Understory components include mulefat (*Baccharis salicifolia*), poison oak (*Toxicodendron diversilobum*), Indian hemp

⁴⁰ The white alder occurs in La Tuna Canyon, but not Drainage 4. All canopy species are associated with both Drainages.

(*Apocynum cannabinum*), basket rush (*Juncus textilis*), San Diego sedge (*Carex spissa*) and non-native umbrella sedge (*Cyperus involucratus*).

Southern Coast Live Oak Woodland

Southern Coast Live Oak Riparian Woodland is similar in composition with Southern Coast Live Oak Riparian Forest, but is not associated with drainage courses. Instead, this habitat occurs on slopes well beyond the drainages that occupy the canyon bottoms. Coast live oak (*Quercus agrifolia*) is the dominant canopy species. Deep leaf litter is often present and there is little understory vegetation. Skunkbrush (*Rhus trilobata*), poison oak (*Toxicodendron diversilobum*), and bracken fern (*Pteridium aquilinum*) are a few of the shade-tolerant species associated with this type of oak woodland in the Study Area.

Southern Coast Live Oak Riparian Forest

Southern Coast Live Oak Riparian Forest is also associated with Drainage 4 and La Tuna Canyon Wash, as well as a few of the ephemeral drainages throughout the project site, usually occurring as pockets of oaks. Coast live oak (*Quercus agrifolia*) is the dominant canopy species with understory consisting of poison oak, California coffee berry (*Rhamnus californica*), and various coastal sage scrub components such as California buckwheat (*Eriogonum californicum*), California sagebrush (*Artemisia californica*) and non-native grasses and forbs.

Southern Willow Scrub

Southern Willow Scrub is associated with the lower reaches of Drainage 4 and is dominated by arroyo willow (*Salix lasiolepis*) with scattered individuals of mulefat. Understory varies and includes mugwort (*Artemisia douglasiana*) along with non-native grasses and forbs.

Ruderal-Disturbed

Non-native grassland is dominated by wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), common catchfly (*Silene gallica*), tocalote (*Centaurea melitensis*), and many other native and non-native herbaceous species.

Wildlife

Amphibians

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These xeric-adapted species conserve moisture by emerging only under conditions of high humidity or when the weather is cool and/or wet. A

complete list of amphibian species known or expected to occur on the site is provided in the faunal compendium (see Appendix D to the Biological Technical Report).

Southern Mixed Riparian Forest and Southern Coast Live Oak Woodlands, as well as seasonally flowing water, occur within Drainage 4 and La Tuna Canyon Wash. These areas provide potential habitat for amphibian species adapted to drier conditions, but only minimal potential habitat for species that require permanent water. The only amphibians observed in the Study Area were the Pacific treefrog (*Pseudacris regilla*) and California treefrog (*Hyla cadaverina*). Additional amphibian species that could potentially occur in the Study Area include the Pacific slender salamander (*Batrachoseps pacificus*), arboreal salamander (*Aneides lugubris*), black-bellied salamander (*Batrachoseps nigriventris*), and western toad (*Bufo boreas*).

Reptiles

The diversity of reptile species is related to the diversity of plant communities found in the Study Area. Reptiles identified or expected to occur in the Study Area are discussed below by habitat. A complete list of reptile species known or expected to occur on the site is given in the faunal compendium (see Appendix D to the Biological Technical Report).

Coastal sage scrub, southern cactus scrub, and chaparral communities identified in the Study Area are utilized nearly year-round by a large number of reptile species. Species identified within the scrub and chaparral communities during focused and general surveys include the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), western skink (*Eumeces skiltonianus*), California whipsnake (*Masticophis lateralis*), gopher snake (*Pituophis melanoleucus*), and western rattlesnake (*Crotalus viridis*). Other reptile species which are expected to occur in scrub and chaparral communities include the Gilbert skink (*Eumeces gilberti*), San Diego banded gecko (*Coleonyx variegatus abbotti*), rosy boa (*Lichanura trivirgata*), western whiptail (*Cnemidophorus tigris*), southern alligator lizard (*Gerrhonotus multicarinatus*), ringneck snake (*Diadophis punctatus*), racer (*Coluber constrictor*), western patch-nosed snake (*Salvadora hexalepis*), and common kingsnake (*Lampropeltis getulus*).

Riparian communities tend to exhibit low reptile species diversity. However, reptiles commonly identified near the edge of the intermittent drainages such as La Tuna Canyon Wash and Drainage 4, include the California whipsnake, side-blotched lizard, and western fence lizard. Other species that are expected to occur within or near riparian areas include the Gilbert skink, southern alligator lizard, two-striped garter snake (*Thamnophis hammondi*), and common garter snake (*Thamnophis sirtalis*).

Reptile species observed utilizing a variety of plant communities include the western fence lizard, alligator lizard, and side-blotched lizard.

Birds

Birds were the most common vertebrates observed in the Study Area. The birds identified or expected to occur in the Study Area are discussed below in relation to the onsite vegetative communities in which they were commonly observed or expected to occur. A complete list of all birds known or expected to occur onsite is provided in the faunal compendium included in Appendix D to the Biological Technical Report.

The scrub communities present in the Study Area, including mixed chaparral and Venturan coastal sage scrub, are generally composed of dense vegetation which provides breeding habitat for resident species such as the California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo erythrophthalmus*), wrentit (*Chamaea fasciata*), Bewick's wren (*Thryomanes bewickii*), bushtit (*Psaltriparus minimus*), black phoebe (*Sayornis nigricans*), California quail (*Callipepla californica*), Anna's hummingbird (*Calypte anna*), western scrub-jay (*Aphelocoma coerulescens*), Northern mockingbird (*Mimus polyglottos*), and California thrasher (*Toxostoma redivivum*). Migratory species that utilize scrub habitats during the winter months include the white-crowned sparrow (*Zonotrichia leucophrys*), song sparrow (*Melospiza melodia*), Costa's hummingbird (*Calypte costae*), orange-crowned warbler (*Vermivora celata*), black-throated gray warbler (*Dendroica nigrescens*), Allen's hummingbird (*Selasphorus sasin*), black-chinned hummingbird (*Archilochus alexandri*), fox sparrow (*Passerella iliaca*), ash-throated flycatcher (*Myiarchus cinerascens*), and golden-crowned sparrow (*Zonotrichia atricapilla*).

The native woodland communities in the Study Area, including southern mixed riparian forest and southern coast live oak woodlands, provide habitat for many bird species. Resident species noted in the Study Area include the northern flicker, black phoebe, Anna's hummingbird, western scrub-jay, mourning dove, bushtit, acorn woodpecker (*Melanerpes formicivorus*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), plain titmouse (*Parus inornatus*), house wren (*Troglodytes aedon*), Hutton's vireo (*Vireo huttoni*), lesser goldfinch (*Carduelis psaltria*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*). Migratory species identified from woodland communities include the black-chinned hummingbird, Costa's hummingbird, song sparrow, ash-throated flycatcher, western bluebird (*Sialia mexicana*), American robin (*Turdus migratorius*), yellow-rumped warbler (*Dendroica coronata*), western tanager (*Piranga ludoviciana*), rufous-crowned sparrow (*Aimophila ruficeps*), white-crowned sparrow, Bullock's oriole (*Icterus galbula*), and purple finch (*Carpodacus purpureus*). The raptors most commonly observed in oak woodland communities were the Cooper's hawk (*Accipiter cooperii*) and red-tailed hawk.

Mammals

Identification of mammals in the Study Area was generally determined by physical evidence rather than direct visual identification. This is because many of the mammal species that could potentially occur in the Study Area are nocturnal and would not have been active during the site visits. The diverse habitats

onsite provide a multitude of services for mammal species, including use for foraging, nesting/burrowing, and wildlife movement. A complete list of mammals that are known or expected to occur in the Study Area is provided in the faunal compendium included in Appendix D to the Biological Technical Report.

The Venturan coastal sage scrub in the Study Area represents potential habitat for a number of mammals. Species identified in the Study Area, either by direct observation or physical evidence, include the Audubon's cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), desert woodrat (*Neotoma lepida intermedia*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*) and mule deer (*Odocoileus hemmionus*).

The mixed chaparral community in the Study Area provides habitat for the Audubon's cottontail, brush rabbit, California ground squirrel, deer mouse, desert woodrat, coyote, gray fox (*Urocyon cinereoargenteus*) and striped skunk. Mule deer occur only on the portion of the project site south of Interstate 210 and only in low numbers.

The riparian communities in the Study Area associated with semi-permanent water sources, especially areas of La Tuna Canyon and Drainage 4, can be heavily utilized. Therefore, the majority of the mammals present on the site would be expected to utilize these areas to some extent. Species that are known or have the potential to occur within the riparian communities in the Study Area include the deer mouse, California vole, coyote, ringtail (*Bassariscus astutus*), raccoon (*Procyon lotor*), western spotted skunk (*Spilogale gracilis*), striped skunk and mule deer.

The woodland communities present in the Study Area, including southern coast live oak woodland and walnut woodland, provide habitat for numerous mammal species. Mammals known to exist within the woodland communities present in the Study Area include the deer mouse, desert woodrat, coyote, gray fox, raccoon, striped skunk and mule deer.

Non-native woodland communities, such as eucalyptus and orchard/ornamental landscapes support opportunist mammals such as opossum, black rat (*Rattus rattus*) striped skunk, California ground squirrel and coyote, as well as mule deer.

Sensitive Biological Resources

A search of the California Natural Diversity Data Base (CNDDDB) for the Sunland, Pasadena, Burbank and Glendale Quadrangles provided records for several sensitive species and habitats with the potential

to occur in the area. These species and habitats are discussed below. In addition, a number of other references were consulted. These references are summarized below:

- **Wildlife:** CNDDDB (1999); USFWS (1992, 1999); CDFG (1988, 1990a, 1990b, and 1999); USFS (1999)
- **Plants:** CNDDDB (2002a & b), Tibor (2001), CDFG(1999); (USFS 1999)
- **Lichens:** Brodo et al. (2001), California Lichen Society Red List (http://128.32.109.44/red_page.html/), Hale and Cole (1988), Magney (1999), Nash et al. (2002)
- **Habitats:** CNDDDB (2002a); CDFG (1999); USFS 1999.

Significant Ecological Areas or Environmentally Sensitive Habitat Areas

The County of Los Angeles Regional Planning Department was contacted to determine if any designated Significant Ecological Areas (SEAs) or Environmentally Sensitive Habitat Areas (ESHAs) are known in the vicinity. The project site is located within SEA No. 40. However, County SEA policies only apply to unincorporated areas within the County, while the project site is located entirely within the City. Therefore, the proposed project is not subject to any restrictions associated with SEA No. 40.

