Botanical Inventory and Rare Plant Survey of the Katherine Meadows Development Project, Simi Valley, Ventura County, California

Prepared for

Compliance Biology, Inc.

Prepared by

SWCA Environmental Consultants

May 18, 2007

BOTANICAL INVENTORY AND RARE PLANT SURVEY OF THE KATHERINE MEADOWS DEVELOPMENT PROJECT, SIMI VALLEY, VENTURA COUNTY, CALIFORNIA

Prepared for:

Compliance Biology, Inc.
6770 San Onofre Drive
Camarillo, California 93012

Prepared by:

Taya K. Cummins

SWCA Environmental Consultants
625 Fair Oaks Avenue, Suite 190
South Pasadena, California 91030
(626) 240-0587
www.swca.com

SWCA Project No. 12833-113

May 18, 2007

MANAGEMENT SUMMARY/ABSTRACT

Purpose and Scope: Compliance Biology, Inc. retained SWCA Environmental Consultants to undertake a rare plant survey and botanical inventory of the proposed Katherine Meadows project (project) in Simi Valley, Ventura County, California. The services provided by SWCA entailed a rare plant survey and botanical inventory of the project area in accordance with U.S. Fish and Wildlife Service (USFWS) and California Native Plant Society (CNPS) guidelines for conducting and reporting botanical inventories for federal- and state-listed, proposed, and candidate plants. This report documents the results of the survey.

Dates of Investigation: The contract was executed on May 3, 2007. The field visit was conducted on May 4, 2007. This report was completed on May 18, 2007.

Findings of the Investigation: The field visit identified three habitat types including disturbed/ruderal, nonnative annual grassland, and coastal sage scrub. Marginal habitat existed within the coastal sage scrub/nonnative grassland habitat for Plummer's lily and slender mariposa lily. This habitat was considered to be highly degraded with nonnative annual grasses and forbs dominating the herbaceous layer throughout the site. No special status plants were observed during the survey. Extreme drought conditions were present at the time of the survey, which likely reduced the detection of native plant species. However, due to the degraded habitat quality, it is unlikely that special status plant species occur at the site.

Recommendations: No special status plant species were observed during field surveys. No impacts to special status plant species including rare, threatened, or endangered plant populations or their habitats is likely to occur as a result of the proposed project. Should road-widening activities along Katherine Road occur, a survey conducted by a professional arborist is recommended. In addition, County of Ventura General Plan tree preservation ordinances should be adhered to.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF PHOTOGRAPHS

LIST OF FIGURES

1. INTRODUCTION

This document details the results of a botanical inventory and rare plant survey conducted on the proposed 21-acre Katherine Meadows Development project (project) located south of the Southern Pacific Railroad along Katherine Road South across from Knolls Park in the City of Simi Valley, Ventura County, California. In addition, existing oak trees were inventoried within the County of Ventura's 40-foot right-of-way (ROW) along a 1 mile stretch of Katherine Road, between Oak Knolls Road and Santa Susana Pass Road. The ROW was surveyed to investigate potential impacts to special status plant populations should the proposed project incorporate the widening of Katherine Road to alleviate traffic issues associated with the project. The purpose of the survey was to determine the environmental effects of proposed project on all botanical resources, including special status plants (rare, threatened, and endangered plants) and plant (vegetation) communities within the project area and adjacent lands within 150 meters.

2. BIOLOGICAL SETTING

The project area is located within T2N, R17W, Sec16 of the Simi Valley East 7.5-Minute U.S. Geologic Survey (USGS) topographic quadrangle, 1951 photorevised 1969 at 34°15'49.22"N Latitude and 118°40'14.59"W Longitude, with an approximate elevation ranging from 325 to 365 meters above sea level (Figure 1).

The project area is located in the western transverse ranges which include the Santa Susana Mountains and the Simi Valley. Specifically, the project area is situated in Simi Valley at the base of the Simi Hills west of the Santa Susana Pass adjacent to the Santa Susana Mountains.

The project area is located in the California floristic province. This region comprises all of the state except for the desert regions. The province is characterized as having a Mediterranean-type climate including hot, dry summers and mild, wet winters. In addition, the region contains high levels of plant endemism.

Soils on the proposed facility location were mapped as Anacapa sandy loam with 0 to 2 percent slopes (0.4 acres), Soper gravelly loam with 30 to 50 percent slopes (10.8 acres), and Zamora loam with 2 to 9 percent slopes (USDA 1970).

Currently, housing developments exist to the south and west. The Southern Pacific Railroad and a housing development beyond that exist along the northern project boundary. The eastern boundary is bordered by Katherine Road and Oak Knolls Park. The majority of the project area consists of highly disturbed ruderal vegetation. These highly disturbed areas were previously used as horse stables, as evident by remaining structures and debris. More recently, miscellaneous piles of garbage and debris have been deposited within the project area. The west end of the site consists of degraded coastal sage scrub and nonnative annual grassland and the area along the westernmost boundary had recently been cleared of all vegetation.

3. METHODS

3.1 BACKGROUND INVESTIGATION

3.1.1 Database Searches

A compilation of federal and state sensitive plants and sensitive habitats was prepared for the project from database and literature searches prior to the field visit. References searched included the California Natural Diversity Database (CNDDB) and the California Native Plant Society's (CNPS) Rare Plant Inventory. The database searches were performed for the Piru, Val Verde, Newhall, Simi Valley West, Simi Valley East, Oat Mountain, Thousand Oaks, Calabasas, and Canoga Park 7.5-minute USGS quadrangles. Sensitive species and habitat occurrences within 5 miles of the project site were plotted on a map of the vicinity. In addition, the U.S. Fish and Wildlife Service (USFWS) Critical Habitat Viewer was accessed to determine if the project area is within designated critical habitat.

Following the database searches, an assessment was made of the occurrence potential for each of the species identified within the vicinity of the project area. A species was determined to have potential to occur on the project if its documented geographic range included the project vicinity and if suitable habitat for the species was identified within or adjacent to the proposed facility location. Species that were determined to have potential to occur in the vicinity were ranked as follows:

Present (high potential): Species is known to occur within the project area, based on recent CNDDB records, and/or was observed onsite during the field survey(s).

