





2004 Sensitive Plant Survey Results

# Valencia Commerce Center



O C T O B E R 2 0 0 4

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# 2004 Sensitive Plant Survey Results

*for the*

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*Prepared for:*

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## 1.0 INTRODUCTION

The purpose of this report is to document the results of surveys for sensitive plant species within the 532-acre Valencia Commerce Center Site (Commerce Center; VCC) for the 2004 field season. Surveys placed an equal emphasis on the identification of populations of the state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *Fernandina*; SFVS) and other sensitive plant species.

## 2.0 SITE DESCRIPTION

The study area within the 532-acre VCC is located in an unincorporated portion of the Santa Clara River Valley in northwestern Los Angeles County (*Figure 1*). The Commerce Center site lies roughly in the northwest corner of the junction of Interstate 5 (I-5) and State Route 126 (SR-126) (*Figure 2*). The northwestern edge of the City of Santa Clarita is located east of I-5 from the study area.

The Commerce Center site is dominated by north/south trending ridges that lie north of Castaic Creek, near the confluence with Hasley Canyon. Site elevations range from just under 1,000 feet above mean sea level (AMSL) in the Castaic Creek bottom to just over 1,500 feet AMSL at the top of the western ridge (*Figure 2*). In addition to the ridges, Castaic Creek and Hasley Canyon wash areas on the project site contain numerous benches and braided channels with associated riparian/wash scrub habitats. The ridges are generally rounded at the top with slopes that vary from steep to gentle.

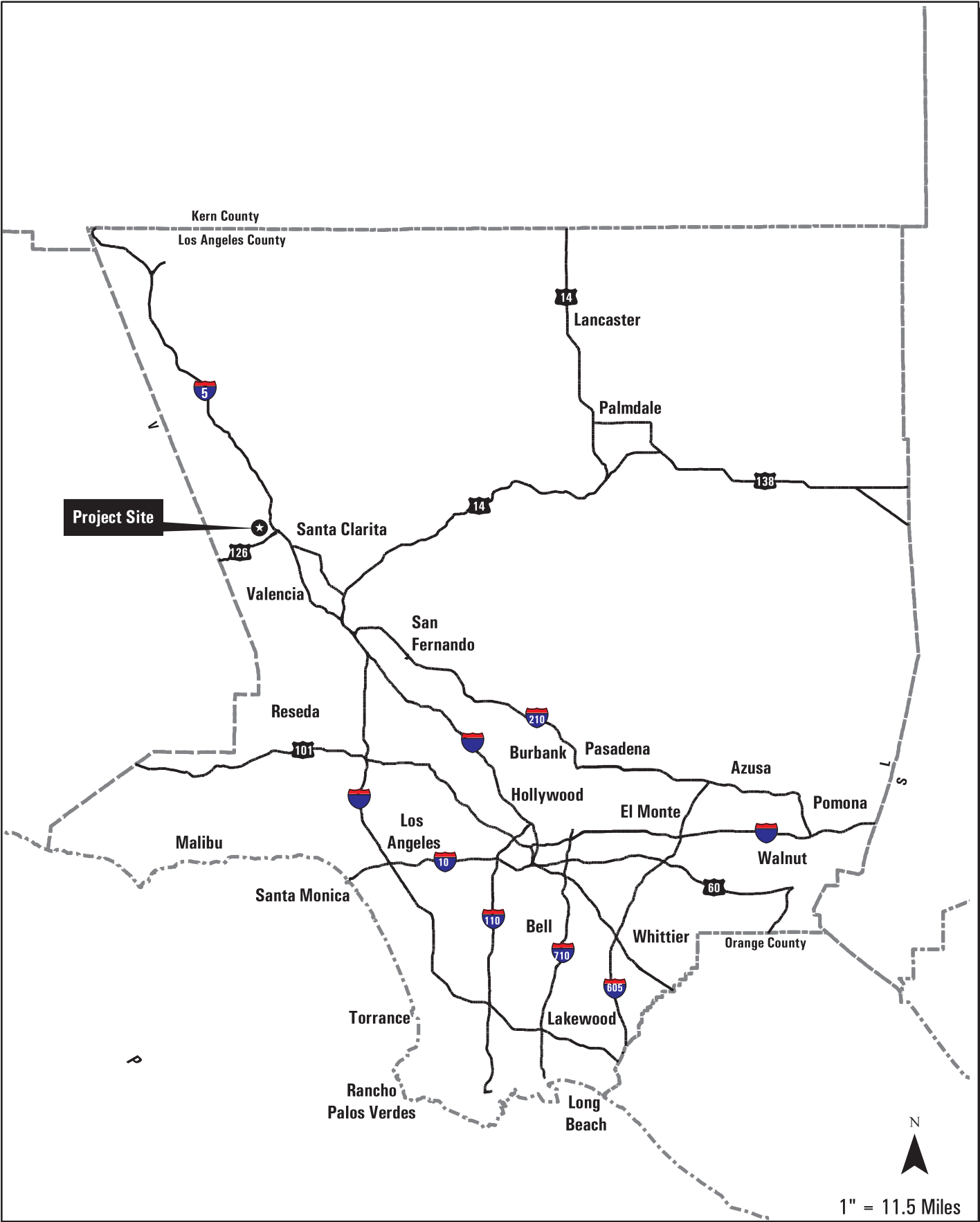
### 2.1 Plant Communities and Land Covers

Dudek conducted a sensitive plant survey in the study area. Native and naturalized habitats within the Commerce Center study area include representative examples of those plant communities found in the Santa Susana, Topatopa, and Liebre mountains and the Santa Clara River and Castaic Creek ecosystems. Upland habitats dominate the landscape within the study area (*e.g.*, California sagebrush, California buckwheat and California grasslands series); however, Hasley Canyon does support a variety of riparian

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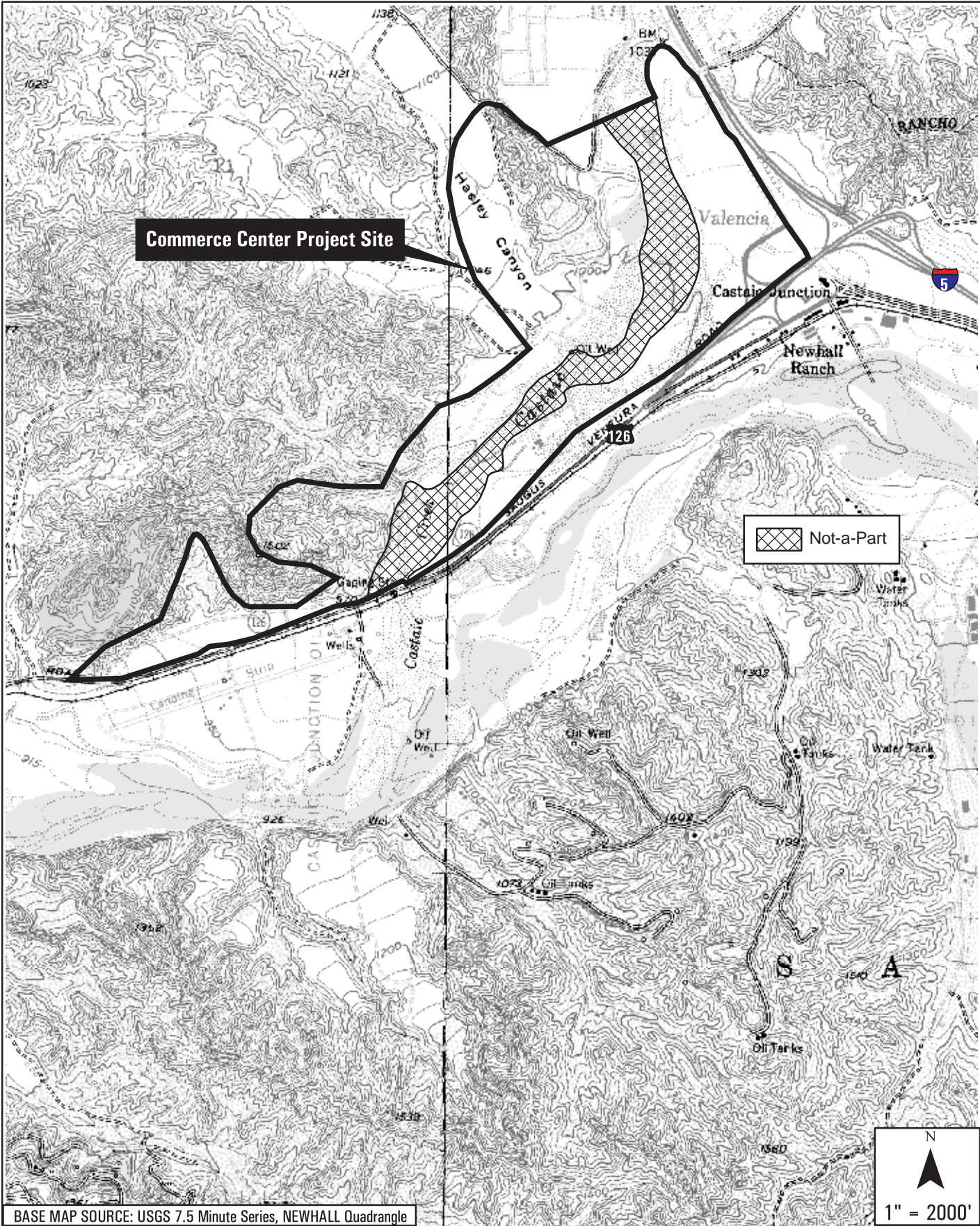
plant communities (*e.g.*, arroyo willow, Fremont cottonwood, and mulefat scrub series.)



Valencia Commerce Center  
**Regional Map**

**FIGURE**  
**1**





Valencia Commerce Center  
**Vicinity Map**

**FIGURE**  
**2**

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Historically, The Newhall Land and Farming Company leased out portions of the study area for sand and gravel production, cattle grazing, and agricultural operations; only agricultural operations are currently ongoing. All of these activities have had a noticeable effect on much of the natural habitat onsite (*i.e.*, scrub habitats have been displaced by non-native grasslands). Southern California Edison and Southern California Gas Company have distribution lines and access roads within easements onsite, as well.

## 2.2 Geology and Soils

Geologically, the study area is located within the Transverse Range geomorphic province of southern California in the eastern portion of the Ventura depositional basin. This basin “was produced by tectonic downwarping in the geologic past to produce a large-scale synclinal structure in which a thick sequence of Cenozoic sediments has accumulated. These sediments have been lithified into a sequence of sedimentary rock that has subsequently been uplifted, tilted, and tectonically deformed (Allen E. Seward 2002, 2004).” The Holser fault traverses the site (Allan E. Seward 2002, 2004).

## 3.0 METHODS AND SURVEY LIMITATIONS

Data regarding botanical resources present on the project site were obtained through a review of the pertinent literature, field reconnaissance, and focused surveys for sensitive species, all of which are described below.

### 3.1 Literature Review

General floristic and sensitive botanical resources present or potentially present at VCC were identified through a literature search using the following sources: the California Natural Diversity Database (CDFG 2004b) for the Newhall Santa Susana, Oat Mountain, Mint Canyon, San Fernando, Green Valley, Warm Springs Mountain, Whitaker Peak, Cobblestone Mountain, Piru, Simi, Thousand Oaks, and Val Verde quadrangle maps (CNDDDB, September 2002; *Biological Resource Assessment of the Proposed Santa Susana Mountains/Simi Hills Significant Ecological Area* (PCR, November 2000); CalFlora (University of California, Berkeley, May 2002); U.S. Fish and Wildlife Service (USFWS 1999); California Department of Fish and Game (CDFG 2002);



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*Inventory of Rare and Endangered Plants of California* (CNPS 2001); *Vascular Flora of the Liebre Mountains, Western Transverse Ranges, California* (Boyd 1999); *Checklist of Rare Ventura County Plant Species* (Magney 2002); *A Flora of the Santa Barbara Region, California* (Smith 1976); *A Flora of the Santa Monica Mountains* (Raven *et al.* 1986); *Biology of the San Fernando Valley Spineflower, Ahmanson Ranch, Ventura County, California* (Glenn Lukos Associates, Inc. and Sapphos Environmental, Inc. 2000); *Report to the Fish and Game Commission on the Status of San Fernando Valley Spineflower* (CDFG 2001); *Biota Report, Newhall Ranch Specific Plan* (RECON and Impact Sciences, Inc. 1996); *2002 Sensitive Plant Survey Results for the Valencia Commerce Center* (Dudek 2002); *2003 Sensitive Plant Survey Results for the Valencia Commerce Center* (Dudek 2004); and herbarium specimens from Rancho Santa Ana Botanic Garden (RSA) and the University of California, Riverside Herbarium (UCR). General information regarding vegetation communities was obtained from Holland (1986) and Sawyer and Keeler-Wolf (1995). Plant species nomenclature follows Hickman (1993).

### 3.2 Field Reconnaissance Methods

Botanical surveys were conducted by sub-consultants from FLx Anuja Parikah and Nathan Gale. All surveys were conducted on-foot. Resumes for survey personnel are provided in *Appendix A*.

Botanical surveys of the site were conducted in April of 2004 in accordance with the schedule provided in *Table 1*. Approximately 140 person-hours (14 person-days) were spent conducting botanical surveys within the study area. The biologists were able to observe reference populations of the state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; SFVS) and other sensitive species in order to develop a search-image prior to conducting surveys of the project site. Surveys focused on the identification and location of all federally- and state-listed (including SFVS), proposed for listing, and candidate species and California Native Plant Society (CNPS) List 1A, 1B, and 2 species (see the list of target species in *Table 2*).

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**TABLE 1**  
**SURVEY SCHEDULE & PERSONNEL**  
**VALENCIA COMMERCE CENTER PLAN AREA**

DATE	BIOLOGISTS	PURPOSE
April 14, 2004	FLx (Anuja Parikah , Nathan	Focused surveys for SFVS and other sensitive
April 15, 2004	FLx (Anujah Parikah, Nathan	Focused surveys for SFVS and other sensitive
April 16, 2004	FLx (Anujah Parikah, Nathan	Focused surveys for SFVS and other sensitive
April 17, 2004	FLx (Anujah Parikah, Nathan	Focused surveys for SFVS and other sensitive
April 19, 2004	FLx (Anujah Parikah, Nathan	Focused surveys for SFVS and other sensitive
April 21, 2004	FLx (Anujah Parikah, Nathan	Focused surveys for SFVS and other sensitive
April 23, 2004	FLx (Anujah Parikah, Nathan Gale)	Check populations of <i>Lasthenia</i> , <i>Chorizanthe</i> and <i>Calochortus</i> species

**TABLE 2**  
**SENSITIVE PLANT SPECIES SUBJECT OF FIELD SURVEYS**  
**VALENCIA COMMERCE CENTER PLAN AREA**

Scientific Name	Common Name
<i>Arenaria paludicola</i>	marsh sandwort
<i>Astragalus brauntonii</i>	Braunton's milk-vetch
<i>Atriplex coulteri</i>	Coulter's saltbush
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale
<i>Baccharis malibuensis</i>	Malibu baccharis
<i>Berberis nevinii</i>	Nevin's barberry
<i>Brodiaea filifolia</i>	thread-leaved brodiaea
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa lily
<i>Calochortus plummerae</i>	Plummer's mariposa lily



## 2004 Sensitive Plant Survey Results Valencia Commerce Center

**TABLE 2**  
**SENSITIVE PLANT SPECIES SUBJECT OF FIELD SURVEYS**  
**VALENCIA COMMERCE CENTER PLAN AREA**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Calochortus weedii</i> var. <i>vestus</i>	late-flowered mariposa lily
<i>Calystegia sepium</i> ssp. <i>Binghamiae</i>	Santa Barbara morning-glory
<i>Centromadia</i> [= <i>Hemizonia</i> ] <i>parryi</i> ssp. <i>Australis</i>	southern tarplant
<i>Chorizanthe parryi</i> var. <i>Fernandina</i>	San Fernando Valley spineflower
<i>Deinandra</i> [= <i>Hemizonia</i> ] <i>minthornii</i>	Santa Susana tarplant
<i>Dodecahema leptoceras</i>	slender-horned spineflower
<i>Dudleya blochmaniae</i> var. <i>blochmaniae</i>	Blochman's dudleya
<i>Dudleya cymosa</i> ssp. <i>Marcescens</i>	marcescent dudleya
<i>Dudleya cymosa</i> ssp. <i>Ovatifolia</i>	Santa Monica Mountains dudleya
<i>Dudleya multicaulis</i>	Many-stemmed dudleya
<i>Dudleya parva</i>	Conejo Dudleya
<i>Erodium macrophyllum</i>	Round-leaved filaree
<i>Helianthus nuttallii</i> ssp. <i>Parishii</i>	Los Angeles sunflower
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa horkelia
<i>Malacothamnus davidsonii</i>	Davidson's bush mallow
<i>Nama stenocarpum</i>	mud nama
<i>Nolina cismontane</i>	chaparral nolina
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta
<i>Rorippa gambelii</i>	Gambel's water cress
<i>Senecio aphanactis</i>	rayless ragwort

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TABLE 2  
SENSITIVE PLANT SPECIES SUBJECT OF FIELD SURVEYS  
VALENCIA COMMERCE CENTER PLAN AREA

Scientific Name	Common Name
<i>Sidalcea neomexicana</i>	salt spring checkerbloom
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern

All plant species encountered during the field surveys were identified and recorded for inclusion in *Appendix B*. A majority of the species encountered was vouchered and will be repositied at the herbarium at the University of California, Riverside. Latin and common names of plants follow *The Jepson Manual* (Hickman 1993) or other recent published taxonomic treatments. Where not listed in Hickman (1993), common names were taken from Abrams (1923). Where not found in this reference, a variety of sources were used (*e.g.*, Dale 1986, Roberts 1998).