Corps and CDFG Jurisdiction

Figure IV.D-3 presents the onsite areas within the Corps and CDFG jurisdictions. The CDFG jurisdictional acreage includes all 6.46 acres of Corps jurisdiction. Corps jurisdiction at the project site totals approximately 6.46 acres, of which 400 square feet (0.009 acre) consist of jurisdictional wetlands. A total of 23 drainages were identified on the project site. All of the drainages, with the exception of Drainage 2 (La Tuna Canyon Wash), and the lower portions of Drainage 4 (a tributary to La Tuna Canyon Wash) are ephemeral drainages that vary in width from one to 16 feet. Drainages 2 and 4 are intermittent drainages that support areas with riparian herbs, shrubs and trees. On January 28, 2003, a representative of the Corps visited the project site to verify the jurisdictional delineation. Following completion of the verification visit, the Corps provided concurrence that the jurisdictional delineation was correct and approved. The acreage totals provided in this analysis, as well as the Jurisdictional Delineation Report attached as Appendix C to the Biological Technical Report (the "Jurisdictional Delineation Report"), reflect the Corps-approved jurisdictional delineation.⁴¹

⁴¹ Glenn Lukos Associates. 2003. Letter Report addressed to Christopher A. Joseph & Associates: Jurisdictional Delineation of Canyon Hills in the City of Los Angeles, Los Angeles County, California.

Figure IV.D-3

Jurisdictional Delineation Map

CDFG jurisdiction at the project site totals approximately 9.12 acres, of which approximately 6.49 acres consist of vegetated riparian habitat. On March 3, 2003, representatives of CDFG visited the project site to verify the jurisdictional delineation. Following completion of the verification visit, the CDFG provided concurrence that the jurisdictional delineation was correct and approved. The acreage totals provided in this analysis, as well as the Jurisdictional Delineation Report, reflect the CDFG-approved jurisdictional delineation. Detailed descriptions of drainage features subject to Corps and CDFG jurisdiction are provided in the Jurisdictional Delineation Report.

Special-Status Vegetation Associations

A review of the CNDDDB and other sources noted above indicated that the following vegetation associations are known from the vicinity of the Study Area: California Walnut Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood-Willow Riparian Forest, Southern Sycamore-Alder Riparian Woodland, Riversidean Alluvial Fan Sage Scrub, Southern Mixed Riparian Forest, Southern Willow Scrub, and Venturan Coastal Sage Scrub.

Site surveys including vegetation mapping identified the following special-status associations in the Study Area: Southern Coast Live Oak Riparian Forest, Southern Mixed Riparian Forest, Southern Willow Scrub, and Venturan Coastal Sage Scrub.

Coastal Sage Scrub

Coastal sage scrub is considered a sensitive vegetation type throughout much of Southern California, particularly in regions known to support the federally-listed threatened coastal California gnatcatcher. Coastal sage scrub has an S3.1 ranking (defined as occupying between 10,000 and 50,000 extant acres and exhibiting a high level of threat) by the CDFG. Recent observations of the coastal California gnatcatcher in parts of Los Angeles County, including the western portion of the Verdugo Mountains, have been recorded. However, the coastal sage scrub on the project site does not represent high value for the California gnatcatcher due to the overall steep topography associated with the site and the species composition, which includes substantial amounts of deerweed and buckwheat and only limited amounts of California sagebrush (which is preferred by the gnatcatcher over the deerweed and buckwheat). The coastal California gnatcatcher was not observed in the Study Area during protocol surveys in the spring of 2002, as discussed more fully below.

Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forest is included in the CNDDDB, but ranked as S4 (“apparently secure within California”). CDFG describes this vegetation type as:

“Open to locally dense evergreen sclerophyllus riparian woodlands dominated by Quercus agrifolia. This type of appears to be richer in herbs and poorer in understory shrubs than

other riparian communities...Site factors: Bottomlands and outer floodplains along larger streams, on fine-grained, rich alluvium.”

The coast live oak woodland is not in all cases associated with a stream or water from a stream. The dense woodland vegetation extends up the slopes above the rocky canyon bottoms, extending over the tops of the ridges in many cases. Oak Woodlands with the same understory species present were commonly identified on several slopes and within canyons throughout the Study Area. Shrubby species, especially poison oak (*Toxicodendron diversilobum*) and toyon (*Heteromeles arbutifolia*), are common. Only oaks clearly associated with streams or growing on terraces associated with the streams were mapped as “oak riparian”.

Southern Mixed Riparian Forest

Southern Mixed Riparian Forest is included in the CNDDDB with a rank of S2.1 (between 2,000 and 10,000 extant acres and a high level of threat) by the CDFG.

Southern Willow Scrub

Southern Willow Scrub is included in the CNDDDB with a rank of S2.1 (between 2,000 and 10,000 extant acres and a high level of threat) by the CDFG.

Special-Status Vascular Plants

Focused surveys were conducted for 40 special-status plant species with the potential to occur in the Study Area. Three special-status plant species were identified on the project site: ocellated Humboldt lily (CNPS List 4), Plummer’s mariposa lily (CNPS List 1B), and Southern California black walnut (CNPS List 4). Figure IV.D-2 depicts the location of these species on the project site.

Special-Status Vascular Plants Observed In the Study Area

Plummer’s Mariposa Lily (Calochortus plummerae)

Plummer’s mariposa lily is listed by CNPS as a List 1B plant (plants rare, threatened, or endangered in California and elsewhere), but is not federally- or state- listed. This species is known from several vegetation communities and is found in Los Angeles, Ventura, Riverside, and San Bernardino Counties. A few dried individuals were observed within chaparral from the 2001 rainfall season. A total of 17 dead plants with old capsules that fit the description of the species were counted (see Figure IV.D-2). In addition, an inflorescence from a mariposa lily with a long, slender capsule was identified within the Study Area that was consistent with the Slender mariposa lily (*Calochortus clavatus* var. *gracilis*) or potentially Plummer’s mariposa lily. Due to the low rainfall, no mariposa lilies emerged during the 2002 rainfall season.

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

Southern California black walnut is a shrub or tree designated as a CNPS List 4 species (watch list). This species occurs throughout cismontane⁴² Southern California from Los Angeles County to San Diego County, but is declining in much of its range. One small individual Southern California black walnut, approximately 5 inches in diameter, was identified on the project site in Drainage 4 (see Figure IV.D-1).

Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum*)

Ocellated Humboldt lily is a robust perennial herb in the lily family, designated as a CNPS List 4 plant (watch list). This species is known from several Southern California counties, normally found in canyons below 3,000 feet. Ocellated Humboldt lily was observed on the project site during general and focused plant surveys within Drainage 4, Drainage 5 and La Tuna Canyon Creek (see Figure IV.D-2).

Special-Status Vascular Plants Not Observed in the Study Area

Greata's Aster (*Aster greatae*)

Greata's aster is an herbaceous perennial in the aster family restricted to chaparral and oak woodland of the San Gabriel Mountains and is designated by the CNPS as a List 4 plant (watch list). This species occurs in moist or dry areas in canyons in chaparral or oak woodland, usually above 2,000 feet elevation. Greata's aster was not observed the Study Area, and the site may be below the elevational range of this species, although some marginally potential habitat is present.

Coulter's Saltbush (*Atriplex coulteri*)

Coulter's saltbush is a perennial listed as a CNPS 1B species (plants rare, threatened, or endangered in California and elsewhere) that is typically associated with alkaline or saline clay soils. Although is most often found on coastal bluffs, it is also known from valley and grassland habitats in Southern California's coastal mountains. This species was not observed during focused surveys and this species is not expected in the Study Area due to a lack of suitable habitat.

Parish's Saltscale (*Atriplex parishii*)

Parish's saltscale is a perennial subshrub, listed as a CNPS 1B species (plants rare, threatened, or endangered in California and elsewhere) that is typically associated with alkaline or saline clay soils. Suitable habitat is not present anywhere in the Study Area. This species was not observed during

⁴² "Cismontane" is the coastal side of the mountains of the peninsular or transverse ranges in Southern California.

focused surveys and this species is not expected to occur within the Study Area due to a lack of suitable habitat.

Braunton's Milkvetch (*Astragalus brauntonii*)

Braunton's milkvetch is a short-lived, stout perennial in the pea family that is federally listed as endangered. This plant occurs below 1,500 feet elevation in coastal sage scrub and chaparral in Los Angeles, Orange, and Ventura Counties. This species is closely associated with disturbed areas such as recent burns, firebreaks, and roads, coming up soon after the disturbance and declining as other vegetation recovers in later years. In addition, Braunton's milkvetch is typically associated with calcareous soils, which do not occur in the Study Area. This species is threatened by development and alteration of historic fire regimes. Braunton's milkvetch was not observed in the Study Area, and is not expected to occur due to the lack of calcareous soils or local observations, despite the heavy recent disturbance due to fire.

Malibu Baccharis (*Baccharis malibuensis*)

Malibu baccharis is listed by CNPS as a List 1B plant (plants rare, threatened, or endangered in California and elsewhere), but is not federally or State-listed. Its distribution is limited to the Malibu Lake area of Santa Monica Mountains in Los Angeles County, and a recently discovered disjunct population in the Santa Ana Mountains in Orange County. It was added to the target species list as a result of the discovery of the species in the Santa Ana Mountains. Its habitat is generally open chaparral, cismontane woodlands, and coastal scrub at elevations of 500-850 feet. This species was not detected during surveys within the Study Area and is not expected to occur based upon lack of detection and its current known distribution, which is well removed from the Verdugo Mountains.

Nevin's Barberry (*Berberis nevinii*)

Nevin's barberry is a shrubby member of the barberry family that is state- and federally listed as endangered. This conspicuous easy-to-identify shrub occurs below 2,000 feet elevation in sandy areas in coastal sage scrub, alluvial scrub, and chaparral in Los Angeles, San Bernardino, and Riverside Counties. This species is threatened by development and road maintenance. This distinctive shrub was not observed in the Study Area, and is not likely to present based on the lack of detection and limited amounts of potentially suitable habitat within the Study Area.

Round-Leaved Boykinia (*Boykinia rotundifolia*)

Round-leaved boykinia is a glandular perennial in the saxifrage family that has been considered for listing as a CNPS List 4 plant (watch list). This plant occurs in wet places below 6,000 feet in canyons, chaparral and woodlands throughout Southern California, but is uncommon. Suitable habitat for this species appears to be present on the project site within Drainage 4 and La Tuna Canyon Wash.

However, this distinctive sub-shrub was not observed during focused surveys within areas of suitable habitat in the Study Area, and is not expected to occur based on the lack of detection. The species was detected offsite in 2002 in La Tuna Canyon Park, where it is closely associated with slow-drip perennial springs on rocky cliffs.

Brewer's Calandrinia (*Calandrinia breweri*)

Brewer's calandrinia is designated as a CNPS List 4 plant (watch list). Its range extends from Sonoma County south to the foothills of Baja California, and also occurs on Santa Cruz and Santa Rosa Islands. It is often associated with disturbed micro-sites, mostly less than 3,500 feet elevation, on sandy or loamy soil. It is especially frequent in burn areas. This glabrous, fleshy annual has red flowers with green-veined sepals, and blooms from March to June. Suitable habitat for this species appears to be present in the Study Area in burned chaparral north of Interstate 210. However, it was not detected in the Study Area during the surveys and is not expected to occur based on the lack of detection.