May occur (moderate potential): Species is known to occur in the vicinity of the project area (based on CNDDB or other records within 5 miles and/or based on professional expertise specific to the project area or species), and there is suitable habitat onsite.

Not likely to occur (low potential): Species is known to occur in the vicinity of the project area; however, there is poor quality or marginal habitat within the project area. Alternatively, there is suitable habitat within the project area; however, there are no records or only historic records within a 5-mile radius, and the species was not observed during the survey(s).

Absent: Species is not known to occur in the vicinity of the project area, and there is no suitable habitat for the species within the project area, or surveys for the species were conducted during the appropriate season with negative results for species occurrence.

3.1.2 Rare Plant Phenology

No reference sites were visited prior to conducting the survey. To determine the phenology of sensitive plant species with the potential to occur within the project area, SWCA contacted the lead botanist at Santa Monica Mountains National Recreation Area (SAMO), which is located less than 10 miles from the project area. Because the project area experiences similar environmental conditions to areas within SAMO, where populations of special status plant species are known to occur, phenological stages within the project area should be similar. SWCA also contacted the USFWS Ventura office to discuss survey limitations as a result of drought conditions.

3.2 FIELD VISIT

During the field visit, an SWCA botanist conducted a botanical inventory and rare plant survey of the project area and adjacent lands within 150 meters to compile a list of all vascular plants, and to identify special status or locally significant plants and plant communities present within and adjacent to the project area. In addition, a rare plant survey and a general oak survey were conducted along Katherine Road between Oak Knolls Road and Santa Susana Pass Road.

In order to document all plant species present within the project area, the project area was systematically surveyed using standard field methods, which included walking meandering transects spaced no more than 30 meters apart across the entire property. Special attention was given to those habitats where special status plant species listed in the CNDDB and CNPS search results were likely to occur. For the Katherine Road segment, the roadside was walked, and vegetation within ten feet of the road was recorded. Mature oak trees within ten feet of the road were recorded using a Trimble GeoXT GPS unit. Diameter at breast height (DBH) and the species of each tree was also recorded.

Every vascular plant observed was identified in the field. Species that could not be identified in the field were collected and further examined for positive identification in a laboratory setting. Plant nomenclature followed *The Jepson Manual of Higher Plants of California* (Hickman 1993). Plant communities were recorded on aerial photographs and described in field notes and classified in accordance with *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995).

4. RESULTS

4.1 BACKGROUND INVESTIGATION

4.1.1 Database Searches

CNDDB and CNPS database searches revealed that 12 special status species are known to occur within the vicinity of the project (Attachment A). The locations of the known occurrences of sensitive plant species within 5 miles of the study area are presented in Figure 2. The project area does not contain designated Critical Habitat for any listed plant species.

Of the 12 special status plants identified by the CNDDB (2006) or CNPS (2007), two are unlikely to occur at the site due to a lack of suitable habitat or soil type, because the site is outside their known range, or because the species is detectable year-round and was not observed during the site survey. These plants, which were considered absent from the project area, include slender-horned spineflower (*Dodecahema leptoceras*) and California Orcutt grass (*Orcuttia californica*).

Other species are known to occur within 5 miles of the project area, however, the habitat within the project area is considered marginal for these species; therefore, their occurrence potential was assessed as "not likely to occur." These included Braunton's milkvetch (*Astragalus brauntonii*), San Fernando Valley spineflower (*Chorizanthe parryi* ssp. *Fernandina*), Santa Susana tarplant (*Dienandra (Hemizonia) minthornii*), Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*), and many-stemmed dudleya (*Dudleya multicaulis*). Round-leaved filaree (*Erodium macrophyllum*) and Lyon's pentachaeta (*Pentachaeta lyonii*) are not known to occur within 5 miles of the project area and their occurrence potential was also assessed as "not likely to occur." Because of the low occurrence potential of the abovementioned species, they are not discussed further.

Species for which suitable habitat is present at the project site include slender mariposa lily, Plummer's mariposa lily, and chaparral nolina. These species, whose occurrence potential was assessed as "may occur" are discussed in greater detail below.

Slender mariposa lily (Calochortus clavatus var. gracilis)

Slender mariposa lily, a member of the Liliaceae family, is designated as a CNPS list 1B.2 species. This geophytic (bulb) perennial herb blooms from March to May and is known to occur in chaparral, coastal scrub, and valley and foothill grasslands between 360 and 1000 meters in elevation in Los Angeles and Ventura Counties (CNPS 2007). This species has a moderate to high potential to occur within the project area because suitable habitat exists within the project area and is known to occur within 5 miles of the project area. In addition, no slender mariposa lily plants were observed during the field survey conducted within the plant's known blooming period.

Plummer's mariposa lily (*Calochortus plummerae*)

Plummer's mariposa lily, a member of the Liliaceae family, is designated as a CNPS list 1B.2 species. This geophytic (bulb) perennial herb blooms from May through July and is known to occur in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forests, and valley and foothill grasslands on granitic rocky soils between 100 and 1700 meters in elevation in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties (CNPS 2007). This species has a high potential to occur within the project area because suitable habitat exists within the project area and is known to occur within 5 miles of the project area. In addition, no Plummer's mariposa lily plants were observed during the field survey conducted within the plant's known blooming period.

Chaparral nolina (*Nolina cismontana*)

Chaparral nolina, a member of the Liliaceae family, is designated as a CNPS list 1B.2 species. This evergreen shrub blooms from May to July and is known to occur in chaparral and coastal scrub in sandstone or gabbro soils between 140 and 1275 meters in elevation in Los Angeles, Orange, San Diego, and Ventura Counties (CNPS 2007). No known occurrences have been identified within 5 miles of the project area. This species has a moderate potential to occur within the project area because suitable soil conditions exist. In addition, no chaparral nolina plants were observed during the field surveys.

4.1.2 Rare Plant Phenology

On April 30, 2007, SAMO botanists had reported that slender mariposa lily and Plummer's lily had begun to produce inflorescences. Because of similar site conditions, SWCA assumed that these species would be at the same phenological stage within the project area. The USFWS recommended that, while established CNPS and USFWS guidelines are to be conducted during the time of year when special status plant species are both evident and identifiable, surveys conducted this year should be as detailed as possible and will be assessed based on the findings of individual projects.