Surveys for the sensitive plant species listed in *Table 2* were conducted based upon: (1) the habitat preference, habit, and phenology for each species; (2) professional experience; and (3) any other additional information gathered from those sources discussed in *Section 3.1* above. Surveys for SFVS were focused in open areas of California sage brush-purple sage series, California buckwheat and California annual grasslands (Sawyer and Keeler-Wolf 1995) on ridgelines, slopes, and escarpments with a southern, southwestern, or southeastern exposure based on information gathered during surveys for SFVS populations on the Newhall Ranch project site during 2002 and 2003; information contained in the report prepared by Glenn Lukos Associates, Inc. and Sapphos Environmental, Inc. (2000); the status report prepared for the Fish and Game Commission (CDFG 2000); and conversations with Rick Reifner, the botanist who rediscovered SFVS at Ahmanson Ranch in 1999.

While surveying in the field and mapping SFVS, a four-meter (m) rule was used to separate polygons for mapping purposes. This distance is a heuristic

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mapping tool based on the topography, vegetation, detectability of the plants, the general accuracy of the GPS, and time constraints. This heuristic criterion is not specifically tied to SFVS biology (*i.e.*, reproductive biology, seed dispersal) and thus is not intended to reflect reproductively isolated sub-populations, the total extent of the SVFS seed bank, or any other feature of the species life history.

The outer perimeter of each spineflower polygon was searched in one continuous direction until returning to the starting point, with plants being located within at least every one to four meters along the boundary, and points were stored with a Trimble GPS (that has sub-meter accuracy) manually to form the boundaries of the polygon. GPS points were taken within at least every one to four m. The various spineflower polygons were given a unique identifier (*i.e.*, numbers and/or letters) in the field. Field data sheets were completed for each of the spineflower polygons that include data on site conditions (*i.e.*, plant number estimates, associated species) (*Appendix C*). Polygons were analyzed in the lab and delineated based on a four m minimum convex polygon rule (all polygons within four m of each other will be joined using GIS software (*e.g.*, ArcGIS, AutoCAD), then delineated as one polygon with the outer boundary represented by a minimum convex polygon.

A modified magnitude scale was used to arrive at an estimate of the number of spineflower individuals (or other sensitive species when observed) within each polygon. After mapping the boundaries of the polygon, the number of individuals were counted/ estimated in a rectangular “sample estimation area” (to account for the “clumped” nature of this species), which is a subset of the total polygon. The sample estimation area was between 200 centimeters squared (10 by 20 cm) and two m<sup>2</sup> (one m by two m) depending on various factors regarding the polygon (*e.g.*, size of the polygon, plant densities, variations in plant densities within the polygon). The number of subsets within the total polygon was determined and added/multiplied, resulting in a total estimate of the number of individuals of the polygon (*e.g.*, 4x125=500, 8x12=96, 9x100=900). This number was then rounded to the nearest magnitude or multiple of a magnitude (*e.g.*, 500; 100; 1,000). This should provide accurate estimates of the number of plants within each polygon while eliminating a false sense of accuracy.

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Polygons for other sensitive species were mapped with the GPS unit or by drawing polygons directly onto a 200-scale (one inch=200 feet) topographic base overlaid onto an aerial photograph provided by Psomas (2002, 2003), or by a combination of the two. Professional judgment and experience were used to delineate these polygons based on the detectability of the species, topography, and vegetation. Perennial sensitive plants were mapped at a 10- to 20- m scale due to their population dynamics (including seed dispersal and pollination range), observability, habit, habitat limitations, and mapping accuracy. Information regarding the mapping for each sensitive species is included in the sections below (*Sections 4.2.1 through 4.2.6*).

### 3.2.1 Sensitive Plant Species

Sensitive plant species are those species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened population sizes. This designation includes those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, those plant species found on Lists 1A, 1B or 2 of the CNPS *Inventory of Rare and Endangered Plants of California* (CNPS 2001; *Inventory*), and those plant species which are found on the list of “Threatened and Endangered Species and Species of Concern, Los Angeles County” (<http://www.losangelesalmanac.com/topics/Environment/evl4b.htm>). CNPS List 3 or List 4 species, which have a lower level of sensitivity, were included in discussions only when encountered during the field surveys.

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### 3.2.2 Survey Limitations

Surveys were conducted in the spring of 2004. Surveys were conducted during a year with a less-than-average (Western Regional Climate Center 2004) amount of rainfall. Therefore, the survey conditions were not optimal for determining the diversity of species (including sensitive plants) onsite or mapping their presence, abundance, and distributions more accurately (when necessary). The timing of the surveys was coincident with the blooming period for SFVS and other early blooming annual species. This maximized the potential for detection of SFVS and other sensitive plants during the survey effort.

Focused surveys were directed towards the detection of sensitive species, particularly those identified in *Table 2*, in all areas of the site except Castaic Creek (see *Figure 2*). Surveys for SFVS and other sensitive species were concentrated in areas of suitable habitat. Surveys for SFVS were concentrated on south-facing slopes, while surveys for slender mariposa lily (*Calochortus clavatus* var. *gracilis*) were concentrated on north-facing slopes. All surveys were conducted during daylight hours under weather conditions which did not preclude observation of sensitive plant species (*e.g.*, surveys were not conducted during heavy fog or rain).

## 4.0 RESULTS OF SURVEYS

### 4.1 Botany - Floral Diversity

The study area is situated at the nexus of the Transverse, Coast, and Sierra Nevada ranges; the Mojave Desert; and coastal plains (Hickman 1993). Ecotone areas such as this are often characterized by higher biological diversity than similar-sized areas within the core of a physiographic region (Boyd 1999). As such, a high diversity of plant species is expected during a year of at least average rainfall amounts for the area.

At least 330 plant species were identified within the Valencia Commerce Center study area. Of these, 274 species (83 percent) are native to the region and 56 species (17 percent) are non-native. The cumulative list of plant

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species identified on the site in 2002, 2003, and 2004 is provided as *Appendix B*.

### 4.2 Sensitive Plant Species

Sensitive plant species observed within the study area during the course of our 2004 surveys include: San Fernando Valley spineflower, slender mariposa lily, Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Peirson's morning glory (*Calystegia peirsonii*), southern California black walnut (*Juglans californica*), and everlasting (*Gnaphalium* sp. *nova*). These and other sensitive species that have the potential to occur within the Commerce Center site, based on the presence of suitable habitat and soils, are listed in *Table 3*. The sensitive species listed in *Table 3* are confined primarily to those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, and those plant species found on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants of California* (CNPS 2001).

The species observed during the 2004 field surveys are discussed in greater detail below. A number of species found on CNPS Lists 3 or 4 also have the potential to occur onsite (e.g., *Acanthomintha obovata* ssp. *cordata*, *Calochortus catalinae*, *C. clavatus* var. *clavatus*, *Mucronea californica*); however, due to their relatively low sensitivity level, CNPS Lists 3 or 4 plants are only discussed in the following sections if they were observed in the study area.

*Figure 3* depicts the locations of SFVS and *Figures 4* and *5* depict the locations of slender mariposa lily, everlasting, and Coulter's goldfields on the Commerce Center site during our surveys. Information regarding the mapping and recorded characteristics of the sensitive species is included in the sections below (*Sections 4.2.1* through *4.2.7*).

#### 4.2.1 San Fernando Valley Spineflower (*Chorizanthe parryi* var. *Fernandina*)

San Fernando Valley spineflower is state-listed as endangered, a candidate for federal listing, and a CNPS List 1B species. Until its rediscovery in 1999 at

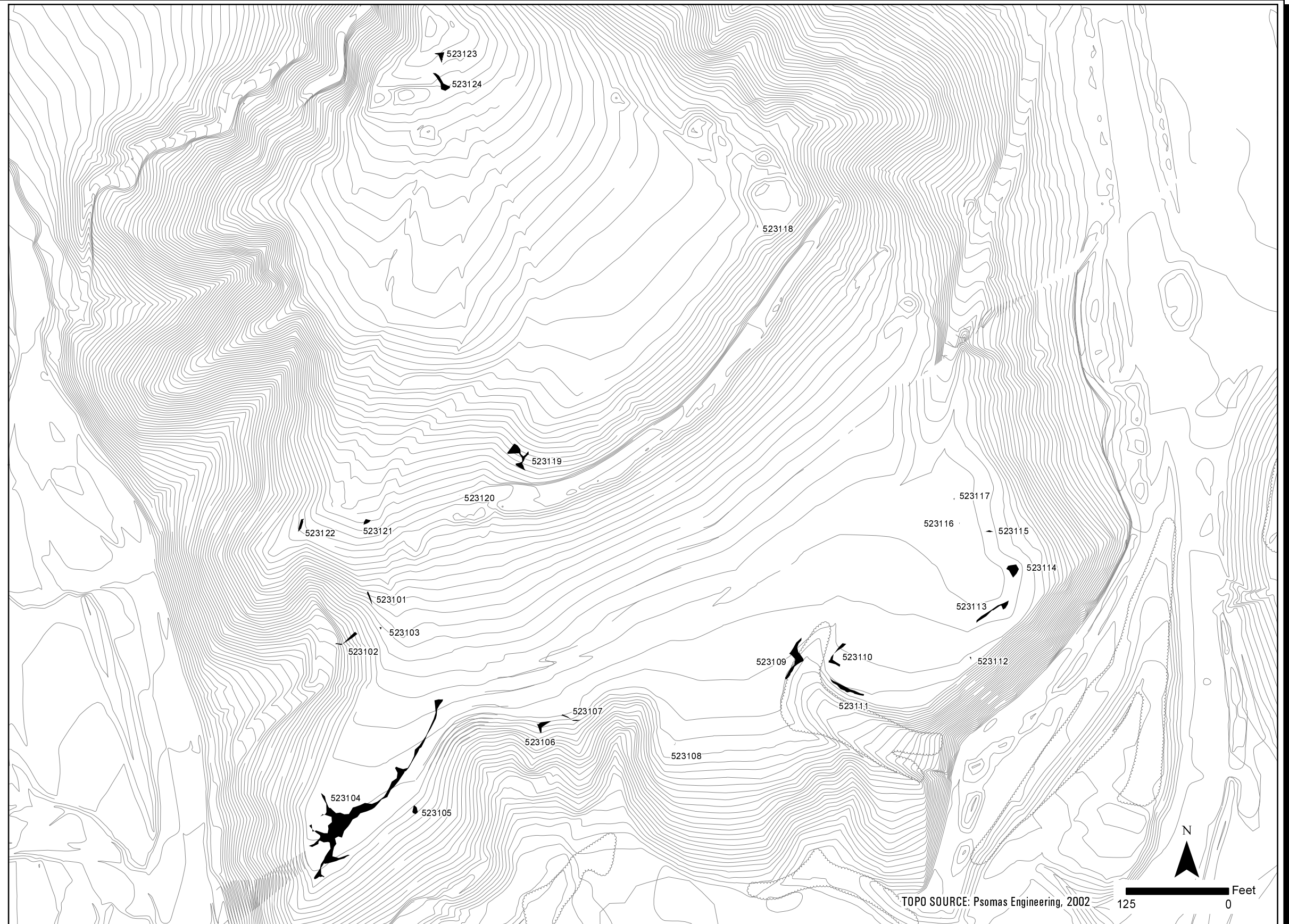
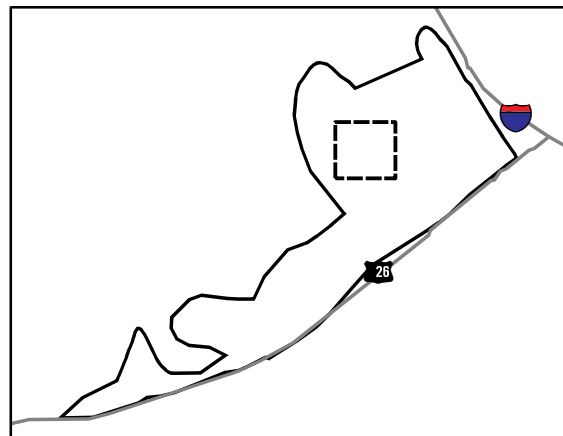
## **2004 Sensitive Plant Survey Results Valencia Commerce Center**

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Laskey Mesa on Ahmanson Ranch in Ventura County, it was thought to be extinct. A review of information of historic occurrence of SFVS in the CNDDDB indicate that it was previously thought to occur in sandy to gravelly soils of washes, riverbeds, and upland areas.