Catalina Mariposa Lily (*Calochortus catalinae*)

Catalina mariposa lily is a bulb-forming perennial in the lily family designated by CNPS as a List 4 plant (watch list). This species is endemic to California but is widespread, occurring in nine coastal California counties. Habitats include open areas within grasslands and grassland-sage scrub ecotone areas below 2,000 feet. Limited areas of habitat within the Study Area appear marginal for this species due to the lack of extensive areas of grassland. This species was not observed during the 2002 survey efforts and is not expected to occur due to a lack of suitable grassy habitats or open coastal sage scrub.

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

Slender mariposa lily is a bulb-forming perennial member of the lily family, designated as a List 1B (plants rare, threatened, or endangered) by CNPS. This species is endemic to chaparral slopes below 4,000 feet along the south base of the San Gabriel Mountains. An inflorescence from a mariposa lily with a long, slender capsule was identified within the Study Area that was consistent with this species or potentially Plummer's mariposa lily (see above).

Peirson's Morning-Glory (*Calystegia peirsonii*)

Peirson's morning-glory is known only from Los Angeles County and is a CNPS List 4 species (watch list). It is associated with open chaparral and scrub habitats, and cismontane and coniferous woodlands between 100 and 5,000 feet. This easily identified perennial herb was not located during surveys, and is not expected to occur within the Study Area based on the lack of detection.

Parry's Spineflower (*Chorizanthe parryi* var. *parryi*)

Parry's spineflower (*Chorizanthe parryi* var. *parryi*) is a CNPS List 3 species (a category for species about which CNPS needs more information before being assigned to the appropriate list). This species occurs in sandy openings in Riverside and San Bernardino counties, and has been collected near Mt. Wilson in the San Gabriel Mountains, but not in recent years. Because focused surveys were conducted for the similar San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), Parry's spineflower would have been identified during surveys if it were present in the Study Area.

San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*)

The San Fernando Valley Spineflower is a diminutive annual in the buckwheat family that was formerly assumed to be extinct. This plant was rediscovered in Calabasas during the spring of 1999 by GLA botanists. It has also been recently been found near Newhall in Los Angeles County. This species was formerly known from sandy habitats in several Southern California localities, which have now been extirpated by urban development. In the recently discovered populations, the San Fernando Valley spineflower occurs in sandy or well-drained sandy-loam soils in coastal sage scrub or non-native grassland. This species was not observed in the Study Area, including a focused search during the spring surveys for dead stubble of plants that may have germinated in 2001. It is therefore not expected due to the lack of suitable sandy habitat and lack of detection.

Small-Flowered Morning Glory (*Convolvulus simulans*)

The small-flowered morning-glory is a CNPS List 4 species (watch list). This species ranges from Baja California north to San Luis Obispo County, and inland from Riverside to Kern counties. Its preferred microhabitat is vernal moist clays, serpentine seeps and ridges, and rock outcrops and other shallow soil habitats with scattered native shrubs or in grasslands. This small annual flowers from March through June. This morning-glory is not a vine, and its pink flowers are usually the easiest way to find it in the field. This species was not observed during the 2002 survey efforts and is not expected to occur due to a lack of suitable clay or grassy habitats in the Study Area.

Santa Susana Tarplant (*Deinandra minthornii*)

Santa Susana tarplant is a federal Species of Concern and a CNPS List 1B plant (plants rare, threatened, or endangered in California and elsewhere). It is a narrow endemic known from rocky openings in chaparral in the vicinity of Santa Susana pass and in the Santa Monica Mountains. Potential habitat including rock outcrops and openings in scrub are present within the Study Area; however, late season surveys did not detect this species. Santa Susana tarplant was not observed on the project site during year 2002 surveys and is not expected to occur within the Study Area because it is outside the known distribution for this species.

Slender-Horned Spineflower (Dodecahema leptoceras)

Slender-horned spineflower, a diminutive annual in the buckwheat family, is state- and federally-listed as endangered. This species is known to occur in Los Angeles, Riverside and San Bernardino Counties in high-energy washes and other sandy, open habitats along stream terraces in alluvial fan scrub (e.g., nearby in Tujunga Wash). Development, vehicles and loss of historical flooding regimes threaten this plant. Slender-horned spineflower was not observed on the within the Study Area, and is not expected due to the lack of open habitats associated with larger stream or river terraces.

San Gabriel Mountains Dudleya (Dudleya densiflora)

San Gabriel Mountains dudleya is a succulent perennial in the stonecrop family designated as a List 1B plant by CNPS (plants rare, threatened, or endangered in California and elsewhere). This species is endemic to rocky cliffs in canyons along the south face of the San Gabriel Mountains at 4,000 to 9,300 feet. San Gabriel Mountains dudleya was not observed in the Study Area, and is not expected due to the lack of suitable cliff habitat.

Many-Stemmed Dudleya (Dudleya multicaulis)

Many-stemmed dudleya is a succulent perennial in the stonecrop family designated as a CNPS List 1B plant (plants rare, threatened or endangered in California and elsewhere). This species is known from several Southern California counties, and typically occurs in dry, stony places on heavy clay soils in chaparral, coastal sage scrub, and grassland habitats below 2,000 feet. This species is not known from the western end of the San Gabriel Mountains and has not been previously recorded in the Verdugo Mountains. Sandy-clay soils and small outcrops occur within the Study Area and could provide potential habitat for this species. However, many-stemmed dudleya was not observed in the Study Area during focused surveys. Given the lack of detection and the range of this species, many-stemmed dudleya is not expected to occur.

Palmer's Grappling Hook (Harpagonella palmeri)

Palmer's grappling hook is a CNPS List 4 plant (watch list). It has a broad range across cismontane Southern California and extends east into Arizona and northwestern Mexico, but is most common in Orange County and San Diego County. It prefers clay soils on dry slopes and mesas in coastal sage scrub openings and grasslands from 75 to 3,000 feet in elevation. It is easily found after fires in sparsely vegetated openings and outcrops in native grasslands when present. This species was not observed in the Study Area during focused surveys, and is not expected to occur in the Verdugo Mountains.

Los Angeles Sunflower (*Helianthus nuttallii* ssp. *parishii*)

Los Angeles sunflower is a CNPS list 1A species (previously presumed extinct and potentially rediscovered along the Santa Clara River in the Newhall area in Los Angeles County) that historically was known from brackish, alkali or salt marshes. One historic occurrence was known from the Pasadena area. Suitable habitat for this species is not present in the Study Area. This species was not detected during surveys and could not occur due to a lack of suitable habitat.

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

The southwestern spiny rush ranges from San Luis Obispo County to Baja, California, and extends into Colorado Desert (alkali sink) and southeastern Arizona; it is also reported from South America and southern Africa. It occupies moist saline places in coastal marshes, and brackish locales with alkaline soils in a number of plant communities, including dunes, alkaline seeps and meadows, coastal salt marshes and swamps, and riparian marshes. Since the spiny rush could occur along drainages with willow and sycamore vegetation, it is included in the list of target plants for the survey program. This large, rigid, sharp tipped, perennial herb was not detected during general or focused surveys and is not expected to occur within the Study Area.

Fragrant Pitcher Sage (*Lepechinia fragrans*)

Fragrant pitcher sage is a shrubby plant in the mint family designated as a CNPS List 4 plant (watch list). This species is known from the San Gabriel Mountains, the Santa Monica Mountains, and the Channel Islands in canyons dominated by chaparral. This sub-shrub was not observed in the Study Area during focused surveys and is not expected to occur there.

Robinson's Pepper Grass (*Lepidium virginicum* var. *robinsonii*)

Robinson's pepper grass is an annual plant in the mustard family designated as a CNPS List 1B plant (plants rare, threatened, or endangered in California and elsewhere). This species occurs in coastal sage scrub and chaparral from Los Angeles County to Baja California. Robinson's pepper grass was not observed in the Study Area during focused surveys conducted in 2002, and is not expected to occur there.

Davidson's bushmallow (*Malacothamnus davidsonii*)

Davidson's bushmallow is a distinctive shrub in the mallow family that occurs in and along sandy washes vegetated with coastal sage scrub, alluvial scrub, and occasionally in oak woodlands. This species is designated as a CNPS List 1B plant (plants rare, threatened, or endangered in California and elsewhere) and is known from nearby Tujunga Wash as well as Pacoima Wash. Marginal habitat for

this species is associated with portions of La Tuna Canyon Wash; however, this easily detected distinctive shrub was not detected during surveys and is not expected to occur within the Study Area.

Small-Flowered Microseris (*Microseris douglasii* var. *platycarpha*)

The small-flowered microseris is a CNPS List 4 plant (watch list). Its range extends from Los Angeles County to Baja, California, and it also occurs on Santa Catalina and San Clemente Islands. This plant was not observed on the project site during focused surveys and is not expected to occur in the Study Area due to lack of suitable habitat.

Chaparral Bear Grass (*Nolina cismontana*)

Chaparral Bear Grass, a *Yucca*-like dioecious subshrub, is a CNPS List 1B species (plants rare, threatened, or endangered in California and elsewhere). Its range extends from the coastal mountains of Ventura County, the Santa Ana Mountains in Orange County, to northern San Diego County. This easy-to-identify plant has sword-like leaves that are not spine-tipped. It was not located during focused surveys and is not expected to occur in the Verdugo Mountains.

Golden-Rayed Daisy (*Pentachaeta aurea*)

The golden-rayed daisy was recently added to the CNPS inventory List 4 (watch list). Its range extends from the San Gabriel and San Bernardino Mountains south to northern Baja California. It prefers dry, open or grassy areas from 250 to 6000 feet in elevation, and is often associated with clay substrates. It grows in valley grasslands, chaparral, cismontane woodlands, coastal sage scrub, and coniferous forests. It was not detected during focused surveys, and is not expected in the Verdugo Mountains due to lack of extensive clay-rich soils.

Lyon's Pentachaeta (*Pentachaeta lyonii*)

This State- and federally-listed endangered annual is best known from the Conejo volcanic soils of the Santa Monica Mountains in Ventura County. It was included in the target species list since it is also known from the Simi Hills. Field surveys were coordinated with blooming times observed in the population in Moorpark, Ventura County. It was not detected during focused surveys and is not expected to occur in the Verdugo Mountains due to lack of suitable substrate and/or habitat.

Chaparral Rein Orchid (*Piperia cooperi*)

The chaparral rein orchid was recently designated as a CNPS List 4 plant (watch list). It ranges from Ventura County south to Baja California and Sonora, Mexico. Its preferred microhabitat is dry shrublands or forests from 50 to 5,000 feet elevation. Where it occurs it is never common, occurring

as a few individuals at most. It was carefully searched for in open chaparral and burn sites, but was not recorded during the survey program. It is not expected to occur in the Study Area based on the lack of detection.