4.2 FIELD SURVEY

On May 4, 2007, SWCA botanist Taya K. Cummins performed a rare plant survey and botanical inventory of the project area. During a second visit to the site on May 10, 2007, Ms. Cummins performed a rare plant survey and botanical inventory of the Katherine Road ROW, as well as inventoried oak trees within the ROW. A total of 64 plant species were identified in the project area (Appendix B). No herbaria

were visited and voucher specimens were not collected. Conditions during the two visits are detailed in Table 1.

Table 1. Field Surveys

Botanist	Time and Date	Conditions	Survey
Taya Cummins	8:30 a.m. – 11:00 a.m. May 4, 2007	Clear skies, slight breeze, 75° F	Rare Plant Survey/Botanical inventory Project Area (22-acres)
Taya Cummins	9:00 a.m. – 11:30 a.m. May 10, 2007	Clear skies, slight breeze, 85° F	Oak mapping/Rare plant survey/Botanical inventory Katherine Road (1-mile)

The survey was conducted within the known flowering time for all special status plant species except Santa Susana tarweed, which blooms from February through November. This species is perennial and can easily be detected outside of its flowering period.

4.2.1 Katherine Meadows

The overall site quality was highly disturbed from previous land uses that included horse stables, and more recently with miscellaneous piles of garbage and debris have been deposited throughout the disturbed/ruderal areas within the project area. The west end of the site consists of degraded coastal sage scrub and nonnative annual grassland and the area along the westernmost boundary had recently been cleared of all vegetation. Species observed and the habitats in which they occur within the project area are listed in Attachment B. No special status plant species were observed within the project area. Vegetation communities observed within the project area included coastal sage scrub, nonnative annual grassland, and disturbed/ruderal (Figure 3). These communities are discussed in detail below.

Coastal Sage Scrub

The western portion of the project area (3.3 acres) contained coastal sage scrub (Photograph 1) dominated by California sagebrush (*Artemesia californica*) with California buckwheat (*Eriogonum fasciculatum*) as a sub-dominant species. This vegetation community is classified as the California sagebrush series (Sawyer and Keeler-Wolf 1995). Other species present in this community included lance-leaf dudleya (*Dudleya lanceolata*), interior goldenbush (*Ericameria linearifolia*), saw-tooth goldenbush (*Hazardia squarrosa*), and California everlasting (*Gnaphalium californicum*). The habitat quality is moderately to highly degraded, and vegetated with nonnative grasses including rip-gut brome (*Bromus diandrus*), Mediterranean grass (*Schismus barbatus),* and wild barley (*Hordeum murinum*) dominating the understory herbaceous layer and likely outcompeting many native herbs. No special status plant species were identified nor are they likely to occur within this vegetation community.

Photograph 1. Coastal Sage Scrub

Nonnative Annual Grassland

The southwestern portion of the project area (1 acre), adjacent to the coastal sage scrub community, contained nonnative grassland species (Photograph 2), dominated by rip-gut brome, foxtail chess brome (*Bromus madritensis*), wild oats (*Avena fatua*), horehound (*Marrubium vulgare*), Italian thistle (*Carduus pycnocephalus*), and small-flowered catch-fly (*Silene gallica*). Native species present within this vegetation community include scattered California sagebrush, Mexican elderberry (*Sambucus mexicana*), slender tarweed (*Deinandra (Hemizonia) fasciculata*), and saw-tooth goldenbush. This vegetation community is classified as the California annual grassland series (Sawyer and Keeler-Wolf 1995). Overall, this community is dominated by nonnative species and is highly degraded. No special status species were identified nor are they likely to occur within this vegetation community.

Photograph 2. Nonnative Annual Grassland

Disturbed/Ruderal Vegetation

Disturbed/ruderal vegetation (Photograph 3) is dominant throughout most of the project area including the entire eastern portion of the site (17 acres) and a small disked area along the western boundary of the property (0.5 acres). Remnants of horse facilities and recently deposited rubbish indicate that this site has been disturbed for many years. Vegetation includes Peruvian pepper tree (*Schinus molle*), Brazilian pepper tree (*Schinus terebinthifolius*), wild barley, rip-gut brome, Italian thistle, tree tobacco (*Nicotiana glauca*), cheeseweed (*Malva parviflora*), tumble pigweed (*Amaranthus albus*), tocalote (*Centaurea meletensis*), and Mexican fan palm (*Washingtonia robusta*). Several mature valley oak trees are scattered throughout the site. No special status species were identified nor are they likely to occur within this vegetation community.

Photograph 3. Disturbed/Ruderal Vegetation

4.2.2 Katherine Road

Katherine Road is lined with residential housing and associated ornamental nonnative landscaping. No special status plant species were observed within this portion of the project area. Ornamental vegetation was not inventoried as it was not associated with natural plant communities. Attachment 2 lists all native plant species identified during the survey of the Katherine Road segment.

Several old-growth valley oak (*Quercus lobata)* and live oak trees (*Quercus agrifolia*) are present in the immediate vicinity of the road, suggesting that, prior to development, the site was a coast live oak woodland. All mature oak trees greater that nine inches in diameter at breast height within ten feet of the road recorded during the survey are presented in Figure 4 and field notes are presented in Appendix C. Individual GPS locations were not recorded for 13 trees located along the eastern portion of the road. Instead, the general location of these trees was recorded along a single line (Figure 4). The coast live oak woodland and ornamental vegetation communities are described in detail below.

Coast Live Oak Woodland (Remnant Trees)

Although the 1 mile stretch of Katherine Road has been almost completely developed, remnant natural vegetation within the ROW is typical of the coast live oak (*Quercus agrifolia*) series (Sawyer and Keeler-Wolf 1995) (Photograph 4). Aside from the coast live oaks and an occasional valley oak (*Quercus lobata*), vegetation has been converted to ornamental landscaping or consists of nonnative ruderal species. No special status species were identified nor are they likely to occur within this vegetation community.

Photograph 4. Coast Live Oak Woodland Remnant Trees along Katherine Road

Ornamental Vegetation

Vegetation along Katherine Road is dominated by ornamental landscape plants (Photograph 5). Ornamental plants were not identified to species because they were not associated with natural plant communities. Vegetation along the road was dominated by ornamental species including greater periwinkle (*Vinca major*) and ruderal nonnative grasses and forbs. No special status species were identified nor are they likely to occur within this vegetation community as a result of intense development.