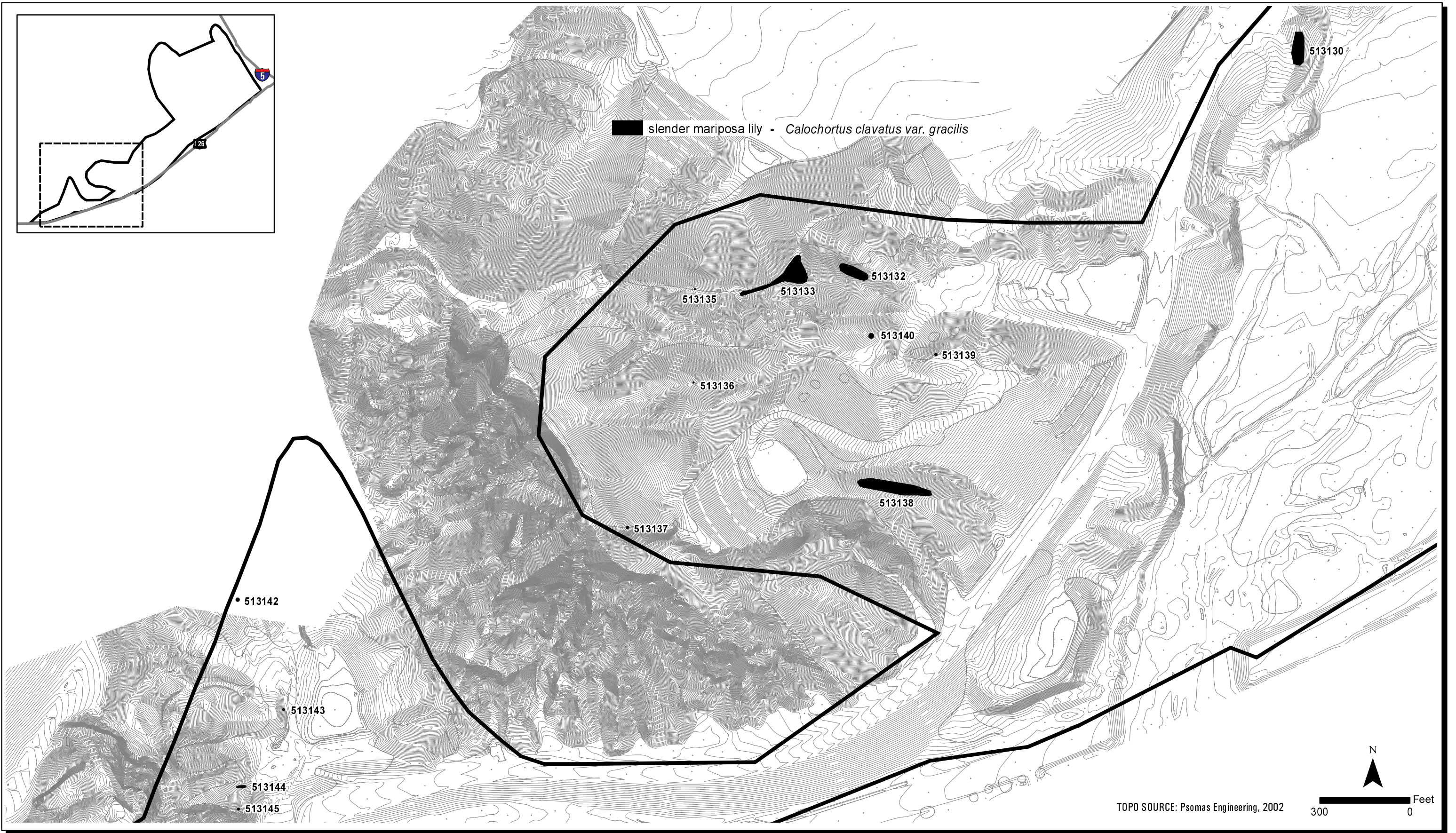


 **San Fernando Valley spineflower -**  
*Chorizanthe parryi* var. *fernandina*



Valencia Commerce Center  
**2004 San Fernando Valley spineflower Results**

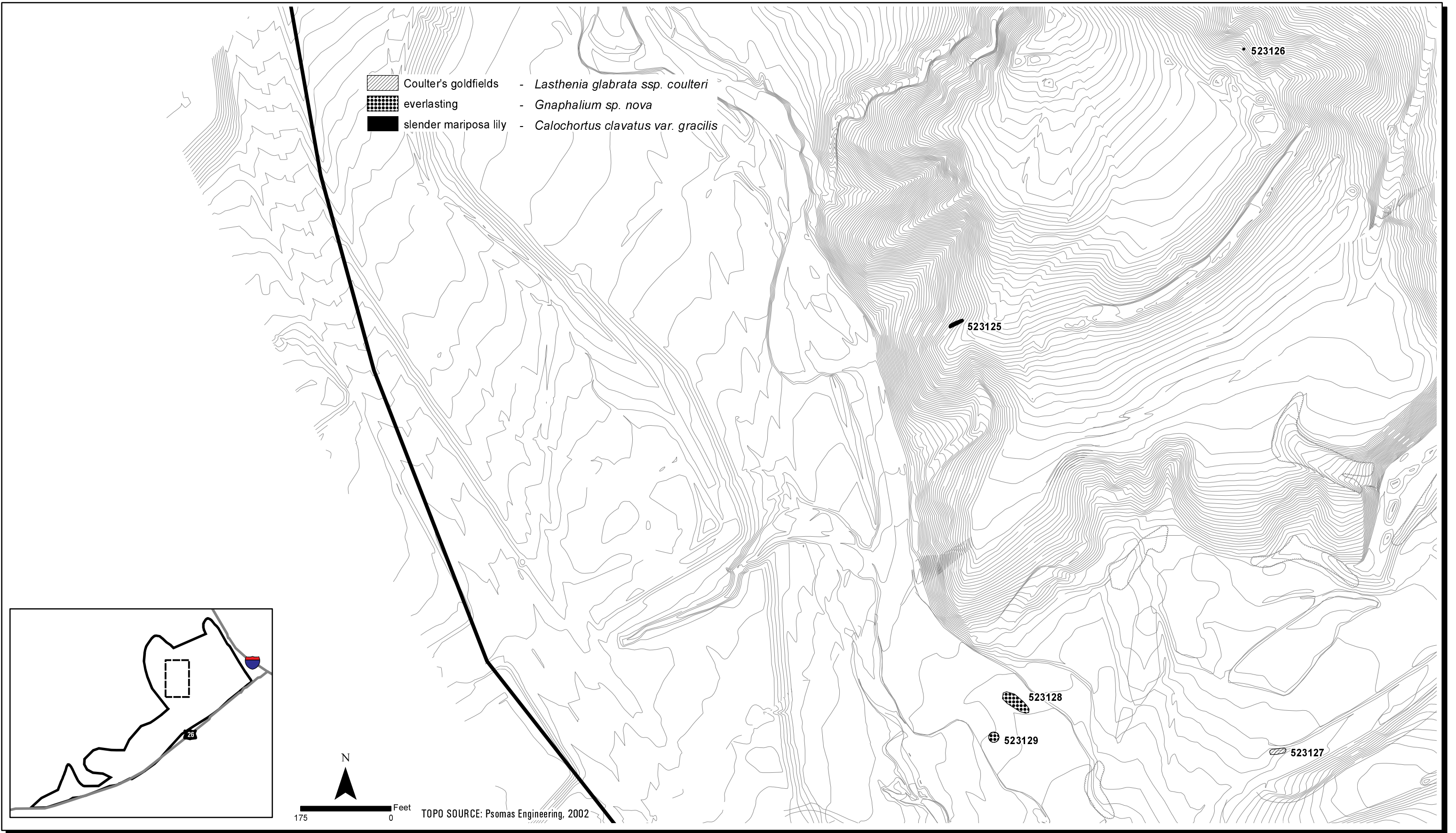




Valencia Commerce Center  
**2004 Sensitive Plant Survey Results**

**FIGURE**  
**4**





Valencia Commerce Center  
**2004 Sensitive Plant Survey Results**

**FIGURE**  
**5**

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

**TABLE 3**  
**SENSITIVE PLANT SPECIES OBSERVED OR POTENTIALLY OCCURRING AT**  
**THE VALENCIA COMMERCE CENTER**

Scientific Name	Common Name	Status Federal/St ate	CNP S List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
<i>Arenaria paludicola</i>	Marsh sandwort	FE/SE	1B	dense freshwater marsh/perennial herb/May-August	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Santa Ana River and in Santa Barbara. Limited suitable habitat onsite in wash/riparian areas that were surveyed; very low likelihood of occurrence within the study area.
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE/None	1B	chaparral, coastal sage scrub, grasslands; often on carbonate substrates/perennial herb/March-July	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in the Simi Hills. Suitable habitat exists onsite. Low to moderate likelihood of occurrence within study area.
<i>Atriplex coulteri</i>	Coulter's saltbush	None/None	1B	coastal sage scrub and grasslands on alkaline or clay substrate/perennial herb/March-October	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite in wash/riparian areas that were surveyed. Moderate likelihood of occurrence within study area.
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale	None/None	1B	coastal bluff scrub and coastal sage scrub on alkaline substrate/annual herb/May-October	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite in wash/riparian areas that were surveyed. Low likelihood of occurrence within the study area.
<i>Baccharis malibuensis</i>	Malibu baccharis	None/None	1B	chaparral, coastal sage scrub, cismontane woodland/deciduous shrub/August	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; closest known populations are in the western Santa Monica Mountains near Malibu. Not expected to occur within the study area.
<i>Berberis nevadensis</i>	Nevin's barberry	FE/SE	1B	chaparral, coastal sage scrub, riparian scrub, cismontane woodland on sandy or gravelly substrate/evergreen shrub/March-April	Not observed during 2004 field season. CNDDDB records exist for San Francisquito Canyon at confluence with Santa Clara River; suitable habitat present onsite in wash/riparian areas that were surveyed. Moderate likelihood of occurrence within study area.

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**TABLE 3**  
**SENSITIVE PLANT SPECIES OBSERVED OR POTENTIALLY OCCURRING AT**  
**THE VALENCIA COMMERCE CENTER**

Scientific Name	Common Name	Status Federal/State	CNP S List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT/SE	1B	clay substrate openings in chaparral, sage scrub, and grasslands/perennial herb (geophyte)/March-June	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in San Dimas. Suitable habitat present onsite. Low likelihood of occurrence within study area.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa lily	None/None	1B	chaparral and coastal sage scrub/perennial herb (geophyte)/March-May	Identified in two general areas (predominantly steep, north-facing slopes in California sagebrush) within 18 polygons. Overall onsite population estimate is 116 individuals within occurrence polygons covering 0.6 acre of the site. CNDDDB records for mouth of Pico Canyon.
<i>Calochortus plummerae</i>	Plummer's mariposa lily	None/None	1B	chaparral, coastal sage scrub, cismontane woodland, grasslands on rocky granitic substrate/perennial herb (geophyte)/May-July	Not observed during 2004 field season. Several <i>Calochortus</i> leaves resembling this species were observed during the spring 2003 surveys. These observations required further survey work during the blooming period for this species, which was conducted in 2004. No CNDDDB records exist for the Newhall or Val Verde quads; however, records exist for the Santa Susana Mountains and Simi Hills. Suitable habitat exists onsite. High likelihood of occurrence within study area.
<i>Calochortus weedii</i> var. <i>vestus</i>	late-flowered mariposa lily	None/None	1B	chaparral, cismontane and riparian woodland/perennial herb (geophyte)/June-August	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; however, habitat similar to where species occurs in eastern Ventura County is present onsite. Moderate likelihood of occurrence within study area.
<i>Calystegia peirsonii</i>	Peirson's morning-glory	None/None	4	chaparral, coastal sage scrub, cismontane woodland, grassland/perennial herb/May-June	Observed in chaparral, California sagebrush, and buckwheat scrub in the survey area.
<i>Calystegia sepium</i> ssp. <i>Binghamiae</i>	Santa Barbara morning-glory	None/None	1A	marshes and swamps/perennial herb/April-May	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite in wash/riparian areas that were



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**TABLE 3**  
**SENSITIVE PLANT SPECIES OBSERVED OR POTENTIALLY OCCURRING AT**  
**THE VALENCIA COMMERCE CENTER**

Scientific Name	Common Name	Status Federal/State	CNP S List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
					surveyed. Low likelihood of occurrence within study area.
<i>Centromadia</i> [=Hemizonia] <i>parryi</i> ssp. <i>Australis</i>	southern tarplant	None/None	1B	mesic edges of marshes in grasslands/annual herb/May-November	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite in wash/riparian areas that were surveyed. Low likelihood of occurrence within study area.
<i>Cercocarpus betuloides</i> var. <i>blancheae</i>	Island mountain-mahogany	None/None	4	chaparral, closed-cone coniferous forest/evergreen shrub/February-May	Not observed within study area during 2004 field season. Occurrences documented from surrounding areas in mixed chaparral. Limited suitable habitat present onsite. Low likelihood of occurrence within study area.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FC/SE	1B	coastal sage scrub, sandy soils/annual herb/April-June	Observed in one general area with 24 polygons onsite. Total onsite population estimate is 1,471 individuals within occurrence polygons covering 0.08 acre of the site.
<i>Deinandra</i> [=Hemizonia] <i>minthornii</i>	Santa Susana tarplant	None/SR	1B	chaparral and coastal sage scrub on rocky substrate/deciduous shrub/July-November	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; however, records exist for the Simi Hills and Oat Mountain. Suitable habitat exists onsite. Low likelihood of occurrence within study area.
<i>Delphinium parryi</i> ssp. <i>Blochmaniae</i>	dune larkspur	None/None	1B	maritime chaparral, coastal dunes/ perennial herb/ April-may	Not observed during 2004 field season although <i>Delphinium parryi</i> spp. <i>parryi</i> was observed within the study area. No likelihood of occurrence.
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE/SE	1B	alluvial scrub on sandy substrate/annual herb/April-June	Not observed during 2004 field season. Historic CNDDDB records exist for the Newhall or Val Verde quads in alluvial habitat similar to those present onsite in wash/riparian areas that were surveyed. Moderate likelihood of occurrence onsite.
<i>Dudleya blochmaniae</i> var. <i>blochmaniae</i>	Blochman's dudleya	None/None	1B	clay openings in chaparral and coastal sage scrub, grasslands/perennial herb/April-June	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Suitable habitat present onsite. Low to moderate likelihood of occurrence within study area.
<i>Dudleya cymosa</i>	marcescent	FT/CR	1B	chaparral, often on volcanic	Not observed during 2004 field season. No CNDDDB records

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

**TABLE 3**  
**SENSITIVE PLANT SPECIES OBSERVED OR POTENTIALLY OCCURRING AT**  
**THE VALENCIA COMMERCE CENTER**

Scientific Name	Common Name	Status Federal/St ate	CNP S List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
<i>ssp. Marcescens</i>	dudleya			substrate/perennial herb (geophyte)/ April-June	exist for Newhall and Val Verde quads. No suitable habitat observed in study area.
<i>Dudleya cymosa</i> <i>ssp. Ovatifolia</i>	Santa Monica Mountains dudleya	FT/None	1B	chaparral and coastal sage scrub, often on volcanic substrate/perennial herb (geophyte)/April-June	Not observed during 2004 field season. No CNDDDB records exist for Newhall and Val Verde quads. Suitable habitat present onsite. Low to moderate likelihood of occurrence within study area.
<i>Dudleya multicaulis</i>	many-stemmed dudleya	None/None	1B	coastal bluff scrub, coastal sage scrub, valley and foothill grassland, rocky, often clay substrate/perennial herb/ April-June	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; closest known occurrences are in Calabasas and San Dimas. Suitable habitat exists onsite. Low to moderate likelihood of occurrence within study area.
<i>Dudleya parva</i>	Conejo dudleya	FT/None	1B	coastal sage scrub and grassland on rocky, gravelly clays/perennial herb/May- June	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite. Low likelihood of occurrence within study area.
<i>Erodium macrophyllum</i>	Round-leaved filaree	None/None	2	cismontane woodland and grasslands on clay substrate/annual herb/March- May	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; however records exist for Simi Valley and this plant was observed in the hills east of Castaic Lake in 2003. Suitable habitat present onsite; moderate likelihood of occurrence in study area.
<i>Helianthus nuttallii</i> ssp. <i>Parishii</i>	Los Angeles sunflower	None/None	1A	marshes and swamps/perennial herb/ August-October	Not observed within study area during 2004 field season. A <i>Helianthus</i> population, discovered in 2002 at Castaic Spring, on the south side of the Santa Clara River between Middle Canyon and San Jose Flats, was determined by some experts to be this species, but determined by other experts not to be this species. Based on pollen electron microscopy and chromosome counts, it is likely that the Newhall <i>Helianthus</i> species is a hybrid between <i>H. nuttallii</i> and <i>H. californicus</i> or

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**TABLE 3**  
**SENSITIVE PLANT SPECIES OBSERVED OR POTENTIALLY OCCURRING AT**  
**THE VALENCIA COMMERCE CENTER**

Scientific Name	Common Name	Status Federal/State	CNP S List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
					an intermediate evolutionary step between the two species (Porter and Fraga 2004). No suitable habitat observed in study area.
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa horkelia	None/None	1B	chaparral, cismontane woodland, coastal sage scrub on sandy or gravelly substrate/perennial herb/February-December	Not observed during 2004 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present onsite in wash/riparian areas that were surveyed. Low likelihood of occurrence within study area.
<i>Juglans californica</i>	southern California black walnut	None/None	4	chaparral, cismontane woodland, coastal sage scrub, alluvial scrub/deciduous tree/March-May	Not observed within study area during 2004 field season. Observed offsite in California sagebrush and chaparral onsite. Suitable habitat present onsite. Low likelihood of occurrence within study area.
<i>Lasthenia glabrata</i> ssp. <i>Coulteri</i>	Coulter's goldfields	FSC/None	1B	Saltwater marsh and swamps, playas, vernal pools/annual herb/February-June	Observed in one location (approximately 297 square feet in size) within the study area during 2004 surveys. The occurrence contains approximately 35 individuals on a manufactured slope. No records of this subspecies are within Los Angeles or Ventura counties.
<i>Malacothamnus davidsonii</i>	Davidson's bush mallow	None/None	1B	chaparral, coastal sage scrub, riparian woodland/deciduous scrub/June-January	Not observed during 2004 field season. Nearest occurrences are in Van Nuys and Sunland quads. Suitable habitat present onsite. Moderate likelihood of occurrence within study area.
<i>Nama stenocarpum</i>	mud nama	None/None	2	edges of lakes, rivers, ponds, vernal pools/annual/January-July	Not observed during 2004 field season. Moderate likelihood of occurrence on banks of Castaic Creek and Hasley Canyon and other mesic areas onsite. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite in wash/riparian areas that were surveyed. Low likelihood of occurrence within study area.
<i>Nolina</i>	chaparral nolina	None/None	1B	chaparral, coastal sage scrub	Not observed during 2004 field season. No CNDDB records

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

**TABLE 3**  
**SENSITIVE PLANT SPECIES OBSERVED OR POTENTIALLY OCCURRING AT**  
**THE VALENCIA COMMERCE CENTER**

Scientific Name	Common Name	Status Federal/State	CNP S List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
<i>cismontane</i>		e		on sandstone or gabbro substrate/perennial shrub/May-July	exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite. Low likelihood of occurrence within study area.
<i>Opuntia basilaris</i> <i>var. brachyclada</i>	short-joint beavertail	None/None	1B	chaparral, Joshua tree woodland, Mojavean desert scrub/succulent shrub/ April-June	This variety was identified by Dudek in 2002 within coastal sage scrub at southwest portion of the ridge between Hasley Canyon and Castaic Creek; however, recent investigation indicates that the onsite population more closely matches variety <i>racemosa</i> . This species was not mapped in 2004.
<i>Pentachaeta</i> <i>lyonii</i>	Lyon's pentachaeta	FE/SE	1B	openings in chaparral and coastal sage scrub, grasslands/annual herb/March-August	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Simi Valley. Suitable habitat present onsite. Moderate likelihood of occurrence within study area.
<i>Rorippa</i> <i>gambellii</i>	Gambel's watercress	FE/ST	1B	marsh and swamps (freshwater and brackish)/perennial herb/April-June	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite in wash/riparian areas that were not surveyed. Very low likelihood of occurrence within study area.
<i>Senecio</i> <i>aphanactis</i>	rayless ragwort	None/None	2	chaparral, coastal sage scrub, cismontane woodland on alkaline substrate/annual herb/January-April	Not observed during 2004 field season. Historic CNDDDB record for Saugus, south of Santa Clara River. Suitable habitat exists onsite. Low likelihood of occurrence within study area.
<i>Sidalcea</i> <i>neomexicana</i>	salt spring checkerbloom	None/None	2	chaparral, coastal sage scrub, and playas on alkaline substrate/perennial herb/March-June	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; suitable habitat exists onsite. Moderate likelihood of occurrence within study area.
<i>Thelypteris</i> <i>puberula</i> <i>var.</i> <i>sonorensis</i>	Sonoran maiden fern	None/None	2	meadows and seeps/perennial herb/ fertile January-September	Not observed during 2004 field season. No CNDDDB records exist for the Newhall or Val Verde quads; nearest occurrence at Point Dume. Limited suitable habitat present onsite. Very low likelihood of occurrence within study area.