Fish's Milkwort (*Polygala cornuta* var. *fishiae*)

Fish's milkwort is a shrubby perennial in the milkwort family, designated as a CNPS List 4 plant (watch list). This species is found throughout Southern California and Baja California in shaded, rocky places in canyons below 3,000 feet, often in dense patches that increase the potential for detection. This distinctive shrub was not observed in the Study Area during focused surveys and is not expected to occur there based on the lack of detection.

Engelmann's Oak (*Quercus engelmannii*)

Engelmann's oak is a CNPS List 4 species (watch list). This deciduous tree is found from Los Angeles County south into Baja California. It is associated with many plant communities, including chaparral, valley and foothill grassland, riparian woodland, and cismontane woodland. As with most other white oaks, Engelmann's oak commonly hybridizes with other oaks, including California scrub oak (*Q. berberidifolia*) and leather oak (*Quercus durata* var. *gabrielensis*). GLA did not locate any trees of this species during focused surveys or during the tree survey program, and it is not likely present based on the lack of detection. However, a few Engelmann-scrub oak hybrid shrubs (*Q. durata* x *Q. engelmannii*) were identified on the project site, which would be expected since *Q. engelmannii* has been documented from the Verdugo Mountain region.

Parish's Gooseberry (*Ribes divaricatum* var. *parishii*)

This gooseberry inhabits riparian woodlands at elevations of 200 to 350 feet. It is probably extinct in the wild, having last been seen in 1980. This easily detected plant was not observed during focused surveys.

Matilija Poppy (*Romneya coulteri*)

Coulter's matilija poppy is a CNPS List 4 species (watch list). Its range extends from Los Angeles County east to Riverside County, the Santa Ana Mountains in Orange County, and south to San Diego County. It occurs in dry washes and canyons away from the immediate coast (75 to 3,500 feet elevation), and prefers burn areas in chaparral. This easily detected plant with large flowers was not observed during focused surveys and is not expected to occur there due to the lack of detection.

Rayless Ragwort (*Senecio aphanactis*)

Rayless ragwort is an annual herb in the aster family, designated as a CNPS List 2 plant (plants, rare, threatened, or endangered in California, but more common elsewhere), and known from many localities in California. This species occurs on drying alkaline flats and open areas. This species was not observed within the Study area and is not expected to occur there due to the lack of alkaline habitat.

Salt Spring Checker Bloom (*Sidalcea neomexicana*)

The salt spring checkerbloom is a CNPS List 2 plant (plants, rare, threatened, or endangered in California, but more common elsewhere). It ranges from Santa Barbara County into Baja and Sonora Mexico. It was included in the target list of species due to the presence of seeps in the region. This distinctive species was not observed in the Study Area and is not expected to occur there due to the absence of alkaline habitats.

Sonoran Maiden Fern (*Thelypteris puberula* var. *sonorensis*)

Sonoran maiden fern is an annual herb in the thelypteris family, which designated as a CNPS List 2 plant (plants, rare, threatened, or endangered in California, but more common elsewhere). This species is known from approximately 10 sites in Southern California, but is more common in Arizona and Mexico. Sonoran maiden fern occurs along streams and seeps below 1,500 feet. This species was not observed in the Study Area during focused surveys and is not expected to occur there due to the lack of suitable habitat.

Endemic Vernal Pool Flora

Vernal pools provide habitat for several State- or federally-listed endemic plant species that are restricted to seasonally ponded depressions, including California Orcutt's grass (*Orcuttia californica*) and spreading navarretia (*Navarretia fossalis*), which have been recently reported from Los Angeles County. Vernal pools, and their endemic flora, do not occur in the Study Area.

Special-Status Lichens

Focused surveys were conducted for 61 special-status or uncommon lichen species with the potential to occur in the Study Area. None of these lichens were identified during focused surveys, and they were not collected during floristic surveys for vascular plants or recorded during the oak tree survey program. Conspicuously absent from the Study Area are the large foliose (leafy) and fruticose (bushy) lichens that are normally present on oaks and/or rock outcrops in undisturbed and unpolluted natural environments.

The lichen flora of the Verdugo Mountains and surrounding San Gabriel Mountain habitat areas is poorly developed. In fact, most habitats in the Study Area are entirely barren of any lichen growth or are severely impoverished in cover, diversity, and health or fertility. The poor development of the lichen flora in this region may partly be due to natural causes and environmental factors, such as the prevalence of dry and/or exposed sites, but there are a number of other probable explanations, including air pollution, which are well documented in the literature. Definite evidence of the negative effects of air pollution on lichen diversity, abundance, fertility, and health have been documented for the San Gabriel Mountains^{43,44,45}. Historically, loss of species diversity, including taxa once common throughout Southern California, such as *Evernia prunastri*, may be directly attributed to a rise in air pollution in the Los Angeles basin.^{46,47} Other widespread and easy to identify species, including species that are relatively tolerant to oxidant air pollutants such as *Melanelia elegantula* and *Hypogymnia imshaugii*, have also been extirpated from the Verdugo Mountains. Sustained pollution levels will continue to negatively impact the lichens of this region.⁴⁸

Lichen distribution is also greatly affected by substrate and fire history. Soils associated with the Study Area are chiefly composed of (a) the highly eroded Vista-Amargosa Association, which formed in material that was weathered in place from granitic rock, and (b) the Gaviota-Millsholm Association, which are excessively drained soils that formed in material that was weathered in place from sandstone. Due to the prevalence of easily eroded soils and crumbling decomposed granitic rocks, unstable substrates necessary for the persistence of well-developed soil and rock lichen communities is not found in the Study Area. *Texosporium sancti-jacobi*, a CDFG Species of Special Concern, which has been

⁴³ Nash III, T.H. and Sigal, L.L. 1998. Epiphytic lichens in the San Bernardino Mountains in relation to oxidant gradients. Chapter 9, pp. 223-234. In: Miller, P. and McBride, J. (eds.) *Air Pollution Impacts in the Montane Forests of Southern California: A Case Study of the San Bernardino Mountains*. Ecological Studies vol. 134 New York Springer Verlag.

⁴⁴ Sigal, L. and T.H. Nash III. 1983. Lichen communities on conifers in southern California mountains: an ecological survey relative to oxidant air pollution. *Ecology* 64: 1343-1354.

⁴⁵ Neele, M. 1988. Lichens and air pollution in the San Gabriel Wilderness, Angeles National Forest, California. *Earth Resources Monograph* 13; 53 pp. Forest Service/USDA Region 5.

⁴⁶ Hasse, H.E. 1913. *The lichen flora of southern California*. Contributions from the United States National Herbarium, Vol. 17, Part I. Washington Government Printing Office. 133 pgs.:

⁴⁷ Boonpragob, K. and Nash III, T.H. 1991. Physiological responses of the lichen *Ramalina menziesii* Tayl. to the Los Angeles urban environment. *Envir. Exp. Bot.* 31: 229-238.

⁴⁸ Nash III, T.H. and L.L. Sigal. 1980. Sensitivity of lichens to air pollution with an emphasis on oxidant air pollutants. pp. 117-123. In: Miller, P.R. (tech. coord.) *Proc. Symp. Effects of Air Pollutants on Mediterranean and Temperate Forest Ecosystems: an International Symposium*. U.S.A. Gen. Tech. Rept. PSW-43.

recently discovered in western Riverside County, requires long-term, stable soil surfaces conditions to persist.⁴⁹ It is also sensitive to fire.

Frequent and severe fires have also likely negatively impacted the lichen flora in the Study Area. This is clearly evidenced by the poor development of lichens on oak trees in the deeper canyons. The tree survey program documented frequent fire scarring of bark that has led to a probable reduction in species diversity and a probable reduction in total percent cover of lichens on trees and shrubs. Fire has also been demonstrated to kill lichens on rocks. It can be inferred that air pollution effects and impaired regeneration of lichens on trees and rocks subject to fire have greatly diminished the diversity and abundance of lichens in the region.

Native Trees

A Tree Inventory and Impact Analysis (“Tree Report”) was prepared for the project site and the approximate southwest quarter of the Duke Property pursuant to (1) the Oak Tree Regulations set forth in Section 46.00 *et seq.* of the Los Angeles Municipal Code (LAMC) and (2) the “Instructions for Filing Tentative Tract Maps” (Items B.11 and B.12) issued by the Department of City Planning. The Oak Tree Regulations and the Tentative Tract Map filing guidelines require that all oak trees with diameters at breast height (DBH) of eight inches or greater and other trees with DBHs of 12 inches or greater that are located within 100 feet of the proposed limits of disturbance be identified and mapped on a site plan. The complete Tree Report is attached as Appendix B to the Biological Technical Report.

Existing conditions and project-related impacts to native trees are discussed in detail in Section IV.D.2, below. The following is a summary of existing tree conditions. Of an estimated 1,382 native trees, including approximately 1,249 coast live oaks in the Study Area, GLA identified 425 coast live oaks with DBHs of eight inches or greater. A total of 133 western sycamores were identified in the Study Area, of which 61 western sycamores with DBHs of 12 inches or greater are located within or adjacent to the development footprints in the Study Area. In addition to the coast live oak (*Quercus agrifolia*; & *Q. agrifolia* var. *oxyadenia*) and western sycamore (*Platanus racemosa*), a single Southern California black walnut (*Juglans californica* var. *californica*) was observed with a trunk less than 5 inches DBH, which therefore was not recorded during the tree survey program.

Coast Live Oak

The coast live oak (*Quercus agrifolia*) is an evergreen tree common to valleys and lower elevation mountain slopes of coastal California, from Mendocino County to northern Baja. This is a slow-

⁴⁹ Riefner, R.E., Jr., G. Pratt, and R. Shlemon. *In press. A rare lichen, and endangered butterfly, and open-habitat soils: interacting components that require protection in southern California. Crossosoma.*

growing tree that commonly exceeds 250 years of age. It can grow to 100 feet tall and its canopy can exceed 100 feet in width. Its acorn production and large size lend itself well to support of a large number of invertebrate and vertebrate animal species. The dark green leaves are 0.8 to 4 inches long and are oval and convex with spiny margins. The acorns are 0.8 to 1.6 inches long and are elongated into a narrow cone with a pointed tip. The bark is smooth and gray on the outside and reddish on the inside, at the furrows in the bark.

Southern California Black Walnut

Southern California black walnut (*Juglans californica* var. *californica*) commonly occurs with the coast live oak in many plant communities on the site. Regionally, the distribution of the walnut is patchy, occurring from the Santa Monica Mountains south to the Santa Ana River. In many areas, particularly along the southern edge of the Transverse Ranges, the walnut has been replaced by development. The tree grows to nearly 75 feet tall and the leaves are pinnately compound, with individual leaflets of three to ten cm in length. This species produces nutritious walnuts that are commonly eaten by mammals and birds. Southern California black walnut is designated as a CNPS List 4 (watch list) species.