Photograph 5. Ornamental Vegetation among Native Oaks

5. POTENTIAL IMPACTS

5.1 KATHERINE MEADOWS

Degraded coastal sage scrub habitat, nonnative annual grassland, and disturbed/ruderal vegetation communities dominate the site. In addition, the site is completely surrounded by development and is not considered to be a corridor for wildlife movement. Because no special status plant species were observed within the project area, it has been determined that impacts to native plant communities or special-status plants resulting from the proposed project will be less than significant.

5.2 KATHERINE ROAD

No special status plant species or their habitats were observed along Katherine Road. Several mature oak trees (Figure 4) would have to be removed as a result of road-widening activities. Associated impacts from these activities to the native plant community would be less than significant because the coast live oak woodland habitat has been almost entirely encroached upon by housing development with only a few remnant oak trees remaining.

6. RECOMMENDATIONS

6.1 KATHERINE MEADOWS

The proposed project will not pose direct, indirect, or cumulative impacts to rare, threatened, or endangered plants or their habitats. No mitigation measures are recommended.

6.2 KATHERINE ROAD

No special status plant species were observed along Katherine Road. Impacts are considered to be less than significant and mitigation for impacts to this vegetation community will not be necessary. However, Ventura County has several regulations relating to the management of oak woodlands including the tree protection ordinance associated with the Biological Resources, Scenic Resources, and Land Use sections of the Ventura County General Plan. Should the widening of Katherine Road be incorporated into the Katherine Meadows Development scope of work, these regulations as they relate to the project should be further analyzed and a professional arborist should conduct a detailed survey of the site.

7. REFERENCES

Edwards, R. D., D. Rabey, and R. W. Kover. 1970. Soil Survey of the Ventura Area, California. Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.

California Department of Fish and Game (CDFG). 2003. List of California Terrestrial Natural Communities Recognized by The California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Department of Fish and Game.

California Department of Fish and Game (CDFG). 2005. Special Vascular Plants, Bryophytes, and Lichens List. California Department of Fish and Game, Natural Diversity Database. Quarterly publication, Mimeo. 97 pp.

California Natural Diversity Data Base (CNDDB). 2007. Rarefind 3.1. Sacramento, California.

California Native Plant Society (CNPS). 2007. Inventory of Rare and Endangered Plants (online edition, v7-07b). California Native Plant Society. Sacramento, California. Accessed on Mon, May. 14, 2007 from http://www.cnps.org/inventory

Hickman, J. C. (ed.) 1993. The Jepson Manual. University of California Press, Berkeley, California.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, California

Sawyer, J. O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, California.

8. CONTACTS

This report was prepared by Taya K. Cummins, Botanist, SWCA Environmental Consultants. Please direct questions or comments regarding this report to:

Taya Katherine Cummins
Botanist
SWCA Environmental Consultants
625 Fair Oaks Avenue, Suite 190
South Pasadena, California 91030
Office: 626.240.0587 ext. 101
Fax: 626.240.0607
tcummins@swca.com

8.1 PERSONAL CONTACTS CONSULTED FOR THIS REPORT:

Tarja Sagar, Botanist
401 West Hillcrest Drive
Thousand Oaks, California 91360
Headquarters: (805) 370-2300
Fax: (805) 370-2351

Mark Elvin, Biologist
USFWS Ventura Office
2493 Portola Road, Suite B
Ventura, California 93003
Office: (805) 644-1766
Fax: (805) 644-3958