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TABLE 3 (*Continued*)

### Legend

FE: Federally-listed as endangered  
FT: Federally-listed as threatened  
FC: Federal candidate for listing  
SC: State candidate for listing  
SE: State-listed as endangered  
ST: State-listed as threatened  
SR: State-listed as rare

CNPS List 1A: Plants presumed extinct in California  
CNPS List 1B: Plants rare, threatened, or endangered in California and elsewhere  
CNPS List 2: Plants rare, threatened, or endangered in California but more common elsewhere  
CNPS List 3: Plants about which we need more information – a review list  
CNPS List 4: Plants of limited distribution – a watch list

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primarily on the margins of the San Fernando Valley at the base of the Santa Susana Mountains, San Gabriel Mountains, and the Simi Hills. Munz (1974) provides distribution information to include Orange and San Diego counties.

Twenty-four (24) polygons were identified in the northeastern portion of the survey area. These polygons are depicted in *Figure 3*. Labels for each of the polygons in *Figure 3* correlate with those in *Table 4*, which contain estimates for the numbers of individuals within each polygon.

Most of the SFVS were found on slopes with a south/southeast facing component in habitat ecotonal between California sagebrush and grasslands, and California buckwheat and grasslands. Elevations of the SFVS polygons on this site range from approximately 1,070 to 1,160 feet AMSL. Vegetative cover in the area of SFVS occurrences ranged from 40 to 90%, but was more commonly between 60 and 70%. The soil type for all mapped SFVS occurrences on the project site consisted of clay loams. The size of the occurrence polygons ranges from less than one to approximately 2000 square feet. The number of individuals within each polygon ranges from 1 individual to approximately 250 individuals. A CNDDDB form is included in *Appendix C* for this occurrence.

### 4.2.2 Slender mariposa lily (*Calochortus clavatus* var. *gracilis*)

Slender mariposa lily has no state or federal status but is a CNPS List 1B plant. It is typically found in chaparral, coastal sage scrub, and grasslands, often on clay, and/or rocky soils. It has been documented to occur at the mouth of Pico Canyon and other canyons in the vicinity (Newhall Quad; CDFG 2004b). Other varieties of this species are documented from southern California: club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*) and pale mariposa lily (*C. clavatus* var. *pallidus*). The club-haired mariposa lily differs in that it is virtually a serpentine endemic (restricted to serpentine soils) and a very robust species, generally attaining a height of one m. Pale mariposa lily differs in that the petals are a paler yellow, the anthers are paler (yellow to pale purple), and the hairs on the petals are not as knobby or club shaped. Neither the club-haired mariposa lily nor pale mariposa lily is known to have a red line above the nectary on the petal as is the case with the slender mariposa lily.

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**TABLE 4**  
**SAN FERNANDO VALLEY SPINEFLOWER**  
**SUMMARY OF OCCURRENCE DATA FOR THE**  
**COMMERCE CENTER SITE**

Polygon Name	Polygon Size (square feet)	Estimated Number of Individuals
523101	23	5
523102	63	20
523103	4	10
523104	2131	5
523105	47	35
523106	78	16
523107	22	40
523108	<1 <sup>1</sup>	15
523109	290	150
523110	101	150
523111	147	250
523112	3	9
523113	134	200
523114	136	100
523115	10	20
523116	<1 <sup>2</sup>	1
523117	1	2
523118	3	75
523119	225	150
523120	<1 <sup>3</sup>	1
523121	32	100
523122	44	17
523123	58	40
523124	120	60
<b>TOTAL</b>	<b>3672</b>	<b>1471</b>

1. Square feet of polygon 523108 is 0.2
2. Square feet of polygon 523116 is 0.4
3. Square feet of polygon 523120 is 0.2

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Multiple polygons were mapped within the study area by drawing boundaries on aerial photograph field maps around the areas that contained the mariposa lily. The *Calochortus* plants were scattered within these polygons and estimates of the number of flowering individuals (not total number of individuals) were made based on visual estimations. Geophytes like *Calochortus* generally only have a percentage of the plants flower in any given year and the non-flowering individuals are not as visible.

Within the Commerce Center study area, the slender mariposa lily was found primarily on east and northeast-facing ridges and slopes in California sagebrush, California buckwheat and California grasslands (see *Figures 4 and 5*). The occurrences were generally mapped in areas of high vegetative cover and a variety of soil types (*e.g.*, gravelly loam, sandy loam, rocky clay). The elevation of occurrences ranges from 1,000 to 1,330 feet AMSL. This species is locally abundant at the Commerce Center study area: 18 polygon occurrences were mapped with a polygon size ranging from 26 to 8,315 square feet. The estimated number of individuals within each polygon ranges from 1 to 50, with approximately 116 individuals within the project site (see *Table 5* below). CNDDDB forms were completed for each occurrence and are included in *Appendix C*.

**TABLE 5  
SLENDER MARIPOSA LILY  
SUMMARY OF OCCURRENCE DATA FOR THE COMMERCE CENTER SITE**

Polygon Name	Polygon Size (Square Feet)	Estimated Number of Flowering Individuals
523125	250	2
523126	26	2
513130	4,116	9
523132	3,044	10
523133	7,425	50
513135	31	1
513136	39	1
513137	103	5
513138	8,315	15
513139	95	3

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**TABLE 5**  
**SLENDER MARIPOSA LILY**  
**SUMMARY OF OCCURRENCE DATA FOR THE COMMERCE CENTER SITE**

Polygon Name	Polygon Size (Square Feet)	Estimated Number of Flowering Individuals
513140	288	1
513142	157	2
513143	73	1
513144	305	3
513145	69	1
513146	367	4
513147	174	2
513148	403	4
<b>TOTAL</b>	<b>25,282</b>	<b>116</b>
<b>AVERAGE</b>	<b>1,405</b>	<b>6.4</b>

### 4.2.3 Coulter's Goldfields (*Lasthenia glabrata* ssp. *coulteri*)

Coulter's goldfields is a CNPS List 1B plant which has not been documented to occur in the vicinity of the project (Hickman 1993; CNPS 2001). This variety is documented as being restricted to alkali playas, vernal pools, and some freshwater habitats in Riverside and San Diego counties (CNPS 2001). During the 2004 season, the species was observed in other portions of Newhall Land & Farm Company landholdings on recently manufactured slopes; apparently applied as part of an erosion control hydroseed mix.

The particular occurrence (polygon 523127) of approximately 35 individuals appears to be growing on a southeast-facing manufactured slope. The area does contain alkali habitat characteristics (silty clay, cracked soils with 10 percent vegetative cover), which are known to support this variety. These plants appear to be a non-native introduction; therefore CNDDDB data forms are not included.

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### 4.2.4 Peirson's Morning Glory (*Calystegia peirsonii*)

Peirson's morning-glory has no state or federal status, but is found on List 4 of the CNPS *Inventory*. This morning-glory is rhizomatous perennial that typically is found in more desert-like areas (*e.g.*, creosote bush scrub, Joshua tree woodland) at elevations which exceed 3,000 feet AMSL, although there are records in the CNDDDB for lower elevations in the local area. While never abundant, Peirson's morning-glory is widespread onsite and was observed on virtually all ridges and slopes, weakly climbing over mixed chaparral, California sagebrush, California buckwheat, and in grasslands throughout the 532-acre study area. Due to the widespread nature of Peirson's morning-glory on the Commerce Center site and its relatively low sensitivity level, it was not mapped. No CNDDDB forms were completed for this species because of these same reasons.

### 4.2.5 Southern California black walnut (*Juglans californica*)

Southern California black walnut has no state or federal status, but is found on List 4 of the CNPS *Inventory*. Within its distributional range in southern California, this species is found as scattered occurrences throughout chaparral, cismontane woodlands, and coastal and alluvial scrub habitats (CNPS 2001).

In the VCC survey area, one southern California black walnut, was found along the southern bank of Castaic Creek, west of the junction of Interstate 5 and State Highway 126. The tree occurred at the edge of willow-cottonwood forest on relatively flat terrain at an elevation of about 1000 feet. CNDDDB forms were not completed for this species because of its relatively low sensitivity.

### 4.2.6 *Gnaphalium* sp. nova (everlasting)

An undescribed species of *Gnaphalium* was documented within the study area during the 2004 field season. Plants of this unnamed everlasting were previously ascribed to the species *Gnaphalium leucocephalum*, which does not occur in California. Specimens of *Gnaphalium leucocephalum* within California are actually this undescribed taxon. Collections of this plant have been made

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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in Riverside, Los Angeles, and San Diego counties (Andy Sanders, pers. comm., 2003). The *Gnaphalium* plants on the Newhall Ranch SPA differ from *Gnaphalium leucocephalum* in stature, pubescence, and phyllary characters. The California *Gnaphalium* plants have been collected relatively few times (perhaps less than 20, without having yet made an exhaustive search of the herbaria) and most collections are old. Many are from around 1900 from somewhat vague localities like "Hollywood" and "Pasadena" but which are in areas that have now been substantially urbanized. Modern collections, outside of the Castaic Mesas and Santa Clara River plants, have come mostly from the Santa Ana Mountains region and especially Temescal Wash, in western Riverside County with at least one collection from adjacent San Diego County. The California plants are almost always associated with alluvial soils, often being found on the benches along major washes. The two occurrences on VCC (*Figure 5*) consist of approximately 64 individuals and are growing on secondary alluvial benches. The vegetation around these plants consists of open alluvial sage scrub habitats that are sparsely vegetated. CNDDB forms were completed for these occurrences and are included in Appendix C.

### 4.2.7 Bryophytes (Non-vascular Plants) and Lichens

Bryophytes (non-vascular plants including mosses, liverworts, and hornworts) include plants which lack specialized water- or nutrient-conducting tissue. Lacking water-transporting tissue, bryophytes must live in proximity to a moisture source and are commonly found in damp or shady microhabitats. Overall, the Valencia Commerce Center Site is very arid and supports little of this type of habitat; however, limited quantities of mosses were found on north-facing slopes and along shady banks and cut faces of ephemeral stream channels.

Lichens, in contrast, are not classified as plants but are instead unique mutualistic associations of fungi with green algae and/or cyanobacteria. Lichens are extremely widespread in nature; they are found at nearly every latitude and altitude on earth. Lichens often grow on exposed rocks but are also found on bare soil, tree trunks, or in one instance, completely submerged in water (Raven *et al.* 1992). Generally, the Valencia Commerce Center Site contains little habitat appropriate for the growth of lichens as rocky substrates are limited.



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No sensitive non-vascular plants or lichens were observed onsite or are known to occur in the proximity of the Valencia Commerce Center Site.

### 5.0 ACKNOWLEDGMENTS

Megan Enright and Sparrow Serrano prepared this report, with review by Sherri Miller. Mark McGinnis provided graphics and GIS mapping analyses. Tonette Foster provided word processing.

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# APPENDIX A

## RESUMES OF SURVEY PERSONNEL



**Nathan Gale**  
**Principal Scientist, FLx**

## **EDUCATION AND CERTIFICATIONS**

Ph.D., Geography, University of California, Santa Barbara, 1985.

M.A., Geography, University of California, Santa Barbara, 1980.

PWS, Certified Professional Wetland Scientist #1216, Society of Wetland Scientists, 1999.

## **SUMMARY OF QUALIFICATIONS**

Dr. Gale has 23 years of experience managing and conducting multidisciplinary projects ranging from methodology development to applied environmental impact assessments, planning studies, and restoration programs. His management experience includes proposal preparation; contract negotiation and client relations; cost control and schedule monitoring; document production supervision; and quality assurance review. His specific technical work has involved experimental and sampling design; photographic documentation; and mapping of natural vegetation, environmental constraints, and land use. He also has field experience in quantitative vegetation sampling, environmental data collection, and wetland delineation. Dr. Gale is skilled in qualitative and quantitative data analysis for numerous applications including ecological and environmental impact assessment as well as mitigation and monitoring planning. He has been responsible for the preparation of NEPA/CEQA environmental documents, planning studies, and technical reports for the Department of Defense (DOD), the Department of Energy (DOE), the Department of Interior (DOI), and for state and local agencies. In addition, he has published extensively in the fields of geography, ecology, planning, and environmental studies.

## **EXPERIENCE**

**Vegetation and Rare Plant Surveys and Wetlands Delineations, Ventura and Los Angeles Counties, CA. Impact Sciences, Inc.** Vegetation surveys and mapping of plant communities, rare plant surveys, field wetland surveys, delineation of jurisdictional wetlands, and report preparation for more than 30 sites in various locations in Ventura and Los Angeles counties.

**Ventura River Estuary Enhancement Project.** California Department of Parks and Recreation. Design and implementation of a five-year vegetation monitoring program for restoration efforts at Emma Wood State Beach, Ventura County, CA. The project involves monitoring four vegetation types: willow-cottonwood forest, saltbush scrub, dune scrub, and foredune vegetation. Activities include botanical surveys, survival and growth surveys, photodocumentation, data collection and comparative analysis of natural and revegetated areas, evaluation of exotics eradication, and recommendations for ongoing restoration.

**Peacekeeper Rail Garrison Mitigation Program, San Antonio Terrace, Vandenberg AFB.** U.S. Air Force and The Earth Technology Corporation. Technical advisor and senior data analyst for wetland creation, upland dune scrub habitat restoration, coast live oak revegetation, and vegetation monitoring for a five-year biological mitigation and monitoring program. Activities included initial planning, budgeting, methodology development, sampling design, vegetation sampling, data analysis, preparation and review of annual monitoring reports.

**UCSB Campus Lagoon Wetland Restoration.** The Herbarium, Museum of Systematics and Ecology, University of California, Santa Barbara. Design and implementation of a five-year vegetation monitoring program for wetland plant communities restored at the UCSB Campus Lagoon, Santa Barbara County, CA, as required by the Streambed Alteration Agreement of the California Department of Fish and Game. The project included plant species identification, vegetation sampling, data analysis, photo documentation, and report preparation.

**Guadalupe Oil Field Restoration.** California Department of Fish and Game and Hagler Bailly Consulting, Inc. Initial restoration planning, including background research, historical air photo assessment, and analysis of restoration alternatives at the Guadalupe Oil Field. Results from these tasks were used in the evaluation of potential restoration options, and to anticipate biological, hydrological, ecological, logistical, economic, and other issues associated with each restoration option.

**Restoration of Coastal Dunes and Associated Wetlands in California.** California Department of Fish and Game and Hagler Bailly Consulting, Inc. Principal scientist responsible for compiling and annotating a comprehensive

bibliography of restoration and revegetation projects in coastal California, with an emphasis on coastal dune habitats and coastal wetlands.

**Restoration Planning and Implementation, Former Guadalupe Oil Field, San Luis Obispo County, CA. Unocal Corporation.** Preparation and implementation of site-specific restoration plans, including the development of revegetation specifications, monitoring methods, performance criteria, and performance evaluation.