Western Sycamore

The western sycamore (*Platanus racemosa*) is a deciduous tree in the honeysuckle family that occurs in open areas or along stream banks in valleys and woodlands throughout California. On the site, this species occurs within La Tuna Canyon Wash and in limited numbers in Drainage 4. This is a rapidly growing tree that can live well over 200 hundred years. It can grow to 100 feet tall and exhibits a spreading form with an open, generally rounded crown. Its height lends itself to nesting opportunities for birds; however, its fruit provides only a minor food source. The leaves are 4.7 to 10 inches long and wide with three to five lobes about half the length of the leaf. The leaves are light green and hairy on the upper surface. Its bark is generally smooth and mottled with gray, white and tan colors.

Special Status Wildlife Species

Special-Status Species Observed in the Study Area

Ashy Rufous-Crowned Sparrow (Aimophila ruficeps canescens)

The ashy rufous-crowned sparrow, which is a CDFG Species of Special Concern, is a year-round resident of Southern California.⁵⁰ It is frequently found in coastal sage scrub, open chaparral, and in

⁵⁰ CDFG has recently proposed removing Species of Special Concern Designation from this species because CDFG has determined that this species is more common and widespread than previously thought. Since the Fish and Game Commission has not yet voted on the proposed change in status, its current designation as a Species of Special Concern is recognized. However, when considering potential

other dry habitats. Like other sparrows, it primarily eats seeds and insects. Ashy rufous-crowned sparrows were identified north and south of Interstate 210 with a total of five sightings. Figure IV.D-2 shows the location of these birds.

Yellow-Breasted Chat (Icteria virens)

The yellow-breasted chat, which is a CDFG Species of Special Concern, is a migratory songbird that breeds in riparian habitats in Southern California. This species exhibits habitat requirements similar to least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. Protocol surveys for least Bell's vireo within La Tuna Canyon Wash and in Drainage 4 did not detect this distinctive and very vocal species. This species was detected in Drainage 14, an area proposed for preservation, during general surveys. Figure IV.D-2 shows the single location detected for this species.

Yellow Warbler (Dendroica petechia)

The yellow warbler, which is a CDFG Species of Special Concern, is a migratory songbird that breeds in riparian habitats in Southern California. This species exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. Protocol surveys detected a single individual of this distinctive species on the Duke Property. Figure IV.D-2 shows the single location detected for this individual bird.

Vaux's Swift (Chaetura vauxi)

Vaux's swift, which is a CDFG Species of Special Concern, is a migratory songbird that breeds in old-growth forests in the Sierra Nevada and from northern California to Washington. This species feeds on insects on the wing, typically over lakes, rivers, or riparian areas. A few Vaux's swifts were observed foraging over La Tuna Canyon Wash with white-throated swifts on April 29, 2002 (which is during the migration period for this species). This species was not observed during subsequent surveys. The birds observed were undoubtedly migrating individuals moving through the area on their way to breeding areas further to the north and, therefore, these sightings were not mapped.

impacts, the lack of threat and its widespread and common distribution are also recognized and considered.

Species for Which Potentially Suitable Habitat Occurs But Were Not Observed in the Study Area***Coastal California Gnatcatcher (*Polioptila californica californica*)***

The federally-listed threatened coastal California gnatcatcher occurs in many areas of cismontane Southern California from Ventura County to San Diego County. These birds are not common in the vicinity of the Study Area, but have been identified in the western end of the Verdugo Mountains.

GLA conducted surveys for the coastal California gnatcatcher according to the guidelines issued by the USFWS.⁵¹ The surveys were conducted between April 29 and June 5, 2002 and covered all areas of coastal sage scrub, coastal sage scrub-chaparral ecotone, and areas of chaparral adjacent to coastal sage scrub. No coastal California gnatcatchers were observed in the Study Area. A letter report dated July 14, 2002 documenting the findings of the surveys was submitted to USFWS and is attached as Appendix E to the Biological Technical Report.

Least Bell's Vireo (*Vireo belli pusillus*)

Least Bell's vireo is a State- and federally-listed migratory songbird that breeds in riparian habitats in Southern California. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. GLA conducted protocol surveys for least Bell's vireo in La Tuna Canyon Wash and Drainage 4 according to USFWS guidelines.⁵² The surveys were conducted between April 10 and July 31, 2002. Least Bell's vireo was not detected during the surveys and is not likely to occur in the Study Area as the habitat appears marginal, lacking dense understory thickets needed for nesting by this species.

Cooper's Hawk (*Accipiter cooperii*)

The Cooper's hawk is a CDFG Species of Special Concern. Cooper's hawks are found in woodland habitats. They prey primarily on birds but they are known to eat small mammals, reptiles, amphibians, insects and fish. Cooper's hawks were observed during "fly-overs", presumably during foraging trips and likely forage in the Study Area. Nesting or other breeding activities were not observed during the numerous avian surveys, although potential breeding habitat occurs within the riparian habitat associated with La Tuna Canyon Wash and oak woodlands in the Study Area.

Two-Striped Garter Snake (*Thamnophis hammondi*)

The two-striped garter snake is a CDFG Species of Special Concern. This species was not recorded in the CNDDDB as occurring in the vicinity of the Study Area; however, at least marginally suitable habitat

⁵¹ U.S. Fish and Wildlife Service. 1997. *Coastal California Gnatcatcher (*Polioptila californica californica*). Presence/Absence Survey Guidelines, February 28, 1997.*

⁵² U.S. Fish and Wildlife Service. 1999. *Least Bell's Vireo Survey Guidelines, April 8, 1999.*

was noted in La Tuna Canyon Wash during botanical surveys and surveys for the coast range California newt. This species requires year-round or near year-round water with riparian or emergent vegetation. This species was not detected during surveys and is not expected to occur in the Study Area due to lack of detection.

Coast Range California Newt (Taricha torosa torosa)

The Coast Range California newt, a CDFG Species of Special Concern, occurs in the Coast Ranges, Transverse Ranges, and Peninsular Ranges from central Mendocino County to San Diego County. It is commonly found in or near seasonal or permanent streams under cover of trees. Adults are sedentary during the dry season and become active after the first fall rains. Breeding occurs in shallow pools and eggs are attached to vegetation or rocks. Breeding adults and aquatic larvae are active during the day and at night. Focused surveys were conducted for this species within LA Tuna Canyon Creek and Drainage 4. This species was not identified in the Study Area. This species was not detected during surveys and is not expected to occur in the Study Area due to lack of detection.

San Diego Coast Horned Lizard (Phrynosoma coronatum blainvillii)

The San Diego coast horned lizard is a CDFG Species of Special Concern. This species occurs in areas characterized by loose, fine soils with a high sand fraction, along with native harvester ants (*Pogonomyrmex* spp.). Native harvester ants were identified in the Study Area; however, no horned lizard scat was observed. Although not detected, the San Diego coast horned lizard is expected to occur in the Study Area in low-density scrub with sandy soils.

Silvery Legless Lizard (Anniella pulchra pulchra)

The silvery legless lizard is a CDFG Species of Special Concern. This small secretive species lives and forages in leaf litter and under small debris within sandy washes, scrub habitats and woodlands. Although not detected, it is expected that this species occurs in low numbers in the Study Area within areas of oak woodland with well-developed leaf litter.

Orange-Throated Whiptail (Cnemidophorus hyperythrus)

The orange-throated whiptail is a CDFG Species of Special Concern. This species occupies a variety of habitats, including coastal sage scrub, chaparral, and grasslands and is still fairly common throughout its range. It prefers sandy areas such as washes and outcrops with rocks and vegetation. This species was not detected in the Study Area; however, it likely occurs within areas of suitable habitat, which occur in small pockets throughout the Study Area.

San Diego Black-Tailed Jackrabbit (Lepus californicus bennettii)

The San Diego black-tailed jackrabbit is a CDFG Species of Special Concern. This jackrabbit occurs in coastal sage scrub habitats in Southern California and is often associated with intermediate canopy stages of shrub habitats and herbaceous edges. The nearest record for this species was in May 2001, when one adult was observed in Big Tujunga Wash, south of Interstate 210. Portions of the Study Area support marginal habitat for this species. However, this distinctive species was not observed in the Study Area and is not expected to occur there based on the lack of detection.

Species Considered to Have Potential for Occurring in the Study Area Due to Range or Other Factors for Which Suitable Habitat was Not Identified*Cactus Wren (Campylorhynchus brunneicapillus anthonyi)*

The Cactus wren in Southern California is considered to comprise two distinct subspecies (*C.b. sandiegensis* and *C.b. anthonyi*). The coastal cactus wren (*C.b. sandiegensis*) occurs in coastal Orange and San Diego Counties, extending into Mexico, while the coastal-slope populations in Riverside, San Bernardino, Los Angeles, Ventura, and northern Orange Counties are classified as (*C.b. anthonyi*), the same subspecies that occurs in the deserts of California and Western Arizona. The *sandiegensis* subspecies is considered a CDFG Species of Special Concern, but *anthonyi* is not considered to be rare or sensitive. The cactus wren is usually associated with habitats dominated by prickly-pear or cholla cactus. No suitable habitat for this species occurs in the Study Area and it was not detected there.

Arroyo Southwestern Toad (Bufo microscaphus californicus)

The arroyo southwestern toad is federally listed as endangered and a CDFG Species of Special Concern. Habitat for arroyo southwestern toad consists of rocky, open floodplains along larger watercourses such as the nearby Big Tujunga Wash. No suitable habitat occurs in the Study Area.

Mountain Yellow-Legged Frog (Rana muscosa)

The mountain yellow-legged frog is proposed by the USFWS as endangered and is a CDFG Species of Special Concern. In Southern California, mountain yellow-legged frogs have been observed in the San Gabriel, San Bernardino, and San Jacinto Mountains, with an additional isolated population on Mt. Palomar in northern San Diego County. In contrast to the mountain yellow-legged frogs in the Sierra Nevada that primarily inhabit lakes and ponds, frogs in Southern California most commonly inhabit streams, where they are almost always encountered within a few feet from water. This frog is found at elevations ranging from 1,200 to 7,500 feet. Records for the mountain yellow-legged include Switzer Camp (Arroyo Seco), Honeybee campground (Upper Pacoima Canyon), the mouth of Big Tujunga Canyon north of Sunland, Big Tujunga Canyon from one mile west of Wickiup Campground to Angeles Forest highway bridge, Woodwardia Canyon about three miles south of Big Tujunga Dam, and Mill

Creek above Big Tujunga Canyon. All observations occurred between 1930 and 1968. This species was not observed during general and focused wildlife surveys within areas of suitable habitat and is not expected to occur in the Study Area based on the lack of detection as well as the long-term isolation of the Study Area from the San Gabriel Mountains by intervening development.

California Red-Legged Frog (Rana aurora draytoni)

Habitat for California red-legged frog consists of deep shaded permanent pools in stream courses. No suitable habitat occurs in the Study Area.

Western Pond Turtle (Clemmys marmorata)

The western pond turtle (a.k.a. southwestern pond turtle) is a CDFG Species of Special Concern. This aquatic turtle is associated with permanent or semi-permanent pools. Semi-permanent pools in La Tuna Canyon Wash are typically very small and do not appear capable of supporting this species. Focused surveys were conducted for this species within La Tuna Canyon Wash and Drainage 4. This species was not detected during general and focused wildlife surveys and is not expected to occur in the Study Area.