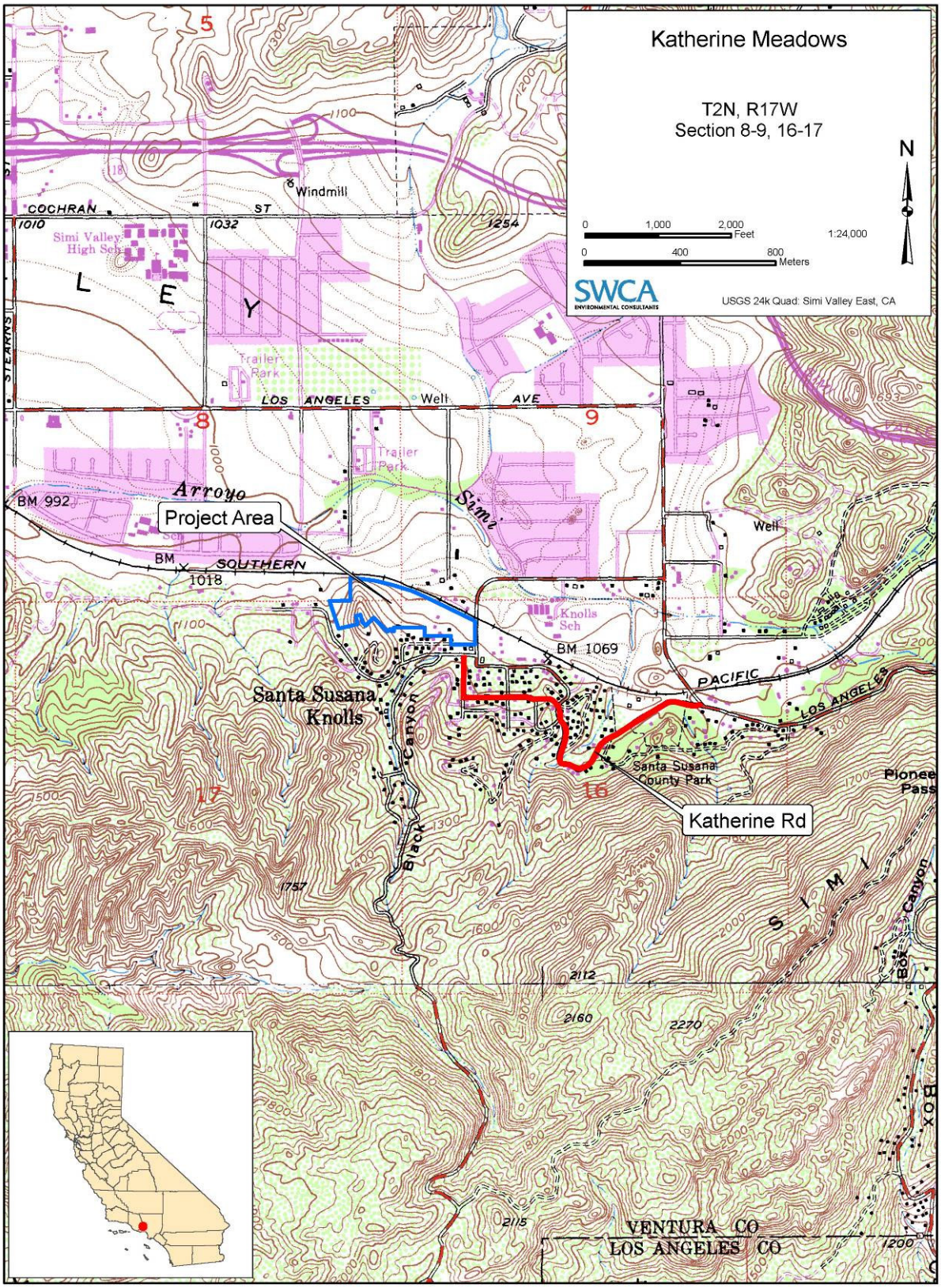

Figure 1. Project Location Map

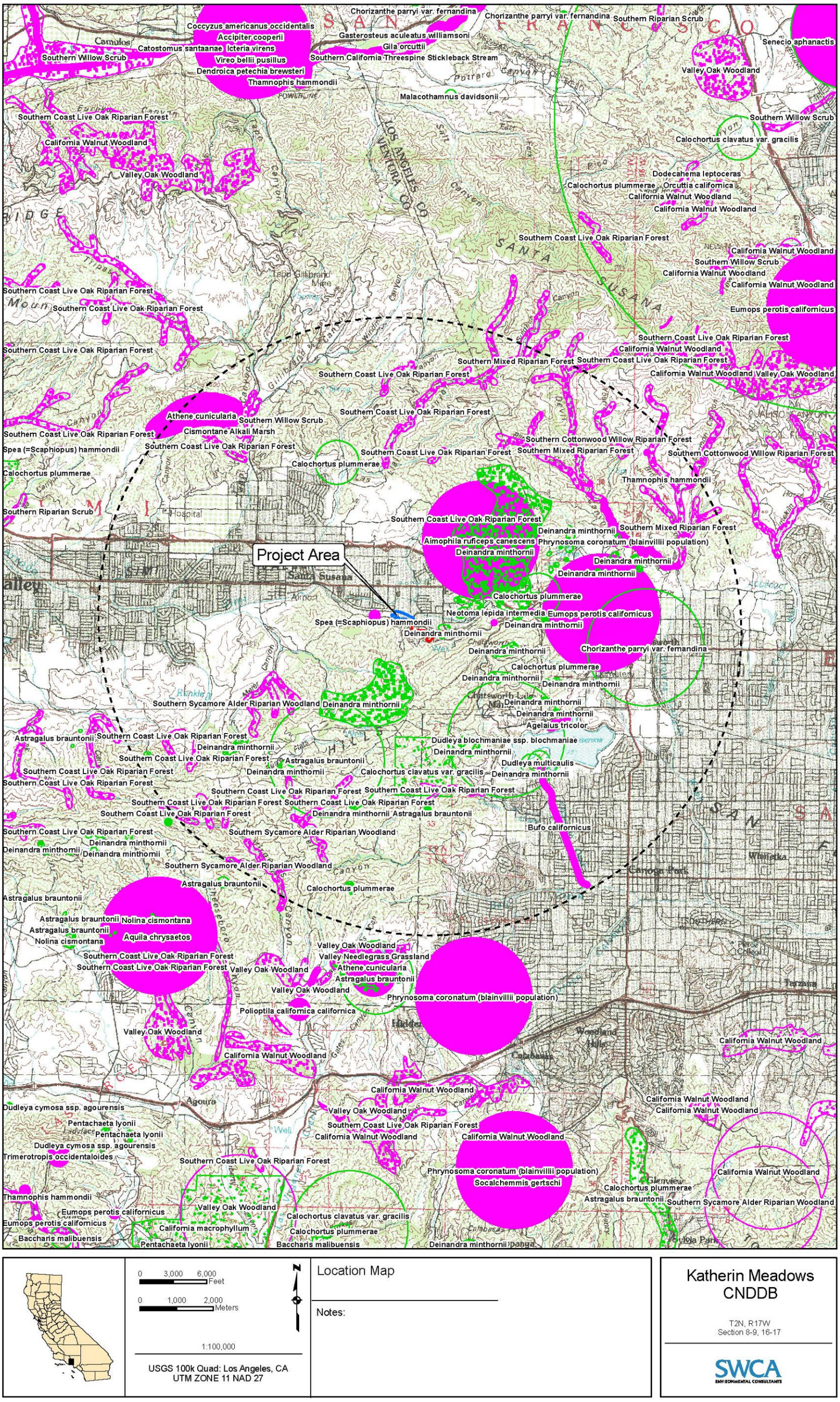

Figure 2. Sensitive Species Occurrence Map

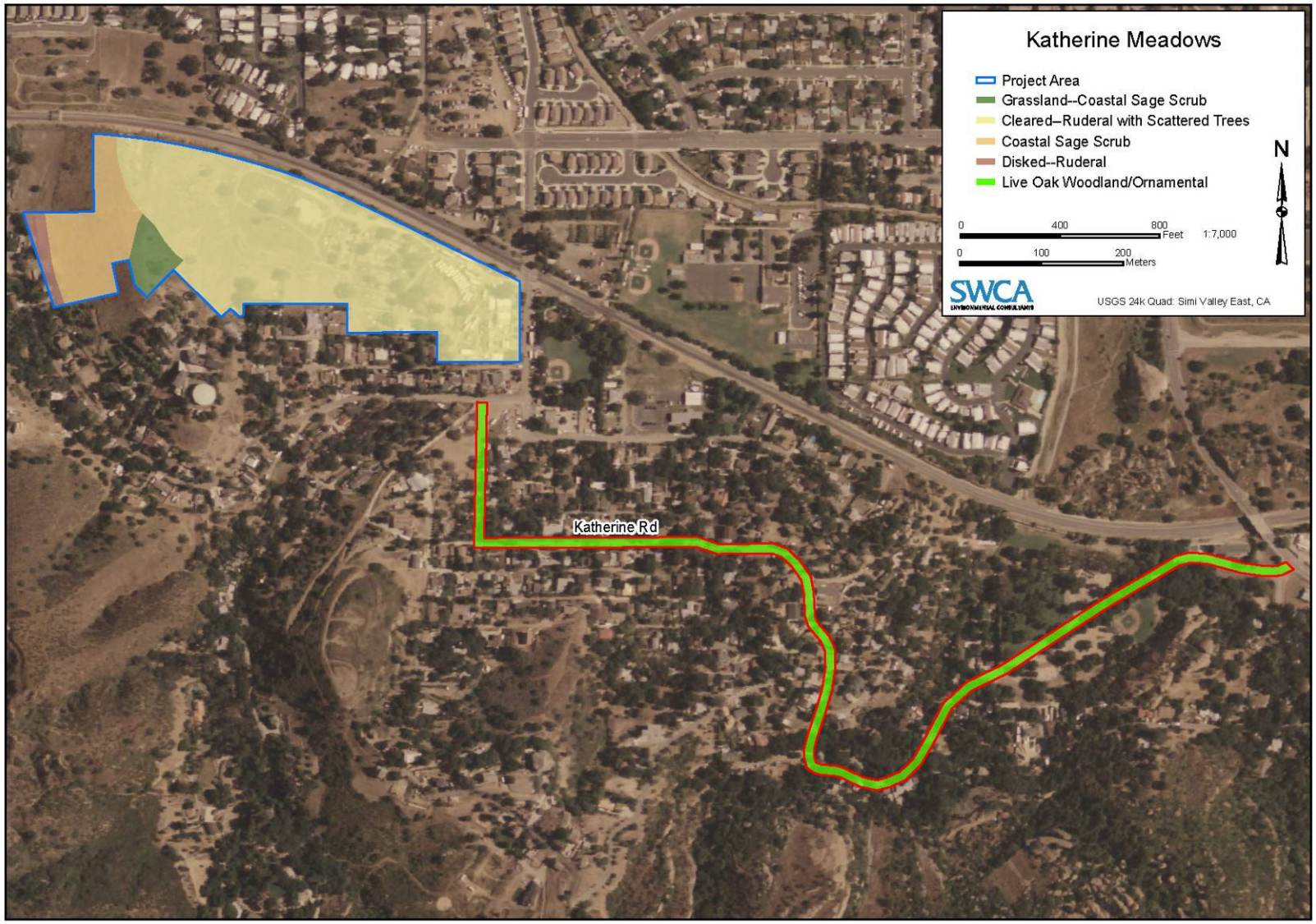