**Controlled Burn Monitoring, Vandenberg AFB.** U.S. Air Force and Museum of Systematics and Ecology, University of California, Santa Barbara. Pre-burn monitoring of vegetation and plant species in coastal sage scrub and chaparral at two prescribed burn sites, South Vandenberg AFB.

**Natural Resources Surveys and Environmental Assessments, Vandenberg AFB.** U.S. Air Force and Tetra Tech, Inc. Principal environmental scientist responsible for conducting field surveys and preparing report sections for vegetation, wildlife, and wetland resources for 17 environmental assessments of facility and infrastructure development projects, and for an EIS on San Antonio Creek.

**Integrated Natural Resources Management Plan, Vandenberg AFB.** U.S. Air Force and Tetra Tech, Inc. Principal scientist responsible for preparing sections on existing conditions, issues of concern, and management objectives for vegetation, wildlife, and wetland resources for a basewide five-year plan.

**EIS and Environmental Assessments.** U.S. Air Force. Program manager and contract administrator, under a contract with the Strategic Air Command (SAC), for eight environmental assessments and one EIS for proposed USAF real estate, facility construction, and training actions. Impact analyses were conducted for the full range of environmental and socioeconomic issues; major areas of focus involved endangered species' habitats, cultural and historical resources, and hazardous waste sites.

**Rare Plant Census.** All American Pipeline, L.P. Rare plant monitoring census for Gaviota tarplant (*Hemizonia increscens* ssp. *villosa*) in permanent plots established at Gaviota, CA.

**Vernal Pool Restoration Monitoring, Isla Vista, CA.** Isla Vista Recreation and Park District. Vegetation monitoring, data analysis, and publication preparation for a 10-year assessment of restored and created vernal pools at the Del Sol Open Space and Vernal Pool Reserve.

**Plant Surveys and Wetland Delineations for Five Land Parcels, Isla Vista, CA.** County of Santa Barbara Planning and Development. Field surveys and report preparation for botanical and wetland resources, including jurisdictional wetland delineations and mapping, in coastal mesa vernal pool habitat along Del Playa Drive, Isla Vista.

**Santa Barbara County Oak Restoration Program.** University of California, Santa Barbara. Vegetation monitoring in savanna and woodland habitats of blue oak, valley oak, and coast live oak, for the long-term assessment of cattle grazing impacts on oak seedling recruitment at Sedgwick Ranch, Santa Barbara County, CA.

**Goleta Revitalization EIR/EIS.** County of Santa Barbara Planning and Development. Wetland delineations at sixteen creek crossings and plant surveys for street extensions, bike paths and a multipurpose trail.

**Oil and Gas Exploration and Facilities Development EIRs/EISs.** Santa Barbara County and California State Lands Commission. Environmental analyst for EIRs/EISs of oil and gas development projects located offshore California.

**Supplemental Environmental Impact Report for the 1990 Long Range Development Plan.** University of California, Santa Barbara. Program manager for a supplemental EIR focused on growth-related impacts to local school districts, and potential secondary environmental impacts to sensitive wetland habitats that could be caused by needed school facility expansion.

**Recovery Plan for Two Federally Endangered Plant Species.** U.S. Fish and Wildlife Service. Technical advisor responsible for developing strategy and task recommendations for the recovery plan for marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*). Key aspects of the plan included an outline of steps for habitat protection, species and habitat monitoring, biological and ecological research, and the establishment of new populations.

**Implementation of Recovery Activities for Two Federally Endangered Plant Species.** California Department of Fish and Game and University of California. Research on species biology and ecology, plant propagation, experimental establishment of new populations, and monitoring of existing and new populations of marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*). Reporting of species and habitat status and progress of recovery activities.

**Restoration Plans for Installation of VTS Fiber-Optic Cable System, Honda Ridge Road Repair, and El Rancho Road Bridge Project, Vandenberg AFB.** U.S. Air Force and Tetra Tech, Inc. Preparation of restoration plans including sections on ecological background, revegetation measures, monitoring and

maintenance methods, performance criteria for assessing success, and restoration schedule for sites at North and South Vandenberg AFB.



**Implementation of Restoration Plans, South Base and VTS Fiber-Optic Cable Systems, Vandenberg AFB. U.S. Air Force and Foster Wheeler Environmental Corp.** Native plant species restoration, long-term monitoring, and restoration evaluation at four sites at Vandenberg AFB, CA.

**Biological Monitoring for Installation of CITS, VTS, South Base, and Tranquillon Mountain Fiber-Optic Cable Systems, Vandenberg AFB. U.S. Air Force, Tetra Tech, Inc., and Foster Wheeler Environmental Corporation.** Onsite biological monitoring for cable installation activities to ensure avoidance of adverse impacts to sensitive biological and wetland resources.

**Biological Surveys and Monitoring for Installation of Building 3000 Fiber-Optic Cable System, Vandenberg AFB. U.S. Air Force and System Technology Associates.** Field surveys and onsite biological monitoring for cable installation activities to ensure avoidance of adverse impacts to sensitive biological and wetland resources.

**Biological Monitoring for Honda Ridge Road Repair and Point Sal Road Repair, Vandenberg AFB. U.S. Air Force, Tetra Tech, Inc., and Ace Engineering, Inc.** Onsite biological monitoring for road repair activities to ensure avoidance of adverse impacts to sensitive biological and wetland resources.

## **MEMBERSHIPS**

California Botanical Society; California Exotic Pest Plant Council; Society of Wetland Scientists; Society of Ecological Restoration; The International Mountain Society.

## **SELECTED PUBLICATIONS**

Dr. Gale has been an author and collaborator on numerous academic publications, government research grant reports, and presentations at national and international professional conferences. In addition, he has contributed to environmental and planning documents. A summarized count of his work includes: Refereed Journal Articles - 28; Book Chapters - 5; Papers in Conference Proceedings - 3; Government Research Reports - 13; Contributions to Planning Studies - 44; Contributions to Environmental Documents - 55.

## Journal Articles

"Coast Live Oak Revegetation on the Central Coast of California," (with A. Parikh), *Madroño*, 45(4), 1998, 301-309.

"Vegetation Monitoring of Created Dune Swale Wetlands, Vandenberg Air Force Base, California," (with A. Parikh), *Restoration Ecology*, 6(1), 1998, 83-93.

"The Analysis of Class Dispersion Patterns Using Matrix Comparisons," (with L.E. Harvey and F.W. Davis), *Ecology*, 69(2), 1988, 537-542.

"Tests of Randomness: Unidimensional and Multidimensional," (with L.J. Hubert, R.G. Golledge, and C.M. Costanzo), *Environment and Planning A*, 17, 1985, 373-385.

"Measuring Association Between Spatially Defined Variables: An Alternative Procedure," (with L.J. Hubert, R.G. Golledge, and C.M. Costanzo), *Geographical Analysis*, 17, 1985, 36-46.

"Unclassed Matrix Shading and Optimal Ordering in Hierarchical Cluster Analysis," (with W.C. Halperin and C.M. Costanzo), *Journal of Classification*, 1, 1984, 775-92.

## Conference Proceedings

"Review of Ten Years of Vernal Pool Restoration and Creation in Santa Barbara, California," (with W.R. Ferren Jr., D.M. Hubbard, S. Wiseman, and A. Parikh), in C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Eds.) *Ecology, Conservation, and Management of Vernal Pool Ecosystems*, Proceedings from a 1996 Conference, California Native Plant Society, Sacramento, CA, 1998, 206-216.

"Vegetation Monitoring of Created Wetland Sites on the San Antonio Terrace, Vandenberg Air Force Base, California," (with A. Parikh), in M.C. Landin (Ed.) *Proceedings of the National Interagency Workshop on Wetlands: Technology Advances for Wetlands Science*, Technical Report, Wetlands Research and Technology Center, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS, 1995, 153-55.

"Wetland Creation and Vegetation Monitoring in a Stabilized Sand Dune Ecosystem, San Antonio Terrace, Vandenberg Air Force Base, California," (with A. Parikh and T. Waddell), in M.C. Landin (Ed.) Proceedings of the 13th Annual Meeting of the Society of Wetland Scientists (SWS), New Orleans, LA, 1993, 368-76.

"First-Year Vegetation Monitoring of Created Wetlands on the San Antonio Terrace, Vandenberg Air Force Base, California," (with A. Parikh and T. Waddell), in A.E. Leviton and M.L. Aldrich (Eds.) Proceedings of the Pacific Division, American Association for the Advancement of Science, University of California, Santa Barbara, June 1992, p. 46.

**ANUJA K. PARIKH**  
**Principal Ecologist, FLx**

## **EDUCATION AND CERTIFICATIONS**

Ph.D., Plant Geography, University of California, Santa Barbara, 1989.  
M.S., Geography, University of Bombay, India, 1981.  
B.S., Zoology and Geology, University of Bombay, India, 1979.  
PWS, Certified Professional Wetland Scientist #841, Society of Wetland Scientists, 1995.

## **SUMMARY OF QUALIFICATIONS**

Dr. Parikh has 19 years of field and research experience in the areas of botany, plant ecology, wetlands, biogeography, and earth resources. Her work has included environmental baseline inventories and impact assessments, rare and endangered plant species surveys, revegetation and mitigation plans, restoration and monitoring of native upland and wetland habitats, and coast live oak revegetation studies. She has expertise in field vegetation sampling, plant species identification, wetland delineation, and the collection of physical environmental data. Using aerial photography and field surveys, she has prepared vegetation maps based on classification and quantification of plant communities in a variety of habitats; she also has mapped environmental constraints, incorporating data on sensitive species, natural habitats, and physiographic and man-made features. Dr. Parikh is experienced with experimental design as well as processing and analyzing ecological data using statistical and graphics software.

## **EXPERIENCE**

**Vegetation and Rare Plant Surveys and Wetlands Delineations, Ventura and Los Angeles Counties, CA. Impact Sciences, Inc.** Vegetation surveys and mapping of plant communities, rare plant surveys, field wetland surveys, delineation of jurisdictional wetlands, and report preparation for more than 30 sites in various locations in Ventura and Los Angeles counties.

**Peacekeeper Rail Garrison Mitigation Program, San Antonio Terrace, Vandenberg AFB, CA. U.S. Air Force and The Earth Technology Corporation.** Project biologist responsible for directing, planning, and implementing biological field activities related to wetlands creation, upland habitat

restoration, coast live oak revegetation, and vegetation monitoring for all mitigation and restoration sites.

**Vegetation Mapping and Plant Species Surveys. Santa Barbara County, CA.** Vegetation mapping using aerial photographs of riparian communities along the Santa Ynez River, Santa Barbara County; field vegetation and topographical data collection from transects, species identification, rare and endangered plant species surveys, and report preparation for the County Flood Control District.

**Rare and Endangered Plant Species Surveys. California Department of Water Resources.** Rare and endangered plant species identification and mapping along a proposed aqueduct route in the Lompoc and Lake Cachuma areas in Santa Barbara County, and near Santa Margarita, San Luis Obispo County; field verification, ground truthing and mapping of vegetation communities along the Santa Ynez River, CA.

**Rare and Endangered Plant Species Surveys. Metropolitan Water District and ERC Environmental and Energy Services Co.** Plant species identification and sensitive plant species surveys at proposed reservoir and mitigation sites (Potrero Creek, Harford Springs, Crown/Rawson Valleys, Motte Rimrock Reserve, Domenigoni Valley, Santa Rosa Plateau Preserve, Lake Skinner, and Vail Lake) for the Metropolitan Water District's Eastside Reservoir Project, Riverside County, CA.

**Floristic and Vegetation Surveys. U.S. Department of Agriculture, Forest Service.** Preparation of floras and vegetation surveys in the Los Padres National Forest at Mt. Pinos, a lower subalpine community in Ventura and Kern counties, and at Alder Creek Botanical Area, Monterey County, CA. Identification of plant species and collection of vegetation and site data in permanent plots established in blue oak woodland in San Luis Obispo County, CA, as part of a Forest Service project on vegetation and habitat inventory and classification.

**Wetland Vegetation Surveys, Mapping, and Monitoring. Dames & Moore.** Vegetation mapping using aerial photographs, calculations of riparian habitat acreages, and field botanical surveys for a land development project along the Santa Clara River, Los Angeles County, CA. Biological construction monitoring for an archaeological site investigation in the Los Carneros wetlands, Goleta, CA. Field surveys and mapping of wetlands and vernal pools at Beale AFB, CA.



**Rare and Endangered Plant Species Surveys and Vegetation Mapping.** Jones and Stokes Associates, Inc. Field surveys for rare and endangered plant species at the proposed Los Vaqueros Reservoir site near Livermore, Contra Costa and Alameda counties, CA, and along ephemeral drainages near Taft in the Central Valley, Kern County, CA, for a project involving clean-up of oil and brea deposits. Habitat mapping and field surveys of riparian vegetation and plant species on transects along the Lower Ventura River, for an aquatic biology survey.

**Ecological Survey Reports for Candidate Research Natural Areas.** U.S. Department of Agriculture, Forest Service. Field work, literature reviews, and document preparation for the San Emigdio Mesa and Sawmill Mountain Candidate Research Natural Areas, Los Padres National Forest, Ventura County, CA.

**Santa Barbara County Oak Restoration Program.** University of California, Santa Barbara. Plant identification and vegetation monitoring in savanna and woodland habitats of blue oak, valley oak, and coast live oak, for the long-term assessment of cattle grazing impacts on oak seedling recruitment at Sedgwick Ranch, Santa Barbara County, CA.

**Controlled Burn Monitoring, Vandenberg AFB.** U.S. Air Force and Museum of Systematics and Ecology, University of California, Santa Barbara. Pre-burn monitoring of vegetation and plant species in coastal sage scrub and chaparral at two prescribed burn sites, South Vandenberg AFB.

**Rare Plant Census.** All American Pipeline, L.P. Rare plant monitoring census for Gaviota tarplant (*Hemizonia increscens* ssp. *villosa*) in permanent plots established at Gaviota, CA.

**Ventura River Estuary Enhancement Project.** California Department of Parks and Recreation. Design and implementation of a five-year vegetation monitoring program for restoration efforts at Emma Wood State Beach, Ventura County, CA. The project involves monitoring four vegetation types: willow-cottonwood forest, saltbush scrub, dune scrub, and foredune vegetation. Activities include botanical surveys, survival and growth surveys, photo documentation, data collection and comparative analysis of natural and revegetated areas, evaluation of exotics eradication, and recommendations for ongoing restoration.

Restoration Planning and Implementation, Former Guadalupe Oil Field, San Luis Obispo County, CA. Unocal Corporation. Preparation and implementation of site-specific restoration plans, including the development of revegetation specifications, monitoring methods, performance criteria, and performance evaluation.

**Restoration Plans for Installation of VTS Fiber-Optic Cable System, Honda Ridge Road Repair, and El Rancho Road Bridge Project, Vandenberg AFB. U.S. Air Force and Tetra Tech, Inc.** Preparation of restoration plans including sections on ecological background, revegetation measures, monitoring and maintenance methods, performance criteria for assessing success, and restoration schedule for sites at North and South Vandenberg AFB.

**Implementation of Restoration Plans, South Base and VTS Fiber-Optic Cable Systems, Vandenberg AFB. U.S. Air Force and Foster Wheeler Environmental Corp.** Native plant species restoration, long-term monitoring, and restoration evaluation at four sites at Vandenberg AFB, CA.

**Vernal Pool Restoration Monitoring, Isla Vista, CA. Isla Vista Recreation and Park District.** Vegetation monitoring, data analysis, and publication preparation for a 10-year assessment of restored and created vernal pools at the Del Sol Open Space and Vernal Pool Reserve.

**UCSB Campus Lagoon Wetland Restoration. The Herbarium, Museum of Systematics and Ecology, University of California, Santa Barbara.** Design of a five-year vegetation monitoring program for wetland plant communities restored at the UCSB Campus Lagoon, Santa Barbara County, CA, as required by the Streambed Alteration Agreement of the California Department of Fish and Game. The monitoring project included plant species identification, vegetation sampling, data analysis, photo documentation, and report preparation.

**Integrated Natural Resources Management Plan, Vandenberg AFB. U.S. Air Force and Tetra Tech, Inc.** Principal ecologist responsible for preparing sections on existing conditions, issues of concern, and management objectives for vegetation, wildlife, and wetland resources for a basewide five-year plan.

**Natural Resources Surveys and Environmental Assessments, Vandenberg AFB. U.S. Air Force and Tetra Tech, Inc.** Principal environmental scientist responsible for conducting field surveys and preparing report sections for vegetation, wildlife, and wetland resources for 17 environmental assessments of facility and infrastructure development projects, and for an EIS on San Antonio Creek.