Santa Ana Speckled Dace (Rhiniichthys osculus)

The Santa Ana speckled dace is a fish designated as a CDFG Species of Special Concern. This species requires year-round flowing water with low summer water temperatures. The nearest recorded record for this species was Big Tujunga Creek near Vogel Flat Campground. Surveys during 1990-92 did not detect this species, and is believed extirpated from the region. Drainage 4 is an intermittent drainage, only flowing during the rainy season and does not represent suitable habitat. La Tuna Canyon Wash is also intermittent, becoming dry in summer or fall and would not be suitable habitat for this species.

Santa Ana Sucker (Catostomus santaanae)

The Santa Ana sucker is federally listed as threatened and is a CDFG Species of Special Concern. This fish species requires year-round flowing water with low summer water temperatures. The nearest recorded record for this species was Big Tujunga Creek near Vogel Flat Hansen Dam and into Big Tujunga Canyon. Drainage 4 is an intermittent drainage, only flowing during the rainy season and does not represent suitable habitat. La Tuna Canyon Wash is also intermittent, becoming dry in summer or fall and would not be suitable habitat for this species.

Arroyo Chub (Gila Orcutti)

The arroyo chub is a fish designated as a CDFG Species of Special Concern. This species requires year-round flowing water with deep pools and muddy substrate. As noted for the Santa Ana speckled

dace and the Santa Ana sucker, suitable habitat does not occur onsite and this species could not survive in the Study Area.

Southwestern Willow Flycatcher (Empidonax traillii extimus)

Suitable habitat for the southwestern willow flycatcher is not present in the Study Area.

Listed Species of Fairy Shrimp

Habitat for federally listed species of fairy shrimp, including the vernal pool fairy shrimp (*Branchinecta lynchii*), Riverside fairy shrimp (*Streptocephalus woottoni*), and San Diego fairy shrimp (*Branchinecta sandiegonensis*) does not occur in the Study Area.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the CEQA Guidelines, a project may have a significant impact on the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Project Impacts

Based on the site plan for the proposed project, approximately 304.77 acres of the project site would be disturbed and potentially impact biological resources. The 304.77 acres consist of (1) approximately 211.0 acres affected by grading and not revegetated, (2) approximately 46.43 acres subject to brush

clearance, and (3) 47.34 acres that would be subject to partial impacts associated with brush thinning within the fuel modification zone (provided that, as discussed below, the vegetation loss is limited to 50 percent within the brush-thinning zone). An additional 23.32 acres would be subject to remedial grading impacts, but would be revegetated with native species following remedial grading and would be preserved as natural open space. Impacts associated with project grading and fuel modification were analyzed by FORMA Systems using the biological survey data that was converted to a GIS format.

Figure IV.D-4 graphically displays the zones of temporary and permanent impacts due to grading and fuel modification. Table IV.D-6 summarizes impacts to each vegetation association. These impacts include all anticipated disturbance to the ground, including mass grading, temporary remedial grading, road construction, fuel modification and utility easements. Table IV.D-6 includes separate calculations for fuel modification activities that result in impacts to native woodland or scrub vegetation associations due to either complete or partial clearing. For example, highly flammable chaparral would be virtually eliminated where it occurs within a brush clearance zone (up to 100 feet from occupiable structures) and would be considered a “full” impact. For brush-thinning zones (between 100 and 200 feet from occupiable structures), thinning to approximately 50-percent cover would be required, which is considered a “partial” impact because the habitat would retain considerable function. For instances where coast live oak woodland would be subject to fuel modification, clearing would be restricted to the understory layer and pruning of the lower branches of some trees. However, no mature trees would be removed and these areas would still retain substantial habitat value. Therefore, impacts to woodland vegetation types within fuel modification/thinning zones are also considered partial impacts. For both scrub and woodland habitats subject to partial clearing, the impacts have been calculated as a 50-percent loss. For example, if 10 acres of mixed chaparral would be subject to thinning/partial clearing, that would be considered a five-acre impact.

In addition to permanent impacts from grading and the fuel modification impacts, there would also be 23.32 acres of habitat affected by remedial grading, but would be revegetated with native habitat once grading is completed.

Figure IV.D-4

Zones of Temporary and Permanent Impact within Project Site

Table IV.D-6
Project Impacts by Vegetation Association
Canyon Hills Project

Vegetation Associations	Total Acres Onsite	Permanent Grading Impacts	Temporary Grading Impacts (Restored w/ Native Vegetation)	Brush Clearance ^a (Ungraded Areas)	Brush Thinning/ Functional Impact ^b (Ungraded Areas)	Total Acres of Permanent Impact ^c
Canyon Hills Project Site						
Mixed Chaparral	699.31	196.94	18.47	41.84	40.8/20.4	259.18
Coastal Sage Scrub	75.41	0.79	0.37	0.5	1.12/0.56	1.85
Deerweed Scrub	8.13	1.03	1.33	0.44	1.1/0.55	2.02
Mulefat Scrub	0.66	0.0	0.0	0.0	0.0	0.0
Chamise Chaparral	51.86	7.12	0.0	3.62	2.72/1.36	12.10
So. Mixed Riparian Forest	24.59	2.23	1.21	0.0	0.81/0.41	2.64
So. Coast Live Oak Woodland	2.6	0.25	0.0	0.0	0.0	0.25
Chamise Chaparral-CSS Ecotone	8.89	1.5	1.79	0.0	0.0	1.50
So. Coast Live Oak Riparian Forest	11.74	0.52	0.15	0.02	0.13/0.07	0.59
Southern Willow Scrub	2.09	0.31	0.0	0.0	0.0	0.31
Disturbed-Ruderal	1.63	0.31	0.0	0.0	0.0	0.31
Subtotal	886.93	211.0	23.32	46.43	47.34/23.67	280.75
Duke Property^d						
Mixed Chaparral	43.4	10.0	Not required	Not required	Not required	10.0
Southern Coast Live Oak Woodland	11.0	0.0	Not required	Not required	Not required	0.0
Southern Coast Live Oak Riparian Forest	1.6	0.0	Not required	Not required	Not required	0.0
Subtotal	56.0	10.0	Not required	Not required	Not required	10.0
TOTAL	943	221.0	NA	NA	NA	290.75
^a The Brush Clearance zone is the portion of the fuel modification zone located between zero and 100 feet from occupiable structures. ^b The Brush-Thinning zone is the portion of the fuel modification zone located between 100 and 200 feet from occupiable structures. The "functional impact" is derived by multiplying the acreage of the area subject to brush thinning by 0.5, based on the assumption that a brush-thinning zone would exhibit approximately one-half of the function exhibited by undisturbed habitats. ^c Permanent impacts do not include areas that would be subject to remedial grading, but would be revegetated with native species upon completion of grading. ^d Evaluation of the Duke Property was conducted for purposes of evaluating cumulative impacts. The approved 10-home Duke Project assumes approximately 10 acres of impact.						

Impacts to Vegetation Associations

Mixed Chaparral

Implementation of the proposed project would result in permanent impacts to 259.18 acres of mixed chaparral, including 196.94 acres associated with grading, 41.84 acres associated with brush clearance, and 20.40 acres associated with brush thinning. Approximately 18.47 acres of mixed chaparral would be subject to remedial grading impacts, but would be revegetated with native species upon completion of remedial grading. Mixed chaparral is abundant on the south face of the San Gabriel Mountains, with thousands of acres protected in the Angeles National Forest. The Verdugo Mountains also support thousands of acres of chaparral of which mixed chaparral is a major component. Mixed chaparral is not listed as a Rare Natural Community by CDFG. The permanent loss of 259.18 acres of mixed chaparral would be a less-than-significant impact. The preservation of approximately 440.133 acres of mixed chaparral in natural open space would further reduce the less-than-significant impact.

Coastal Sage Scrub

Implementation of the proposed project would result in the loss of 1.85 acres of Venturan coastal sage scrub (CSS), including 0.79 acre associated with grading, 0.50 acre associated with brush clearance, and 0.56 acre associated with brush thinning. Approximately 0.37 acre of coastal sage scrub would be graded, but would be revegetated with native species upon completion of remedial grading. Coastal sage scrub is listed as a Rare Natural Community by CDFG (S2.1). As discussed previously, protocol surveys during the 2002 breeding season indicated that the coastal California gnatcatcher does not occur in the Study Area. One of the criteria for designating coastal sage scrub as a special-status vegetation association is because regionally it supports a substantial number special-status plants and animals. The coastal sage scrub on the project site supports no special-status plant species and very limited special-status animal species, including ashy-rufous crowned sparrow and presumably the coast horned lizard and orange-throated whiptail lizard. Because only small amounts of coastal sage scrub would be affected by the proposed project and approximately 73.56 acres of coastal sage scrub would be preserved, the impact would be less than significant.

Deerweed Scrub

Implementation of the proposed project would result in the loss of 2.02 acres of deerweed scrub associated with artificial slopes adjacent to Interstate 210, including 1.03 acres associated with grading, 0.44 acre associated with brush clearance, and 0.55 acre associated with brush thinning. Approximately 1.33 acres of deerweed scrub would be subject to remedial grading, but would be revegetated with native species upon completion of remedial grading. Deerweed is typically associated with areas that have been disturbed by fire or grading. In post-fire areas deerweed is important because it “fixes” nitrogen, replenishing nitrogen stores that are typically volatilized during fires. Deerweed,

however, does not provide significant habitat and loss of 2.02 acres of deerweed from an artificial slope would be a less-than-significant impact.

Mulefat Scrub

Implementation of the proposed project would not result in the loss of any mulefat scrub associated with drainages on the project site.

Chamise Chaparral

Implementation of the proposed project would result in impacts to 12.10 acres of chamise chaparral, including 7.12 acres associated with grading, 3.62 acres associated with brush clearance, and 1.36 acres associated with brush thinning. Like mixed chaparral discussed above, chamise chaparral is abundant throughout the San Gabriel Mountains, with thousands of acres protected in the Angeles National Forest. The Verdugo Mountains also support thousands of acres of chaparral of which chamise chaparral is also a major component. Chamise chaparral is not listed as a Rare Natural Community by CDFG. In fact, chamise chaparral is the most common chaparral association in California.⁵³ The loss of 12.10 acres of chamise chaparral would be a less-than-significant impact. It should also be noted that approximately 39.76 acres of chamise chaparral would be preserved in natural open space.

Southern Mixed Riparian Forest

Implementation of the proposed project would result in the loss of 2.64 acres of southern mixed riparian forest associated with Drainage 4 and La Tuna Canyon Wash. Of the 2.64 acres, 0.68 is subject to regulation by CDFG pursuant to Section 1603 of the California Fish and Game Code. The remaining 1.96 acres was determined to be outside of CDFG jurisdiction pursuant to Section 1603. In addition to permanent impacts, approximately 1.21 acres would be subject to temporary impacts during construction of bridges over La Tuna Canyon Wash, but would be revegetated following completion of bridge construction. This area is beyond the streambed or bank and is not subject to CDFG jurisdiction pursuant to Section 1603. Southern mixed riparian forest is listed as a Rare Natural Community by CDFG. Impacts to the southern mixed riparian forest, including both areas subject to regulation pursuant to Section 1603 and areas outside of Section 1603 jurisdiction, would be significant prior to mitigation.