Figure 3. Vegetation Map

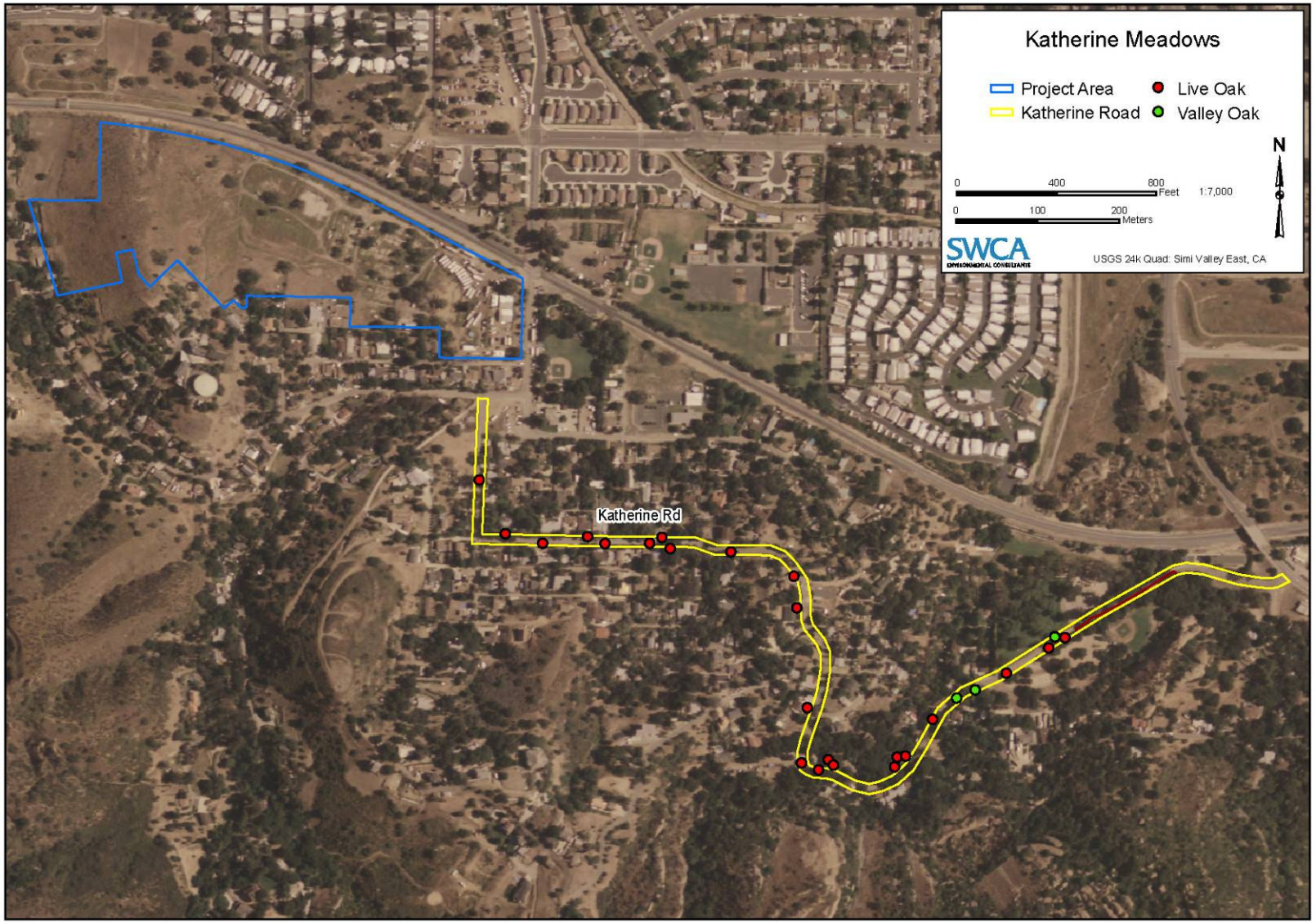

Figure 4. Katherine Road Oak Survey

APPENDIX A:
Summary of Special Status Plant Species Recorded from the Vicinity of the Project Site