**Natural Resources Management Plans. U.S. Air Force and Higginbotham/Briggs & Associates.** Participation in data collection, field visits,

agency coordination, document preparation and review for Natural Resources Management Plans prepared for Kaena Point Satellite Tracking Station, HI, and Onizuka AFB, CA.

**Recovery Plan for Two Federally Endangered Plant Species.** U.S. Fish and Wildlife Service. Ecologist and principal author responsible for background research and all botanical elements of the recovery plan for marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*).

**Implementation of Recovery Activities for Two Federally Endangered Plant Species.** California Department of Fish and Game and University of California. Research on species biology and ecology, plant propagation, experimental establishment of new populations, and monitoring of existing and new populations of marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*). Reporting of species and habitat status and progress of recovery activities.

**Wetlands Management Plan.** Department of Geography and Campus Wetlands Committee, University of California, Santa Barbara. Field and literature surveys of hydrology and sedimentation of the campus-owned wetland resources in Devereux Slough and the Storke Campus wetlands.

**Goleta Revitalization EIR/EIS.** County of Santa Barbara Planning and Development. Wetland delineations at sixteen creek crossings and plant surveys for street extensions, bike paths and a multipurpose trail.

**Plant Surveys and Wetland Delineations for Five Land Parcels, Isla Vista, CA.** County of Santa Barbara Planning and Development. Field surveys and report preparation for botanical and wetland resources, including jurisdictional wetland delineations and mapping, in coastal mesa vernal pool habitat along Del Playa Drive, Isla Vista.

**Biological Monitoring, Environmental Quality Assurance Program (EQAP), Santa Barbara County, CA.** Storrer Environmental Services. Biological monitoring for the Level (3) fiber-optic cable installation project, and for the All-American Pipeline relocation at Gaviota Creek.

**Watershed Surveys.** U.S. Department of Agriculture, Forest Service. Geomorphological, botanical, and hydrological field work in preliminary watershed surveys in Santa Barbara and Ventura counties, CA.

**Vegetation Surveys and Analysis.** The Herbarium, Department of Biological Sciences, University of California, Santa Barbara. Plant species identification and vegetation sampling in upland and wetland areas for baseline data inventory of botanical resources and rare plants at Fish Slough, Inyo and Mono counties, CA. Project design and field surveys of topography, riparian vegetation, and plant species in the Ventura River estuary, Ventura County, CA; computer graphics, analysis, and document preparation of environmental relationships and distribution of species and vegetation communities. Computer analysis for a project on the botanical wetland resources of the Carpinteria salt marsh, Santa Barbara County, CA.

**Research Activities.** Department of Geography, University of California, Santa Barbara. Sampling and monitoring regeneration of tree and herbaceous species in the riparian zone of a chaparral watershed recovering from wildfire (N. Fork Matilija Creek, Ventura County); topographic channel surveys, computer plotting, ecological and botanical field, laboratory and greenhouse experiments, literature review, and data analysis. Vegetation sampling, inventory and analysis, and topographical surveys in chaparral ecosystems and oak woodlands in Burton Mesa chaparral, Santa Barbara County. Field sampling in coniferous forests of the Mendocino National Forest Reserve, CA.

## **MEMBERSHIPS**

California Native Plant Society; Society of Wetland Scientists; Society of Ecological Restoration; California Botanical Society.

## **SELECTED PUBLICATIONS AND REPORTS**

"Coast Live Oak Revegetation on the Central Coast of California," (with N. Gale), *Madroño*, 45(4), 1998, 301-309.

"Vegetation Monitoring of Created Dune Swale Wetlands, Vandenberg Air Force Base, California," (with N. Gale), *Restoration Ecology*, 6(1), 1998, 83-93.

"Review of Ten Years of Vernal Pool Restoration and Creation in Santa Barbara, California," (with W.R. Ferren Jr., D.M. Hubbard, S. Wiseman, and N. Gale), in C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Eds.) *Ecology, Conservation, and Management of Vernal Pool Ecosystems*, Proceedings from a 1996 Conference, California Native Plant Society, Sacramento, CA, 1998, 206-216.



- "Peacekeeper Rail Garrison and Small ICBM Mitigation Program, San Antonio Terrace, Vandenberg AFB, California Annual Wetlands Monitoring Report, Annual Upland Monitoring Report, Year 5," Prepared for the U.S. Department of the Air Force, Detachment 10, Space and Missile Systems Center, San Bernardino, CA, February 1996.
- "Vegetation Monitoring of Created Wetland Sites on the San Antonio Terrace, Vandenberg Air Force Base, California," (with N. Gale), in M.C. Landin (Ed.) Proceedings of the National Interagency Workshop on Wetlands: Technology Advances for Wetlands Science, Technical Report, Wetlands Research and Technology Center, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS, 1995, 153-55.
- "Recovery Plan for Marsh Sandwort (*Arenaria paludicola*) and Gambel's Watercress (*Rorippa gambelii*)," (with N. Gale), U.S. Fish and Wildlife Service, Ventura, CA, August 1994.
- "Wetland Creation and Vegetation Monitoring in a Stabilized Sand Dune Ecosystem, San Antonio Terrace, Vandenberg Air Force Base, California," (with N. Gale and T. Waddell), in M.C. Landin (Ed.) Proceedings of the 13th Annual Meeting of the Society of Wetland Scientists (SWS), New Orleans, LA, 1993, 368-76.
- "First-Year Vegetation Monitoring of Created Wetlands on the San Antonio Terrace, Vandenberg Air Force Base, California," (with N. Gale and T. Waddell), in A.E. Leviton and M.L. Aldrich (Eds.) Proceedings of the Pacific Division, American Association for the Advancement of Science, University of California, Santa Barbara, June 1992, p. 46.
- "Biotic Inventory and Ecosystem Characterization for Fish Slough, Inyo and Mono Counties, California," (with the Fish Slough Research Team), Report to State of California, The Resources Agency, Department of Fish and Game, by the Departments of Biological Sciences, Geography, and Geological Sciences, University of California, Santa Barbara, June 1991.
- "Ecology of a Mediterranean-Climate Estuarine Wetland at Carpinteria, California: Plant Distributions and Soil Salinity in the Upper Marsh," (with R. Callaway, S. Jones, W. Ferren), *Canadian Journal of Botany*, 68, 1990, 1139-1146.

"Botanical Resources at Emma Wood State Beach and the Ventura River Estuary, California: Inventory and Management," (with W. Ferren, M. Capelli, D. Magney, K. Clark, and J. Haller), Report to the State of California Department of Parks and Recreation, Environmental Report No. 15, The Herbarium, Department of Biological Sciences, University of California, Santa Barbara, August 1990.

"UCSB Campus Wetlands Management Plan, Part IIC Technical Report CHydrology, Water Quality, and Sedimentation of West and Storke Campus Wetlands," (with F. Davis, D. Theobald, and R. Harrington), Report to the California Coastal Conservancy and Campus Wetlands Committee, University of California, Santa Barbara, CA, 1990.

"Recovery of the Chaparral Riparian Zone After Wildfire," (with F. Davis, E. Keller, and J. Florsheim), Proceedings of the California Riparian Systems Conference, September 22-24, 1988, Davis, CA, Protection, Management, and Restoration for the 1990s, Gen. Tech. Rep. PSW-110, U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station, 1989, 194-203.

"Plant Communities and Flora of the Proposed Botanical Reserve on Mt. Pinos, Ventura and Kern counties, CA," (with D. Capralis), Survey Report, U.S. Department of Agriculture, Forest Service, Los Padres National Forest Headquarters, Goleta, CA, August 1988.

"Terrestrial Vegetation of Rattlesnake Canyon," (with F. Davis), Proceedings of the Chaparral Ecosystems Research Conference, Santa Barbara, CA, Report No. 62, California Water Resources Center, University of California, Davis, CA, 1986, 13-17.

**APPENDIX B**  
**VASCULAR PLANT SPECIES OBSERVED**  
**VALENCIA COMMERCE CENTER SITE**  
**(2002, 2003, and 2004)**

# 2004 Sensitive Plant Survey Results Valencia Commerce Center

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## APPENDIX B

### VASCULAR PLANT SPECIES – VALENCIA COMMERCE CENTER

#### LYCOPODIAE

##### SELAGINELLACEAE - SPIKE-MOSS FAMILY

*Selaginella bigelovii* - Bigelow's spike-moss

#### FILACEAE

##### PTERIDACEAE - BRAKE FAMILY

*Pellaea andromedifolia* var. *andromedifolia* - coffee fern

*Pentagramma triangularis* ssp. *viscosa* – goldenback fern

#### CONIFERAE

##### PINACEAE - PINE FAMILY

*Pinus* sp. - pine

#### ANGIOSPERMAE (DICOTYLEDONES)

##### AIZOACEAE - CARPET-WEED FAMILY

*Mesembryanthemum crystallinum*

\* *Mesembryanthemum nodiflorum* - small-flowered ice plant

##### AMARANTHACEAE - AMARANTH FAMILY

*Amaranthus albus* - tumbleweed

*Amaranthus blitoides* - prostrate amaranth

\* *Amaranthus retroflexus* - rough pigweed

##### ANACARDIACEAE - SUMAC FAMILY

*Rhus ovata* - sugar-bush

*Rhus trilobata* - squaw bush

##### APIACEAE - CARROT FAMILY

*Apiastrum angustifolium* - wild celery

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- Bowlesia incana* – bowlesia
- \* *Conium maculatum* - poison-hemlock
- Daucus pusillus*
- \* *Foeniculum vulgare* - sweet fennel

### APOCYNACEAE - DOGBANE FAMILY

*Nerium oleander* – oleander

### ASCLEPIADACEAE - MILKWEED FAMILY

*Asclepias eriocarpa* - Indian milkweed

### ASTERACEAE - SUNFLOWER FAMILY

- Achillea millefolium* var. *californica* – yarrow
- Acourtia microcephala* - sacapellote
- Agoseris grandiflora* - mountain dandelion
- Ambrosia acanthicarpa* - annual burweed
- Ambrosia confertifolia* - weak-leaved burweed
- Ambrosia dumosa*
- Ambrosia psilostachya* – western ragweed
- Artemisia californica* - coastal sagebrush
- Artemisia tridentata* ssp. *tridentata* – Great Basin sagebrush
- \* *Arctotis hisuta* – African daisy
- Artemisia dracunculus* - tarragon
- Artemisia douglasiana* - California mugwort
- Baccharis pilularis* - coyote brush
- Baccharis salicifolia* - mule fat
- Baccharis sarothroides* - chaparral broom
- Brickellia californica* - California brickellbush
- Brickellia nevinii* - Nevin's brickellbush
- Carduus pycnocephalus* – Italian thistle
- \* *Centaurea melitensis* – star thistle
- \* *Centaurea solstitialis* – yellow star thistle
- Chaenactis glabriuscula* - yellow pincushion
- Chamomilla suaveolens* - pineapple weed
- Chrysothamnus nauseosus* – rubber rabbitbrush
- Cirsium occidentale* var. *californicum* - California thistle
- Cirsium vulgare* – Bull thistle

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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- \* *Cnicus benedictus* - blessed thistle
- Conyza canadensis* – horseweed
- Coreopsis bigelovii* - tickseed
- Cotula australis*
- \* *Dimorphotheca sinuata* – Cape-marigold
- Encelia californica* - California bush sunflower
- Encelia farinosa* - brittlebush, incensio
- Ericameria palmeri* var. *pachylepis* – Goldenbush
- Erigeron foliosus* var. *stenophyllus* - leafy daisy
- Eriophyllum confertiflorum* - long-stem golden yarrow
- Filago californica* - California fluffweed
- \* *Filago gallica* - narrow-leaf filago
- \* *Gazania linearis* - African daisy
- Gnaphalium* sp. (undescribed)
- Gnaphalium californicum* - California everlasting
- Gnaphalium canescens* ssp. *Microcephalum* – white everlasting
- Gnaphalium luteo-album* – white cudweed
- Hazardia* sp. - goldenbush
- Helianthus annuus* - common sunflower
- Hemizonia fasciculata* - fascicled tarweed
- Heterotheca grandiflora* - telegraph weed
- Heterotheca psammophila*
- Heterotheca sessiliflora* – golden aster
- Heterotheca sassiflora* ssp. *fastigiata*
- \* *Hypochaeris glabra* - smooth car's-ear
- Isocoma menziesii* ssp. *veneta* - coastal Goldenbush
- \* *Lactuca serriola* - prickly lettuce
- Lasthenia californica* - coast goldfields
- Lasthenia glabrata* ssp. *coulteri* – Coulter's goldfields
- Lepidospartum squamatum* - scale-broom
- Lessingia filaginifolia* - virgate cudweed aster
- Madia gracilis*
- Malacothrix saxatilis* var. *commutata*
- Malacothrix saxatilis* - cliff *malacothrix* var. *tenuifolia*
- \* *Matricaria marticarioides* – pineapple weed
- Micropus californicus* – slender cottonweed
- Microseris douglasii* - Douglas' microseris



## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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- Microseris lindleyi* - Lindley's microseris  
*Picris echioides*  
*Pluchea odorata* - marsh-fleabane  
*Pluchea sericea* - arrow weed  
\* *Pulicaria paludosa* - Spanish sunflower  
*Rafinesquia californica* - California chicory  
*Senecio californica* - California groundsel  
*Senecio californicus* - California butterweed  
*Senecio flaccidus* var. *douglasii* - butterweed  
*Senecio vulgaris* - common groundsel  
*Silybum marianum* - milk thistle  
*Solidago californica* - California goldenrod  
\* *Sonchus asper* - prickly sow-thistle  
\* *Sonchus oleraceus* - common sow-thistle  
*Stephanomeria* sp. - wreathplant  
*Stephanomeria virgata* - twiggy wreathplant  
*Stylocline gnaphalioides* - everlasting nest-straw  
*Tetradyma comosa* - hairy horsebrush  
*Uropappus lindleyi* - silver puffs  
*Xanthium strumarium* - cocklebur

### BORAGINACEAE - BORAGE FAMILY

- Amsinckia menziesii* - yellow fiddleneck  
*Amsinckia intermedia* - common fiddleneck  
*Cryptantha intermedia* - common forget-me-not  
*Cryptantha micrstachys* - Tejon cryptantha  
*Cryptantha muricata*  
*Cryptantha nevadensis*  
*Cryptantha* spp. - forget-me-not  
*Heliotropium curassavicum* - wild heliotrope  
*Pectocarya linearis* - slender pectocarya  
*Pectocarya recurvata* - pectocarya  
*Plagiobothrys canescens* - rusty popcorn flower  
*Plagiobothrys nothofulvus* - popcorn flower  
*Plagiobothrys fulvus* - popcorn flower  
*Plagiobothrys* sp. - popcorn flower

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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### BRASSICACEAE - MUSTARD FAMILY

*Brassica nigra* - black mustard

*Brassica napus*

*Brassica tournefortii* – mustard

*Erysimum capitatum* - western wallflower

*Capsella bursa pastoris* – shepherd's purse

*Erysimum capitatum* ssp. *capitatum*

\* *Hirschfeldia incana* - short-podded mustard

*Lobularia maritima*

\* *Sisymbrium altissimum* - tumble mustard

\* *Sisymbrium irio* - London rocket

\* *Sisymbrium orientale* - Oriental mustard

*Stanleya pinnata* var. *pinata* – prince's plume

*Thysanocarpus curvipes* - hairy fringedpod

*Thysanocarpus laciniatus* - narrow-leaved fringedpod

### CACTACEAE - CACTUS FAMILY

*Opuntia basilaris* var. *ramosa* – beavertail cactus

*Opuntia littoralis* - coastal prickly-pear

*Opuntia parryi* - valley cholla

### CAPPARACEAE – CAPER FAMILY

*Isomeris arborea* - bladderpod

### CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

*Lonicera subspicata* - southern honeysuckle

*Sambucus mexicana* - Mexican elderberry

### CARYOPHYLLACEAE - PINK FAMILY

\* *Silene gallica* - common catchfly

\* *Stellaria media* - common chickweed

### CHENOPODIACEAE - GOOSEFOOT FAMILY

*Atriplex canescens* - four-winged saltbush

*Atriplex lentiformis* – big saltbush, quail brush

*Atriplex semibaccata* - Australian saltbush

*Atriplex suberecta* - Australian saltbush

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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*Chenopodium album* – lamb's quarters  
*Chenopodium berlandieri* – pitseed goosefoot  
*Chenopodium californicum* - California goosefoot  
*Chenopodium murale* - nettle-leaved goosefoot  
\* *Salsola tragus* - Russian-thistle