Southern Coast Live Oak Woodland

Implementation of the proposed project would result in the loss of 0.25 acre of southern coast live oak woodland. Southern coast live oak woodland is not listed as a Rare Natural Community by CDFG.

⁵³ Hanes, Ted L. 1988. *California Chaparral*. In: Barbour, M. and J. Major (eds.). *Terrestrial Vegetation of California*. California Native Plant Society, Special Publication No. 9, Sacramento.

Impacts and associated mitigation for the loss of individual coast live oaks and western sycamores is addressed in Section IV.D.2 (Native Trees).

Chamise Chaparral-Coastal Sage Scrub Ecotone

Implementation of the proposed project would result in permanent impacts to 1.5 acres of chamise chaparral-coastal sage scrub ecotone and temporary impacts to 1.79 acres that would be revegetated following completion of remedial grading. Chamise chaparral-coastal sage scrub ecotone is not listed as a Rare Natural Community by CDFG. As noted above, chamise chaparral is the most common chaparral association in California (as note above). The loss of 1.5 acres of chamise chaparral-coastal sage scrub ecotone would be a less-than-significant impact.

Southern Coast Live Oak Riparian Forest

Implementation of the proposed project would result in the loss of 0.59 acre of southern coast live oak riparian forest associated with grading in Drainage 4 and adjacent to La Tuna Canyon Wash. Of the 0.59 acre, 0.04 acre has been determined to be subject to CDFG jurisdiction pursuant to Section 1603 of the California Fish and Game Code, with 0.55 acre not subject to CDFG jurisdiction. In addition, 0.15 acre would be affected during remedial grading, but would be revegetated following completion of grading. This area is beyond the streambed or bank and is not subject to CDFG jurisdiction pursuant to Section 1603. Southern coast live oak riparian forest is listed as a Rare Natural Community by CDFG. Impacts to southern coast live oak riparian forest would be significant prior to mitigation. The impact to individual oak trees within this habitat that are outside the limits of CDFG jurisdiction would also require mitigation pursuant to Section 46.02 of the LAMC.

Southern Willow Scrub

Implementation of the proposed project would result in the loss of 0.31 acre of southern willow scrub associated with the lower reaches of Drainage 4. Of the 0.31 acre, 0.02 acre is subject to CDFG jurisdiction under Section 1603 of the California Fish and Game Code. Southern willow scrub is listed as a Rare Natural Community by CDFG and impacts to southern willow scrub would be significant prior to mitigation.

Disturbed-Ruderal

Implementation of the proposed project would result in impacts to 0.31 acres of Disturbed or Ruderal Areas. These areas exhibit very low habitat function. Impacts to disturbed or ruderal areas would be less than significant.

Corps and CDFG Jurisdiction

Out of approximately 6.46 acres of Corps jurisdiction at the project site, construction of the proposed project would impact approximately 2.06 acres of Corps jurisdiction, none of which is jurisdictional wetlands. The loss of 2.06 acres of non-wetland waters of the U.S. would be significant prior to mitigation.

Out of approximately 9.12 acres of CDFG jurisdiction at the project site, construction of the proposed project would impact approximately 2.45 acres of CDFG jurisdiction, of which 0.74 acre consists of vegetated riparian habitat. The approximately 2.45 acres of impacted CDFG jurisdiction include all 2.06 acres of Corps jurisdiction. The loss of 1.71 acres of CDFG jurisdictional streambeds and 0.74 acre of associated riparian habitat would be significant prior to mitigation. As noted above, CDFG conducted a site visit on March 3, 2003 and subsequently approved the jurisdictional delineation. The impacts addressed in this analysis reflect the results of the field visit. During the site visit, it was determined that areas mapped as southern coast live oak riparian forest and southern mixed riparian forest contained a number of coast live oaks that were rooted on terraces or slopes well above the bed, banks or channel and, as such, their removal would not be regulated pursuant to Section 1603. Specific impacts to CDFG-regulated riparian habitats associated with the project (some of which is also part of the Corps jurisdictional acreage) are as follows:

- Southern coast live oak riparian forest – 0.04 acre
- Southern mixed riparian forest – 0.68 acre
- Southern willow scrub – 0.02 acre

The impacts to Corps and CDFG jurisdictional streambeds and riparian habitats are shown in Figure IV.D-5. The jurisdictional streambeds shown in Figure IV.D-5 are represented by lines that are not directly proportional to the acreage of the actual jurisdictional streambed because some of the jurisdictional streambeds are so narrow that an accurate graphic representation at this scale is not possible. Therefore, the actual width of each jurisdictional streambed is depicted by the numbers adjacent to each representative line in Figure IV.D-5, as shown in the legend.

With provision of mitigation that ensures no-net-loss of habitat functions for wildlife, impacts to 0.74 acre of riparian habitat and 1.71 acres of unvegetated streambed would be less than significant. As noted above, under discussions of southern mixed riparian forest, southern coast live oak riparian forest, and southern willow scrub, portions of these habitats were determined to fall outside of CDFG jurisdiction pursuant to Section 1603. Nonetheless, these communities are considered rare by the CDFG and impacts to them would be significant before mitigation.

Figure IV.D-5 Jurisdictional and Non-Jurisdictional Impacts Map

Non-Jurisdictional Riparian Habitats

The construction of the proposed project would result in impacts to 2.8 acres of riparian habitat designated as Rare Natural Communities by CDFG, but which are not subject to CDFG jurisdiction, including southern mixed riparian forest (1.96 acres), southern coast live oak riparian forest (0.55 acre) and southern willow scrub (0.29 acre). The impacts to non-jurisdictional riparian habitats are shown in Figure IV.D-5.

Impacts to Special-Status Plants

Three special-status plant species were identified on the project site: ocellated Humboldt lily, Plummer's mariposa lily and California walnut. Plummer's mariposa lily was not identified within the Development Areas and would not be impacted by project grading, nor would there be impacts associated with fuel modification.

*Ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*)*

Implementation of the proposed project would result in the loss of 78 individuals of the ocellated Humboldt lily out of approximately 134 individuals identified on the project site. This species is a CNPS List 4 plant. Because this species is still common and widespread (it is known to occur in several Southern California counties, commonly found in canyons below 3,000 feet), the impacts to 78 individuals would be less than significant.

*California Walnut (*Juglans californica* var. *californica*)*

Implementation of the proposed project would result in the loss of one small Southern California black walnut tree with a DBH of less than 5 inches. California black walnut is a CNPS List 4 plant. Loss of a single, small black walnut tree would be a less-than-significant impact.

Native Trees

Impacts to native trees are discussed in detail in Section IV.D.2 (Native Trees).

Impacts (Including Potential Impacts) to Special-Status Wildlife Species

As noted above, focused surveys for the California gnatcatcher and least Bell's vireo did not detect these species and implementation of the proposed project would not affect these species. No State- or federally-listed species were identified in the Study Area. Potential impacts to other special-status species are addressed below.

Cooper's Hawk (Accipiter cooperii)

Implementation of the proposed project would not result in significant impacts to the Cooper's hawk. The project applicant is proposing to impact a limited amount (3.4 acres) of woodland habitat. However, many hundreds of the native oak trees in areas where a Cooper's hawk(s) was seen perching and foraging will be avoided. In addition, large foraging areas will be preserved. Due to preservation of the potential nesting and perching sites and substantial foraging areas, less-than-significant impacts to this species would occur.

However, if construction should occur during the breeding season for raptors, there is a potential for impacts to an active nest. The loss of an active nest of any Cooper's hawk, or a common raptor species such as the red-tailed hawk, would be considered a potential violation of California Fish and Game Code Section 3505.5 and would be significant before mitigation.

Ashy Rufous-Crowned Sparrow (Aimophila ruficeps canescens)

The ashy rufous-crowned sparrow was observed in low numbers foraging at four locations in the Study Area. The project applicant is proposing to preserve approximately 652 acres of native habitat (including areas dominated by scrub vegetation). Although some construction impacts would occur in or near areas where this species was observed foraging, sufficient habitat would be preserved on the project site for the small number of birds observed and, as such, a less-than-significant impact would occur.

San Diego Coast Horned Lizard (Phrynosoma coronatum blainvillii)

The San Diego coast horned lizard, although not detected during focused surveys, is expected to occur on the site including the proposed development areas. The project applicant is proposing to preserve approximately 652 acres of native habitat (including mostly areas dominated by scrub vegetation). These areas would provide sufficient habitat for the horned lizard on the project site. Potential impacts to this species, from the implementation of the proposed project would result in a less-than-significant impact.

Silvery Legless Lizard (Anniella pulchra pulchra)

The silvery legless lizard was not detected during focused surveys but is expected to occur in the Study Area in limited numbers. Any potential impacts would be more than mitigated through preservation of substantial areas of oak woodland and oak riparian forest that will provide sufficient habitat for this species on the project site. Potential impacts to this species associated with implementation of the proposed project would be less than significant.

Orange-Throated Whiptail (Cnemidophorus hyperythrus)

The orange-throated whiptail, although not detected during focused surveys, is expected to occur in the Study Area, including the proposed Development Areas. The project applicant is proposing to preserve 652 acres of native habitat on the project site (including areas dominated by scrub vegetation). These areas would provide sufficient habitat for the orange-throated whiptail on the project site. Potential impacts to this species associated with implementation of the proposed project would be less than significant.

Migratory Bird Treaty Act Considerations

Pursuant to the federal Migratory Bird Treaty Act, it is unlawful to “take” (i.e. capture, kill, pursue, or possess) migratory birds or their nests. Removal of vegetation associated with project implementation should not take place during the nesting season for most birds (March 15-August 15). The loss of an active nest of a migratory bird would be significant. With implementation of the recommended mitigation, this potential impact would be reduced to a less-than-significant level.

Wildlife Movement

There would be no significant impacts to regional or local wildlife movement associated with the proposed project. As detailed in the Wildlife Movement Study prepared for the project (see Section IV.D.3 (Wildlife Movement)), neither regional movement nor local movement would be adversely affected by construction of the proposed project.

Indirect Impacts

For many development projects constructed adjacent to areas of native habitat, indirect impacts are often associated with various phases of the development project, beginning at the time of initial grading and construction, and possibly continuing indefinitely. These impacts may occur as a single event, or can interact cumulatively to adversely affect native wildlife, plants, and their habitats.

Increased recreational and residential use, for example, can contribute to increased indirect impacts to native plants and vegetation communities. Where such impacts occur, they lead to further risk of disturbance resulting from vehicle use and human-caused incidences such as fire. Disturbance tends to drive native communities toward a higher percentage of non-native, weedy species, affecting the plant and animal makeup and distribution within a given area. Non-native plants, as an example, when used in landscaping or in livestock feed can escape and become naturalized, causing degradation of natural communities.