APPENDIX A
Summary of Special Status Plant Species Recorded From the Vicinity of the Project Site

Scientific and Common Name	Status			Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
	Federal	State	CNPS			
Braunton's milk-vetch *Astragalus brauntonii*	FE	--	1B	Closed-cone coniferous forest, chaparral, coastal sage, valley & foothill grassland/ recent burns or disturbed areas- usually carbonate	4-640m PH March-July	Low to moderate potential; marginally suitable habitat associated with grassland/sage scrub habitat in the western portion of the site.
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	--	--	1B	Chaparral and oak woodlands; associated with shaded canyons and grassy slopes. Often associated with serpentine soils.	360-1000m. PH(b) March-May	Moderate to **High potential**; suitable habitat associated with grassland/sage scrub habitat in the western portion of the site.
Plummer's mariposa lily *Calochortus plummerae*	--	--	1B	Chaparral, cismontane woodlands, coastal scrub, Lower coniferous forests, and grasslands; associated with granitic soils.	100-1700m PH (b) May-July	**High potential**; suitable habitat associated with grassland/sage scrub habitat in the western portion of the site.
San Fernando Valley spineflower *Chorizanthe parryi* ssp. *fernandina*	FC	CE	1B	Coastal scub; associated with open, sandy soil habitats.	150-1220m AH April-June	Low to moderate potential; limited suitable habitat present in the western porition of the site.
Santa Susana tarplant *Deinandra minthornii*	--	CR	1B	Chaparral and coastal scrub; associated with sandstone outcroppings and rocky areas.	280-760m. S (d) July-November	Low to moderate potential; no sandstone outcroppings on site but known occurence record within two miles of property warrants a follow-up survey.
Slender-horned spineflower *Dodecahema leptoceras*	FE	CE	1B	Alluvial scrub vegetation; associated with older successional phases in open, sandy, flood deposited rivers and washes.	200-760m AH April-June	Not expected; no suitable alluvial habitat present on site.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	--	--	1B	Coastal bluff scrub, coastal scrub, and grasslands; often associated with clay or serpentinite soils.	5-450m PH April-June	Low potential, small patches of marginally suitable rock outcroppings in western portion of site.

compliance·biology

Katherine Meadows Biological Assessment

APPENDIX A (continued)
Summary of Special Status Plant Species Recorded From the Vicinity of the Project Site

Scientific and Common Name	Status			Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
	Federal	State	CNPS			
Many-stemmed dudleya *Dudleya multicaulis*	--	--	1B	Chaparral, coastal scrub, and grasslands; often associated with clay soils.	15-790m PH April-July	Low potential; very limited suitable habitat present on site.
Round-leaved filaree *Erodium macrophyllum*	--	--	2	Cismontane woodland, valley and foothill grassland; clay soils	15-1200m AH March-May	Low potential; very limited suitable habitat present on site.
Chaparral nolina *Nolina cismontana*	--	--	1B	Coastal sage scrub and chaparral.	140-1275m S (e) May-July	Moderate potential; limited suitable habitat associated with grassland/sage scrub habitat in the western portion of the site.
California Orcutt grass *Orcuttia californica*	FE	CE	1B	Vernal pools.	15-660m AH April-August	Not expected; no suitable habitat present on site.
Lyon's pentachaeta *Pentachaeta lyonii*	FE	CE	1B	Grasslands and coastal shrublands; associated with ecotonal areas with clay soils.	30-630m AH March-August	Low to moderate potential; limited suitable habitat present in the western porition of the site.

STATUS KEY:

Federal
FE: Federally Endangered
FC: Federal Candidate Species

State
CE: State Endangered
CR: State Rare

CNPS
List 1B: Plants rare and endangered in California and elsewhere
List 2: Plants rare and endangered in California, but more common elsewhere

LIFE FORM KEY:

AH: Annual Herb
PH: Perennial Herb
S: Shrub
(b): bulb
(d): deciduous
(e): evergreen