### CRASSULACEAE - STONECROP FAMILY

*Crassula connata* - dwarf stonecrop  
*Dudleya lanceolata* - lanceleaf dudleya

### CONVOLVULACEAE - MORNING-GLORY FAMILY

*Calystegia macrostegia* - western bindweed  
*Calystegia peirsonii* – Peirsons morning-glory  
*Convolvulus arvensis* – bindweed

### CRASSULACEAE - STONECROP FAMILY

*Crassula connata* – dwarf stonecrop  
*Dudleya lanceolata* – lanceleaf dudleya

### CUCURBITACEAE - GOURD FAMILY

*Cucurbita foetidissima* - coyote-melon, calabazilla  
*Marah fabaceus* - cucumber  
*Marah macrocarpus* - wild cucumber

### CUSCUTACEAE - DODDER FAMILY

*Cuscuta californica* - California dodder

### EUPHORBIACEAE - SPURGE FAMILY

*Chamaesyce albomarginata* - rattlesnake spurge  
*Chamaesyce polycarpa* - small-seed sand mat  
*Croton californicus* - California croton  
*Eremocarpus setigerus* – doveweed  
*Euphorbia spathulata* - reticulate-seeded spurge  
*Stillingia linearifolia* - linear-leaved stillingia

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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### FABACEAE - PEA FAMILY

- Astragalus trichopodus* - Santa Barbara locoweed
- Lotus hamatus* - grab lotus
- Lotus purshianus* - Spanish-clover
- Lotus salsuginosus* - coastal lotus
- Lotus scoparius* - deerweed
- Lotus strigosus* - strigose deerweed
- Lotus wrangelianus*
- Lupinus bicolor* - Lindley's annual lupine
- Lupinus arizonicus*
- Lupinus hirsutissimus* - stinging lupine
- Lupinus excubitus* var. *hallii* – grape soda lupine
- Lupinus formosus* var. *formosus*
- Lupinus microcarpus* var. *densiflorus* – chick lupine
- Lupinus microcarpus* var. *microcarpus* – chick lupine
- Lupinus sparsiflorus* – Coulter's lupine
- Lupinus succulentis* - arroyo lupine
- Lupinus truncatus* - collar lupine
- \* *Medicago sativa* - alfalfa
- \* *Medicago polymorpha* - California burclover
- \* *Melilotus alba* - white sweet-clover
- \* *Melilotus indica* - yellow sweet-clover
- Trifolium albopurpureum* - Indian clover
- Trifolium ciliolatum* - tree clover
- Trifolium gracilentum* – clover
- Trifolium willdenovii* – wildcat clover
- \* *Vicia benghalensis* – purple vetch
- Vicia hassei* - slender vetch
- \* *Vicia villosa* var. *varia* – hairy vetch

### FAGACEAE - BEECH FAMILY

- Quercus* sp. - scrub oak
- Quercus agrifolia* - coast live oak
- Quercus john-tuckerii*
- Quercus lobata* - valley oak

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### GERANIACEAE - GERANIUM FAMILY

- \* *Erodium cicutarium* - red-stemmed filaree
- \* *Erodium moschatum* - white-stemmed filaree

### GROSSULARIACEAE – CURRANT FAMILY

*Ribes aureum* – golden currant

### HYDROPHYLLACEAE - WATERLEAF FAMILY

*Emmenanthe penduliflora* - whispering bells  
*Eriodictyon crassifolium* var. *nigrescens* - yerba santa  
*Eucrypta chrysanthemifolia* - common eucrypta  
*Phacelia cicutaria* var. *hispida* – caterpillar phacelia  
*Phacelia distans* - phacelia  
*Phacelia parryi* - Parry's phacelia  
*Phacelia ramosissima* - shrubby phacelia  
*Phacelia tanacetifolia* – phacelia

### JUGLANDACEA – WALNUT FAMILY

*Juglans californica* – Southern California black walnut

### LAMIACEAE - MINT FAMILY

- \* *Lamium amplexicaule* – dead nettle
- \* *Marrubium vulgare* - horehound
- Salvia apiana* - white sage
- Salvia columbariae* - chia
- Salvia leucophylla* - purple sage
- Salvia mellifera* - black sage
- Trichostema lanceolatum* - vinegar weed

### MALVACEAE - MALLOW FAMILY

- Malacothamnus fasciculatus* - mesa bushmallow
- \* *Malva parviflora* - cheeseweed

### NYCTAGINACEAE - FOUR O'CLOCK FAMILY

*Mirabilis californica* - California wishbone-bush

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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### ONAGRACEAE - EVENING-PRIMROSE FAMILY

*Camissonia bistorta* - California sun cup  
*Camissonia boothii* - sun cup  
*Camissonia californica* - mustard primrose  
*Camissonia cheiranthifolia* - beach evening primrose  
*Camissonia hertella* - sun cup  
*Camissonia micrantha* - sun cup  
*Camissonia strigulosa* - sun cup  
*Clarkia purpurea* - winecup clarkia  
*Clarkia unguiculata* - elegant clarkia  
*Epilobium ciliatum* - California cottonweed  
*Oenothera californica* - California evening primrose  
*Oenothera elata* - evening primrose

### PAPAVERACEAE - POPPY FAMILY

*Eschscholzia californica* - California poppy  
*Platystemon californicus* var. *crinitus* - cream cups  
*Stylomecon heterophylla* - wind poppy

### PLANTAGINACEAE - PLANTAIN FAMILY

*Plantago erecta* - dot-seed plantain  
*Plantago* sp. - plantain

### POLEMONIACEAE - PHLOX FAMILY

*Eriastrum densifolium* ssp. *densifolium* - wooly star  
*Eriastrum densifolium* ssp. *elongatum*  
*Eriastrum sapphirinum* - sapphire eriastrum  
*Gilia angelensis* - angel gilia  
*Gilia capitata* - ball gilia  
*Leptodactylon californicum* - prickly phlox  
*Linanthus pygmaeus* - linanthus

### POLYGONACEAE - BUCKWHEAT FAMILY

*Brachyanthum* sp.  
*Chorizanthe parryi* var. *Fernandina* - San Fernando Valley spineflower  
*Chorizanthe staticoides* - turkish rugging  
*Eriogonum baileyi* - buckwheat



## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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*Eriogonum elongatum* - long-stemmed buckwheat  
*Eriogonum fasciculatum* ssp. *foliolosum* - California buckwheat  
*Eriogonum angulosum* - wild buckwheat  
*Eriogonum gracile* - slender woolly buckwheat  
*Lastarriaea coriacea* - lastarriaea  
*Polygonum arenastrum* - common knotweed  
*Pterostegia drymarioides* - California threadstem  
\* *Rumex crispus* - curly dock  
*Rumex hymenosepalus* - wild rhubarb  
*Rumex obtusifolius* - dock

### PORTULACACEAE - PURSLANE FAMILY

*Calandrinia ciliata* var. *menziesii* - redmaids  
*Calyptridium monandrum* - common calyptridium  
*Claytonia perfoliata* var. *perfoliata* - miner's-lettuce  
\* *Portulaca oleracea* - common purslane

### RANUNCULACEAE - CROWFOOT FAMILY

*Delphinium parryi* ssp. *parryi* - Parry's larkspur

### RHAMNACEAE - BUCKTHORN FAMILY

*Ceanothus megacarpus* - big-podded Ceanothus  
*Rhamnus ilicifolia* - holly-leaf redberry

### ROSACEAE - ROSE FAMILY

*Adenostoma fasciculatum* - chamise  
*Heteromeles arbutifolia* - toyon  
*Physanocarpus alteranus* - ninebark  
*Prunus ilicifolia* - holly-leaf cherry  
*Rubus ursinus* - California blackberry

### RUBIACEAE - MADDER FAMILY

*Galium angustifolium* - narrow-leaved bedstraw  
\* *Galium aparine* - goose grass  
*Galium nuttallii* - Nuttall's bedstraw

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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### **SALICACEAE - WILLOW FAMILY**

*Populus fremontii* - Fremont's cottonwood

*Salix exigua* - narrow-leaved willow

*Salix laevigata* - red willow

*Salix lasiolepis* - arroyo willow

### **SCROPHULARIACEAE - FIGWORT FAMILY**

*Antirrhinum coulterianum* - white snapdragon

*Antirrhinum kelloggii* - climbing snapdragon

*Castilleja affinis* - coast paintbrush

*Castilleja exserta* - common owl's-clover

*Castilleja foliolosa* - wooly Indian paintbrush

*Collinsia heterophylla* - Chinese houses

*Mimulus aurantiacus* - bush monkeyflower

*Mimulus brevipes* - wide-throat monkeyflower

*Penstemon centranthifolius* - scarlet bugler

*Scrophularia californica* var. *floribunda* - coast figwort

*Veronica anagallis* - *aquatica* - water speedwell

### **SOLANACEAE - NIGHTSHADE FAMILY**

*Datura wrightii* - western jimsonweed

\* *Nicotiana glauca* - tree tobacco

*Nicotiana quadrivalvis* - Wallace's tobacco

*Solanum americanum* - small-flowered nightshade

*Solanum douglasii* - white nightshade

*Solanum umbelliferum* - blue witch

*Solanum xanti* - chaparral nightshade

### **TAMARICACEAE - TAMARISK FAMILY**

\* *Tamarix* sp. - tamarisk

\* *Tamarix gallica* - French tamarisk

*Tamarix ramosissima*

### **URTICACEAE - NETTLE FAMILY**

*Urtica dioica* - giant creek nettle

\* *Urtica urens* - dwarf nettle

# 2004 Sensitive Plant Survey Results

## Valencia Commerce Center

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### VISCACEAE - MISTLETOE FAMILY

*Phoradendron macrophyllum* - big leaf mistletoe

### ZYGOPHYLLACEAE - CALTROP FAMILY

\* *Tribulus terrestris* - puncture vine

### ANGIOSPERMAE (MONOCOTYLEDONES)

### ARECACEAE - PALM FAMILY

\* *Washingtonia robusta* - Mexican fan palm

### CYPERACEAE - SEDGE FAMILY

*Cyperus esculentus* - yellow nut-grass

### LILIACEAE - LILY FAMILY

*Calochortus clavatus* var. *gracilis* - slender mariposa lily

*Chlorogalum pomeridianum* - soap plant

*Dichelostemma capitatum* - blue dicks

*Yucca whipplei* - Our Lord's candle

### POACEAE - GRASS FAMILY

*Achnatherum coronatum* - giant needlegrass

\* *Arundo donax* - giant reed

\* *Avena barbata* - slender oat

*Avena fatua* - wild oat

*Avena sativa*

*Bromus carinatus* - California brome

\* *Bromus diandrus* - ripgut grass

\* *Bromus hordeaceus* - soft chess

\* *Bromus madritensis* ssp. *rubens* - foxtail chess

\* *Bromus tectorum* - cheat grass

\* *Cortaderia selloana* - pampas grass

*Cynodon dactylon* - Bermuda grass

*Distichlis spicata* - salt grass

*Elymus glaucus* - western wild rye

- *Hordeum murinum* - glaucous foxtail barley

- *Hordeum brachyantherum* ssp. *brachyantherum*

## 2004 Sensitive Plant Survey Results Valencia Commerce Center

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- Leymus condensatus* - giant ryegrass
- Leymus triticoides* – beardless wild rye
- Lolium multiflorum*
- Lolium perenne* – perennial ryegrass
- Melica imperfecta* - California melic
- Melica subulata* - Alaska onion grass
- Muhlenbergia microsperma* - littleseed muhly
- Nassella cernua* - nodding needlegrass
- Nassella lepida* - foothill needlegrass
- Nassella pulchra* – purple needlegrass
- Parapholis incurva* – sickle grass
- Pennisetum clandestinum*
- \* *Phalaris minor* - Mediterranean canary grass
- \* *Piptatherum miliaceum* - smilo grass
- Poa annua* – annual bluegrass
- \* *Polypogon monspeliensis* - rabbit's-foot grass
- Schismus arabicus*
- \* *Schismus barbatus* – abumashi
- Triticum aestivum*
- \* *Vulpia myuros* – rattail fescue

### **TYPHACEAE - CATTAIL FAMILY**

- Typha domingensis* – slender cattail
- Typha latifolia* - broad-leaved cattail
- \* signifies introduced (non-native) species

**APPENDIX C**  
**CALIFORNIA NATURAL DIVERSITY**  
**DATA BASE FORMS**

# CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

## OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.  
USE THE BACK FOR COMMENTS IF NECESSARY. **PLEASE  
ATTACH OR DRAW A MAP ON BACK.**

Document Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Index Code \_\_\_\_\_ Occurrence # \_\_\_\_\_  
Copy Sent To \_\_\_\_\_

Scientific name (no codes): *Calochortus clavatus* var. *gracilis*

Reporter: Anuja Parikh, Nathan Gale

Phone: (760) 942-5147

Address: Dudek & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: April 16, 2004

County: Los Angeles

Collection:

If yes, #

Mus./Herb:

Location: Santa Clarita Valley, south-facing canyon north of the junction of Commerce Center Drive and SR 126.

Quad Name: Val Verde  
¼ of ¼ Sec\_

X 7½' \_ 15'

Elevation: 1000-1100' T 4N R 17W W

Landowner/Manager: Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? X Yes \_\_\_ No \_\_\_ If not, reason:

Is this a new location record? \_\_\_ Yes X No \_\_\_ Unknown

Total # of Individuals = 4 Is this a subsequent visit? X Yes \_\_\_ No \_\_\_ Compared to your last visit: \_\_\_ more \_\_\_ same X fewer

Phenology (plants): \_\_\_ % vegetative \_\_\_ % flowering \_\_\_ % fruiting (not reported)

Population Age Structure (animals): \_\_\_ # adults \_\_\_ # juveniles \_\_\_ # others

Site Function for Species (animals): \_\_\_ breeding \_\_\_ foraging \_\_\_ wintering \_\_\_ roosting \_\_\_ denning \_\_\_ other

Habitat Description (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope):

California sagebrush - purple sage series with *Salvia leucophylla*, *Malacothamnus fasciculatus*, *Artemisia californica*, and *Eriogonum fasciculatum* dominant. Plants occurred on southwest and northeast-facing slopes of up to 30 %m with clay or clay loam soils.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use: vacant; Visible Disturbances: detention basin at base of slope; Possible Threats: proposed residential/commercial development.

Overall Site Quality: \_\_\_ Excellent X Good \_\_\_ Fair \_\_\_ Poor

Comments: This report summarizes two discrete locations with two plants observed in each.

Should/Could this site be protected? How?