In order to analyze such potential impacts related in the post-development phase, it is necessary to compare the existing condition and the expected post-project condition. In the current condition, the

northern portion of the project site is highly inaccessible. Verdugo Crestline Drive provides limited access along the northern boundary of the project site; however, a few limited and very steep trails provide access to very limited portions of the project site where the trails dead-end. Steep topography and dense chaparral essentially preclude further access to essentially all the northern portion of the project site. Existing residential development located to the east of Development Area A provides limited access to Drainage 4; however, steep topography and dense vegetation (including thickets of poison oak) preclude access beyond a few points near the confluence of Drainage 4 and Tributary 4.9.

The southern portion of the project site, between La Tuna Canyon Road and Interstate 210, is less accessible than the northern portion of the project site as there are currently no roads or trails into this area. In order to reach this portion of the project site, it is necessary to enter from La Tuna Canyon Road, scale a steep slope to La Tuna Canyon Wash and scale the steep slope on the north side of La Tuna Canyon Wash. From La Tuna Canyon Wash, dense coastal sage scrub and chaparral combined with steep topography prevent access.

The uses described below have been identified as potential sources of indirect impact to wildlife associated with development. These potential impacts are in addition to direct habitat loss associated with grading and brush clearing for fuel modification.

Loss of wildlife habitat (cover, foraging, breeding sites) from opening up of vegetated areas to equestrian or other use.

One equestrian trail would be constructed within the project site, connecting the proposed equestrian park in the south-central portion of the project site to Development Area B. Creation of the trail would require creation of an eight- to ten-foot swath that would follow the existing contours of the land. Because of the dense chaparral and steep topography, access to surrounding open space from this trail would be precluded. Indirect impacts to wildlife would be less than significant.

One hiking trail would be constructed in Development Area A, providing access to a vista park to be located in the south-central portion of Development Area A. As noted above, the dense chaparral and steep topography would limit access to surrounding open space from this trail. Potential indirect impacts to wildlife would be less than significant.

Loss of wildlife habitat from destruction of understory/forest floor vegetation resulting from being run over/torn up by mountain bikes or horses.

As noted above, relative to indirect impacts associated with creation of trails, access by horses, mountain bikes and hikers beyond the trails will be essentially precluded from accessing preserved open space. This would also be the case from the development edge that would transition into the existing native chaparral habitat at the boundary of the fuel modification zone. Beyond the trails discussed

above, the potential for destruction of understory/forest floor vegetation resulting from being run over/torn up by mountain bikes or horses is very low to non-existent. Potential indirect impacts to wildlife would be less than significant.

Loss of individuals from being run over or from destruction of aestivation⁵⁴ sites (especially important for ground-nesting species).

As noted above, access by horses, mountain bikes and hikers beyond the trails will be essentially precluded from accessing preserved open space. This is also the case from the development edge that would transition into the existing native chaparral habitat at the boundary of the fuel modification zone. The potential for destruction of ground-nesting species resulting from being run over/torn up by mountain bikes or horses is very low to non-existent. Potential indirect impacts to wildlife would be less than significant.

Disturbance to or destruction of unique/sensitive/rare habitat types (e.g., riparian, springs, habitat links, corridors due to increased vehicular access).

Under the existing conditions, there are no points on the project site where a vehicle can access any of the drainages, including La Tuna Canyon Wash or Drainage 4. In the post-project condition, there would similarly be no vehicular access to impact any drainage on the project site. Therefore, no impacts to aquatic resources associated with increased vehicle use or access would occur.

Soil compaction/disturbances and erosion resulting in a loss of vegetative productivity.

There would be no potential for soil compaction or increased erosion outside of the area subject to grading and fuel modification. Therefore, no impacts associated with increased soil compaction, erosion, or loss of vegetative productivity would occur.

Within or immediately adjacent to developed areas, wildlife can also be disturbed by streetlights and noise, and may be killed by vehicles, cats, dogs, or humans. Domestic cats are particularly skilled predators, taking mammals, reptiles, amphibians, and birds. Generalist animals such as coyotes, opossums, skunks, raccoons, ravens, and starlings can benefit from human settlement, but other less-adaptable species rarely persist in an area after it is developed. Proposed open space areas have sufficient cover and isolation from many of the indirect effects of development to support a suite of wildlife species.

However, the proposed project includes numerous features designed to minimize indirect impacts on native plants and vegetation communities. As noted, most of the project site will be preserved as

⁵⁴ "Aestivation" is a state of dormancy or torpor during summer months.

natural open space and will remain largely inaccessible to the public. The proposed project will also include non-invasive or native landscaping, multi-use trail design, separating and channeling public access into predetermined and suitable trails, restricting access to others, establishing increased control of water flow, drainage and runoff, and providing for regular management, maintenance, and oversight of the open space areas. These features would ensure that indirect impacts remain below a level of significance.

MITIGATION MEASURES

The proposed project already includes many design features to avoid and/or minimize impacts to biological resources. Clustering development areas as proposed in the project would result in the retention of approximately 66 percent of the land (582.16 acres) on the project site as natural open space, including all of the current vegetation associations, such as the riparian habitats associated with La Tuna Canyon. The 582.16 acres of natural open space includes 558.84 acres that would not be affected by the proposed project in any manner, either by grading or fuel modification, and 23.32 acres affected by temporary grading and restored with native vegetation.

Corps and CDFG Jurisdiction

Impacts to Corps jurisdiction with respect to the proposed project total 2.06 acres, of which 0.33 acre consists of intermittent drainage course associated with the lower portions of Tributaries 4.1, 4.9, and 4.21 and 1.73 acres consist of ephemeral drainage channel.

Impacts to CDFG jurisdiction with respect to the proposed project total 2.45 acres, including all areas of Corps jurisdiction. CDFG jurisdiction includes 0.04 acre of southern coast live oak riparian forest, 0.02 acre of southern willow scrub and 0.68 acre of southern mixed riparian forest. The balance of the CDFG jurisdiction that does not support the above-mentioned riparian habitats includes ephemeral drainages that support upland chaparral and/or coastal sage scrub on the banks.

Mitigation to compensate for these impacts shall consist of the two components addressed below. Implementation of the proposed mitigation below would result in a compensation ratio of approximately 2.4:1 for impacts to Corps jurisdiction and approximately 2.0:1 for impacts to CDFG jurisdiction. The proposed mitigation would mitigate impacts to Corps and CDFG jurisdiction to a less-than-significant level.

- D.1-1** The project developer shall create a water quality basin in the lower reach of Drainage 4 that covers approximately 2.5 acres. The basin shall be planted with a mosaic of wetland/riparian habitats that will provide both biogeochemical (water quality) and habitat functions. The proposed habitats shall include southern coast live oak riparian forest at the

upper elevations, southern mixed riparian in the middle elevations and wet meadow or emergent marsh in the wettest (lowest) areas.

- D.1-2** The project developer shall preserve and enhance approximately 2.5 acres within La Tuna Canyon Wash that exhibit moderate to high levels of infestation by sticky eupatory (*Ageratina adenophora*) and African umbrella sedge (both are recognized as invasive exotic species). The enhancement program shall include eradication of sticky eupatory and African umbrella sedge from the onsite reach through a five-year program. The five-year program shall also include replanting with native understory species in areas where the dense understory formed by sticky eupatory has been removed. The proposed mitigation and monitoring plan shall be subject to approval by the Corps, CDFG and the Regional Water Quality Control Board.

Non-Jurisdictional Riparian Habitats

The project would also impact 2.8 acres of riparian habitat designated as Rare Natural Communities by CDFG, but which are not subject to CDFG jurisdiction, including southern mixed riparian forest (1.96 acres), southern coast live oak riparian forest (0.55 acre) and southern willow scrub (0.29 acre). Mitigation for these non-jurisdictional impacts is as follows:

- D.1-3** The project developer shall provide 2.8 acres of native riparian plantings within the proposed onsite detention basins and water quality basins and other appropriate areas.
- D.1-4** The project developer shall revegetate 1.21 acres of southern mixed riparian forest and 0.15 acre of southern coast live oak riparian forest.

Active Bird Nests

- D.1-5** If construction occurs during the nesting season for migratory birds (March 15-August 15), then prior to construction activities, the project developer shall have a qualified biologist survey the project site for the presence of any occupied raptor nests. If such a nest is found, it shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code.
- D.1-6** If grading or clearing of vegetation is scheduled to take place during the nesting season for migratory birds (March 15-August 15), a qualified biologist will survey areas to be graded no more than three days prior to the start of work. If active nests of migratory birds are located, measures to ensure protection of the nesting migratory bird will be determined by the monitoring biologist and will depend on factors such as the bird species and the construction schedule. These measures may include, but are not limited to:

- (1) If a non-raptorial avian nest is identified that has either eggs or nestlings, the shrub or tree containing the nest will be clearly marked with flagging tape or caution ribbon to identify the presence of an active nest. No mechanized work will be allowed within 25 feet of the nest until the fledglings have departed the nest or until the biologist has determined that the nesting attempt has failed and been abandoned by the adult birds.
- (2) If a raptor nest is identified that has either eggs or nestlings, the shrub or tree containing the nest will be clearly marked with flagging tape or caution ribbon to identify the presence of an active nest. No mechanized work will be allowed within 200 feet of the nest until the fledglings have departed the nest or until the biologist has determined that the nesting attempt has failed and been abandoned by the adult birds.

CUMULATIVE IMPACTS

In considering potential cumulative impacts, GLA determined that the appropriate area of analysis should be the Verdugo Mountains because they comprise a distinct area that has been generally cut off from other large tracts of open space/habitat within the region. The only related project proposed in the Verdugo Mountains that could potentially affect biological resources is the Duke Project. Based upon the Duke Project EIR,⁵⁵ implementation of the Duke Project would affect biological resources; however, that analysis was based on a 41-unit project with an impact area of approximately 40 acres. Subsequently, a smaller 10-unit project was approved with a reduced footprint of approximately 10 acres, which resulted in a substantial reduction in the Duke Project's impact on biological resources. Furthermore, since the Duke Project EIR was prepared, much of the Duke Property burned and many of the oak trees were severely damaged and now exhibit very low value, while others were destroyed. Therefore, the approved Duke Project would affect approximately 10 acres of degraded mixed chaparral and a limited number of oaks, most of which are severely damaged.

As discussed above, the loss of approximately 259.18 acres of mixed chaparral with respect to the proposed project would be less than significant. Therefore, the cumulative impact associated with the additional loss of approximately 10 acres of degraded mixed chaparral on the Duke Property would be a less-than-significant impact.

⁵⁵ City of Los Angeles. 1997. *Draft Environmental Impact Report for Hillview Estates*, EIR No. 89-1163-SUB(ZC/GPA), SCH No. 93021045.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the mitigation measures described above, the proposed project would not result in any significant impacts to biological or jurisdictional resources, with the exception of the impact to native coast live oaks, which is discussed separately in Section IV.D.2 (Native Trees).