APPENDIX B:
Plants Observed at Katherine Meadows and along Katherine Road

Appendix B. Plants Observed at Katherine Meadows and along Katherine Road

Common Name	Scientific Name	Family	Vegetation Community
Ferns and Fern Allies			
Bigelow's spikemoss	*Selaginella bigelovii*	Selaginellaceae	CSS
Dicots (Angiosperms)			
Tumble pigweed	*Amaranthus albus*	Amaranthaceae	*, D
Laurel sumac	*Malosma laurina*	Anacardiaceae	CSS
Peruvian pepper tree	*Schinus molle*	Anacardiaceae	*, D
Brazilian pepper tree	*Schinus terebinthifolius*	Anacardiaceae	*, D
rattlesnake weed	*Daucus pusillus*	Apiaceae	D, G
Greater periwinkle	*Vinca major*	Apocynaceae	+,CLO
Mexican fan palm	*Washingtonia robusta*	Arecaceae	*, D
Narrow-leaf milkweed	*Asclepias fascicularis*	Asclepidaceae	+, G, CSS
Western ragweed	*Ambrosia psilostachya*	Asteraceae	D, G
California sagebrush	*Artemisia californica*	Asteraceae	G, CSS
Italian thistle	*Carduus pycnocephalus*	Asteraceae	*, +, D, G
Tocalote	*Centauria meletensis*	Asteraceae	*, +, D, G
Pineappleweed	*Chamomilla suaveolens*	Asteraceae	*, +, D
Canadian horseweed	*Conyza canadensis*	Asteraceae	*, D
Slender tarweed	*Deinandra (Hemizonia) fasciculata*	Asteraceae	+, D, G
Narrowleaf goldenbush	*Ericameria linearifolia*	Asteraceae	CSS
California everlasting	*Gnaphalium californica*	Asteraceae	+, CSS
Saw-tooth goldenbush	*Hazardia squarrosa*	Asteraceae	G, CSS
Telegraph weed	*Heterotheca grandiflora*	Asteraceae	*, D
Prickly lettuce	*Lactuca seriola*	Asteraceae	*, +, D
Silver carpet	*Lessingia filaginifolia*	Asteraceae	G, CSS
Prickl sowthistle	*Sonchus asper*	Asteraceae	*, D
Common dandelion	*Taraxacum officinale*	Asteraceae	*, +, D
Rancher's fireweed	*Amsinckia menziesii*	Boraginaceae	+, D, G
Black mustard	*Brassica nigra*	Brassicaceae	*, +, D
Mediterranean mustard	*Hirschfeldia incana*	Brassicaceae	*, +, D
London rocket	*Sisymbrium irio*	Brassicaceae	*, D
Mexican elderberry	*Sambucus mexicana*	Caprifoliaceae	+, D, G
Common catchfly	*Silene gallica*	Caryophyllaceae	*, D, G, CSS
Russian thistle	*Salsola tragus*	Chenopodiaceae	*, D
Morning glory	*Calystegia macrostegia*	Convolvulaceae	+, G, CSS
Lance-leafed liveforever	*Dudleya lanceolatum*	Crassulaceae	+, CSS
Manroot	*Marah microcarpus*	Cucurbitaceae	D, G, CSS, CLO
Turkey mullein, dove weed	*Eremocarpus setigerus*	Euphorbiaceae	D, G, CSS
Deerweed	*Lotus scoparius*	Fabaceae	+, G, CSS
Spring vetch	*Vicia sativa*	Fabaceae	*, D
Coast live oak	*Quercus agrifolia*	Fagaceae	D, G, CLO
Valley oak	*Querqus lobata*	Fagaceae	D, G, CLO
Red-stemmed filaree	*Erodium cicutarium*	Gerinaceae	*, +, D, G, CSS
Horehound	*Marrubium vulgare*	Lamiaceae	*, D, G
White sage	*Salvia apiana*	Lamiaceae	+, CSS
Black sage	*Salvia mellifera*	Lamiaceae	CSS
Cheeseweed	*Malva parviflora*	Malvaceae	*, D

Appendix B. Plants Observed at Katherine Meadows and along Katherine Road

Common Name	Scientific Name	Family	Vegetation Community
Chinaberry tree	*Melia azedarach*	Meliaceae	*, D
Four o'clock	*Mirabilis californica*	Nyctaginaceae	+, CSS
Clarkia sp.	*Clarkia* sp. (unidentified skeleton)	Onagraceae	G, CSS
Ashy leaf buckwheat	*Eriogonum cinereum*	Polygonaceae	CSS
California buckwheat	*Eriogonum fasciculatum*	Polygonaceae	CSS
curly dock	*Rumex crispus*	Polygonaceae	*, D, G
Red maids	*Calandrinia ciliata*	Portulacaceae	+, G, CSS
California fuschia	*Zauschneria californica*	Scrophulariaceae	CSS
Tree of heaven	*Ailanthus altissima*	Simbaroubaceae	*, D
Tree tobacco	*Nicotiana glauca*	Solanaceae	*, +, D, G
Monocots (Angiosperms)			
Soap plant	*Chlorogalum pomeridianum*	Liliaceae	CSS
Blue dicks	*Dicholostemma capitatium*	Liliaceae	G, CSS
Wild oat	*Avena fatua*	Poaceae	*, D, G
Rip-gut brome	*Bromus diandrus*	Poaceae	*, +, D, G
Red brome	*Bromus madritensis* ssp. *rubens*	Poaceae	*, D, G
Wild barley	*Horedeum murinum*	Poaceae	*, D, G
Annual ryegrass	*Lolium multiflorum*	Poaceae	*, +, D, G
Foothill needlegrass	*Nassella lepida*	Poaceae	CSS
Purple needlegrass	*Nassella pulchra*	Poaceae	G, CSS
Mediterranean grass	*Schismus barbatus*	Poaceae	*, D, G

*=Nonnative, += In bud or bloom during survey, D=Disturbed/ruderal, G=Nonnative annual grassland, CSS=Coastal sage scrub, CLO=Coast live oak woodland

APPENDIX C:
Katherine Road Oak Survey Data

Katherine Road Oak Survey

Species	GPS #	Approx. Diameter (inches)	Notes
N/A	Katherine at oak knolls	N/A	Starting Point
Quercus agrifolia	1	24	5 feet from road in driveway
Quercus agrifolia	2	30	5 feet from road behind fence at 716 Katherine Road
Quercus agrifolia	3	14	5 feet from road, 749 Katherine Road
Quercus agrifolia	4 and 5	10	2 trees behind fence 5 feet from road, 782
Quercus agrifolia	6	12	5 feet from road, 781
Quercus agrifolia	7	15	10 feet from road
Quercus agrifolia	8 and 9	8,10	2 trees, 4 feet from road, 826
Quercus agrifolia	10	30/30	2 stems on 1 tree, 4 feet from road, 837
Quercus agrifolia	11	25	1 feet from road, 865
Quercus agrifolia	12	<10	Multiple small trees pruned in weedy hedgerow
Quercus agrifolia	13	14	up on road cut 5 feet from road
Quercus agrifolia	14	30	4 feet from road, 1005 Katherine Road
Quercus agrifolia	15	20	5 feet from road
Quercus agrifolia	16/17	25/25	5 feet from road, 1079
Quercus agrifolia	18	28/30	2 stems, 8 feet from road, 1072
Quercus agrifolia	19	18/22	8 feet from road, 2 stems
Quercus agrifolia	20	50+	8 feet from road, 1109
Quercus agrifolia	21	10	5 feet from road, 1126
Quercus agrifolia	22	20	10 feet from road, 1126
Quercus agrifolia	23	14	8 feet from road behind fence
Quercus lobata	1	50+	Big Valley oak On road
Quercus lobata	2	40	4 feet from road, 6455
Quercus agrifolia	24	35	2 feet from road across from park
Quercus agrifolia	25/26	30/15	2–5 feet from road across from park
Quercus lobata	3	35	On road at park entrance
Quercus agrifolia	27	12	5 feet from road across from park
Quercus agrifolia	Line	all > 10	12 trees on S side of road, 1 tree on N (Park) side
N/A	Santa Susana Pass Road	N/A	End Point