Other comments:

**DETERMINATION** (Check one or more, fill in blanks)

\_\_\_ Keyed in a site reference:

\_\_\_ Compared with specimen housed at:

\_\_\_ Compared with photo/drawing in:

\_\_\_ By another person (name):

X Other: personal knowledge

**OTHER KNOWLEDGEABLE INDIVIDUALS** (Name/Address/Phone)

**PHOTOGRAPHS** (Check one or more)

Subject

Type

\_\_\_ Plant/Animal

\_\_\_ Slide

\_\_\_ Habitat

\_\_\_ Print

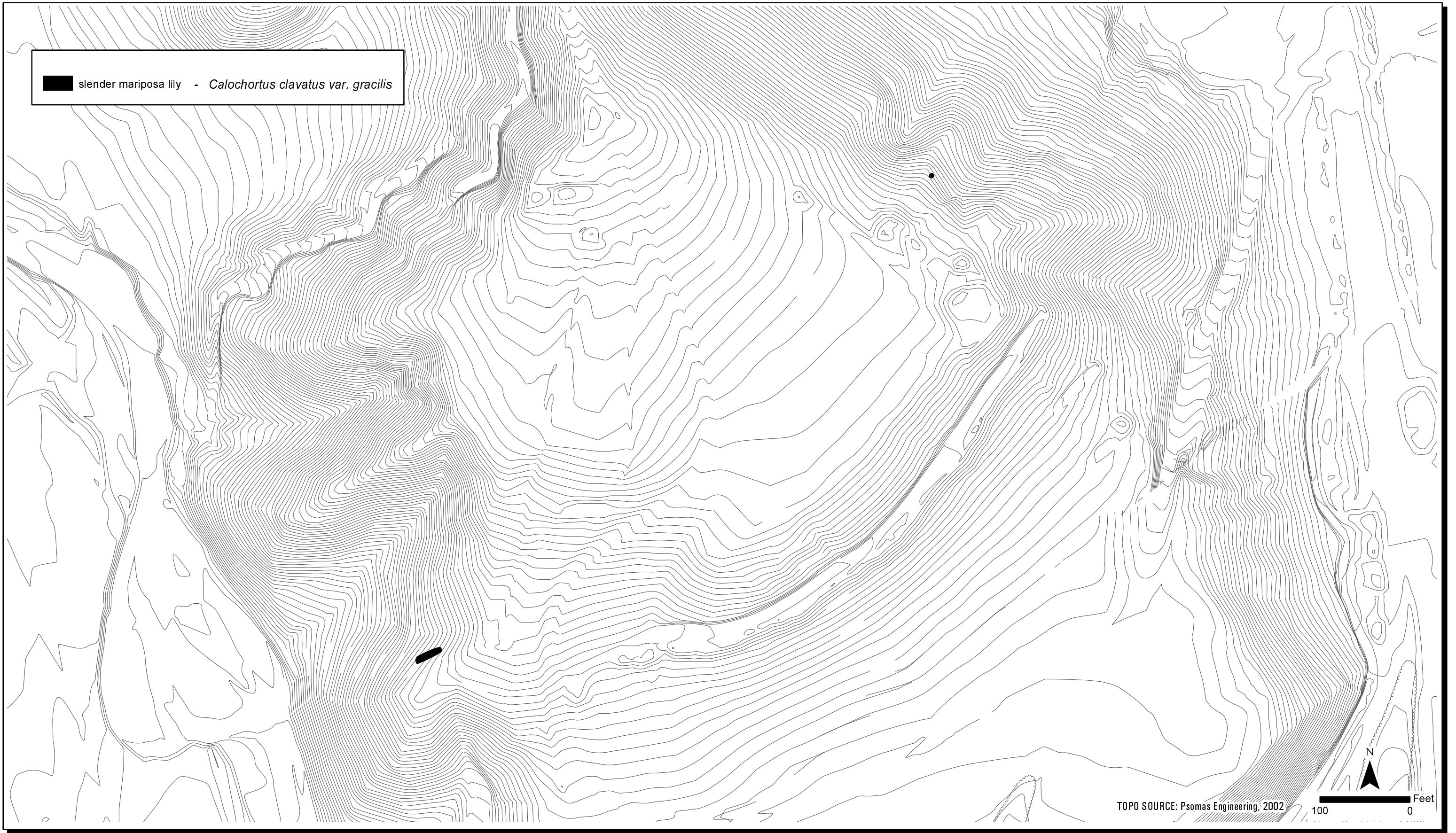
\_\_\_ Diagnostic Feature

\_\_\_ Other

May we obtain duplicates **at our cost?**

\_\_\_ Yes X No





Valencia Commerce Center  
**2004 Sensitive Plant Survey Results**

FIGURE  
1

# CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

## OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.  
USE THE BACK FOR COMMENTS IF NECESSARY. **PLEASE  
ATTACH OR DRAW A MAP ON BACK.**

Document Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Index Code \_\_\_\_\_ Occurrence # \_\_\_\_\_  
Copy Sent To \_\_\_\_\_

Scientific name (no codes): *Calochortus clavatus* var. *gracilis*

Reporter: Anuja Parikh, Nathan Gale

Phone: (760) 942-5147

Address: Dudek & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: April 19 - 23, 2004

County: Los Angeles

Collection:

If yes, #

Mus./Herb:

Location: Santa Clarita Valley, east-facing canyon west of the Commerce Center Drive.

Quad Name: Val Verde

☒ 7 1/2' ☐ 15'

Elevation: 1,000-1,500'

T ☒ 4N R ☒ 17W

☒ W

1/4 of ☐

1/4 Sec ☐

Landowner/Manager: Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? ☒ Yes ☐ No If not, reason:

Is this a new location record? ☐ Yes ☒ No ☐ Unknown

Total # of Individuals = ~100 Is this a subsequent visit? ☒ Yes ☐ No Compared to your last visit: ☐ more ☐ same ☒ fewer

Phenology (plants): ☐ % vegetative ☐ % flowering ☐ % fruiting (not reported)

Population Age Structure (animals): ☐ # adults ☐ # juveniles ☐ # others

Site Function for Species (animals): ☐ breeding ☐ foraging ☐ wintering ☐ roosting ☐ denning ☐ other

Habitat Description (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope):

California sagebrush - purple sage series with *Eriogonum fasciculatum*, *Artemisia californica*, *Bromus* spp., and *Salvia leucophylla* dominant. Plants occurred predominantly on steep (up to 70%), east and northeast facing slopes with loam and sandy loam soils.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use: vacant, water storage tank, detention basin; Visible Disturbances: access road to water tank, detention basin; Possible Threats: proposed residential/commercial development.

Overall Site Quality: ☐ Excellent ☒ Good ☐ Fair ☐ Poor

Comments: this report summarizes ten discrete locations, each with from 1 to an estimated 50 plants observed. Rainfall was below average and population is likely greater.

Should/Could this site be protected? How?

Other comments:

**DETERMINATION** (Check one or more, fill in blanks)

☐ Keyed in a site reference:

☐ Compared with specimen housed at:

☐ Compared with photo/drawing in:

☐ By another person (name):

☒ Other: personal knowledge

**OTHER KNOWLEDGEABLE INDIVIDUALS** (Name/Address/Phone)

**PHOTOGRAPHS** (Check one or more)

Subject

Type

☐ Plant/Animal

☐ Slide

☐ Habitat

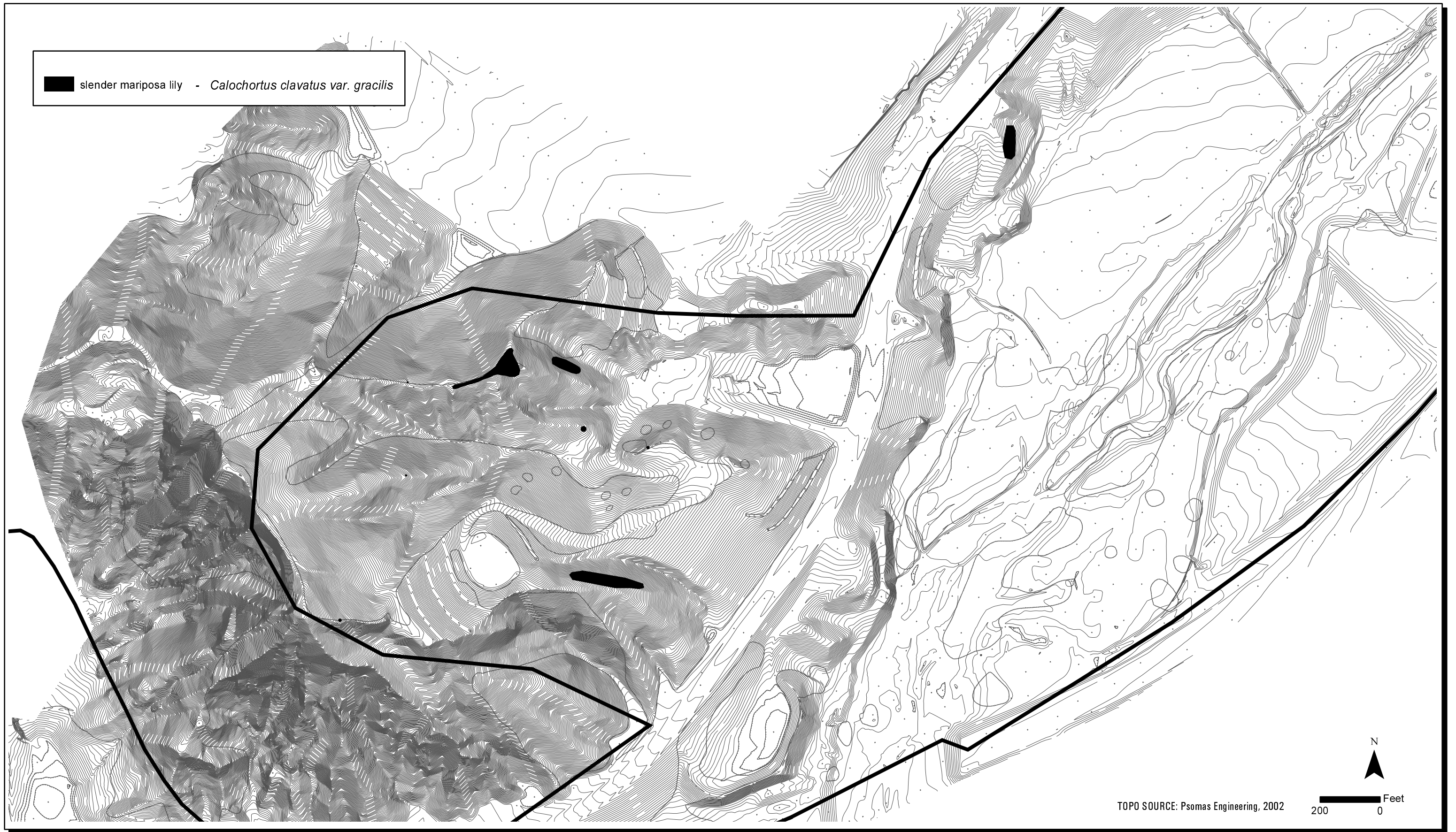
☐ Print

☐ Diagnostic Feature

☐ Other

May we obtain duplicates at our cost?

☐ Yes ☒ No



Valencia Commerce Center  
**2004 Sensitive Plant Survey Results**

**FIGURE**  
**1**



# CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

## OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.  
USE THE BACK FOR COMMENTS IF NECESSARY. **PLEASE  
ATTACH OR DRAW A MAP ON BACK.**

Document Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Index Code \_\_\_\_\_ Occurrence # \_\_\_\_\_  
Copy Sent To \_\_\_\_\_

Scientific name (no codes): *Calochortus clavatus* var. *gracilis*

Reporter: Anuja Parikh, Nathan Gale

Phone: (760) 942-5147

Address: Dudek & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: April 23, 2004

County: Los Angeles

Collection:

If yes, #

Mus./Herb:

Location: Santa Clarita Valley, edge of the floodplain N of Castaic Creek and its junction with the Santa Clara River.

Quad Name: Val Verde

X 7½' 15' Elevation: ~1,000 T 4N R 17W W ¼ of ¼ Sec

Landowner/Manager: Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? X Yes \_\_\_ No If not, reason:

Is this a new location record? \_\_\_ Yes X No \_\_\_ Unknown

Total # of Individuals = 17 Is this a subsequent visit? X Yes \_\_\_ No Compared to your last visit: \_\_\_ more \_\_\_ same X fewer

Phenology (plants): \_\_\_ % vegetative \_\_\_ % flowering \_\_\_ % fruiting (unreported)

Population Age Structure (animals): \_\_\_ # adults \_\_\_ # juveniles \_\_\_ # others

Site Function for Species (animals): \_\_\_ breeding \_\_\_ foraging \_\_\_ wintering \_\_\_ roosting \_\_\_ denning \_\_\_ other

Habitat Description (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope):

California sagebrush series with *Eriogonum fasciculatum*, *Encelia californica*, and *Bromus madritensis rubens* dominant. Plants occurred in clay loam soils, on generally steep (up to 50%), east or northeast-facing slopes.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use: vacant, flood management; Visible Disturbances: farming, grading/clearing for fire and flood control, utility poles; Possible Threats: proposed residential/commercial development, flood control activities, utility poles maintenance.

Overall Site Quality: \_\_\_ Excellent X Good \_\_\_ Fair \_\_\_ Poor

Comments: This report summarizes seven discrete locations, each with from one to four individuals observed. Rainfall was below average and population is likely greater.

Should/Could this site be protected? How?

Other comments:

**DETERMINATION** (Check one or more, fill in blanks)

\_\_\_ Keyed in a site reference:

\_\_\_ Compared with specimen housed at:

\_\_\_ Compared with photo/drawing in:

\_\_\_ By another person (name):

X Other: personal knowledge

**OTHER KNOWLEDGEABLE INDIVIDUALS** (Name/Address/Phone)

**PHOTOGRAPHS** (Check one or more)

Subject \_\_\_\_\_ Type \_\_\_\_\_

\_\_\_ Plant/Animal \_\_\_\_\_ Slide

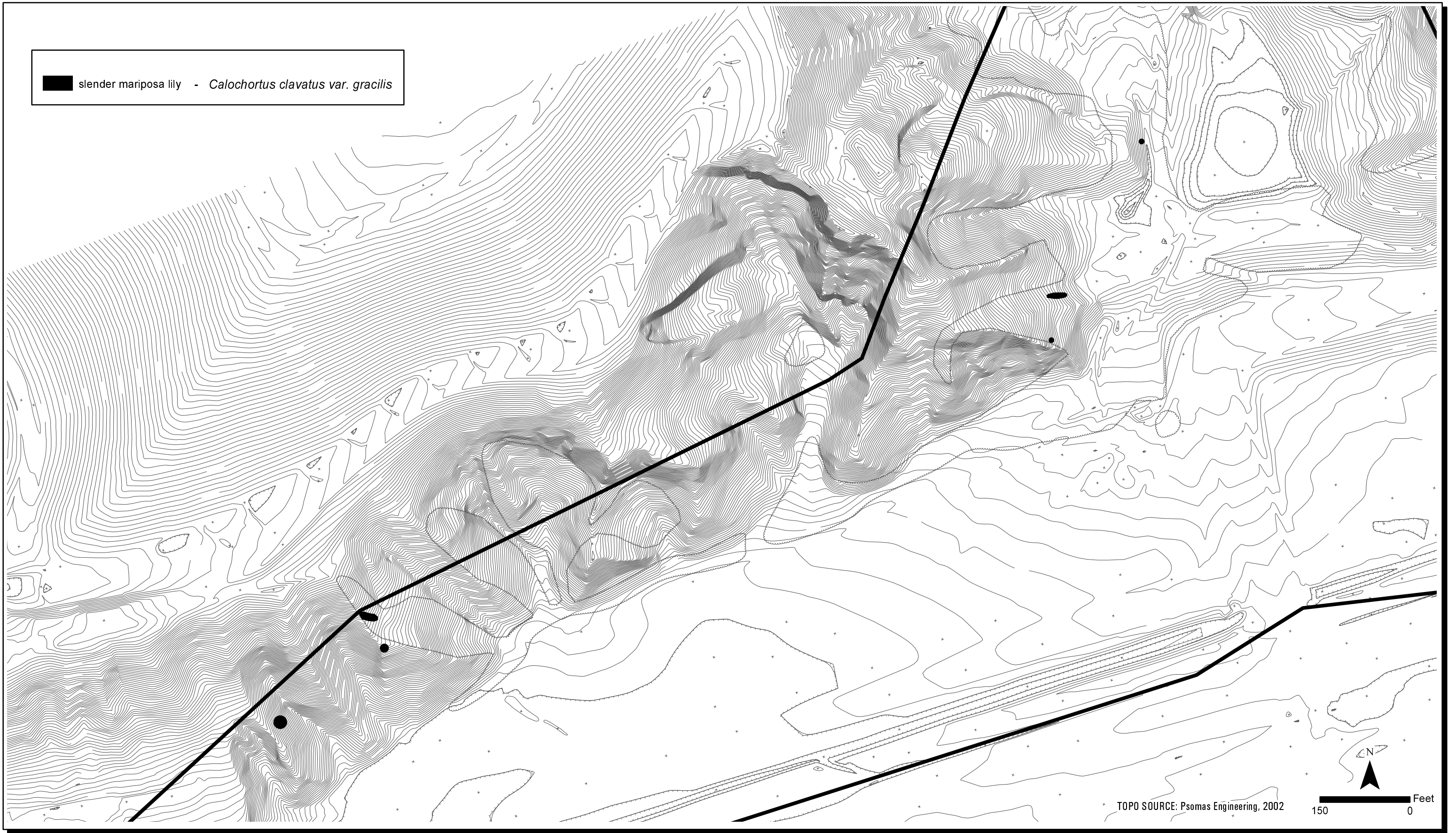
\_\_\_ Habitat \_\_\_\_\_ Print

\_\_\_ Diagnostic Feature

\_\_\_ Other

May we obtain duplicates **at our cost**?

\_\_\_ Yes X No



Valencia Commerce Center  
**2004 Sensitive Plant Survey Results**

FIGURE  
1

# CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

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Document Code _____	Quad Code _____
Index Code _____	Occurrence # _____
Copy Sent To _____	

Scientific name (no codes): *Chorizanthe parryi* var. *fernandina*

Reporter: Anuja Parikh, Nathan Gale

Phone: (760) 942-5147

Address: Dudek & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: April 14 - 16, 2004

County: Los Angeles

Collection:

If yes, #

Mus./Herb:

Location: Santa Clarita Valley, east- facing canyon west of the Commerce Center Drive.

Quad Name: Val Verde

X 7½'    15'

Elevation: 1,000-1,500'

T 4N

R 17W

   W    ¼ of   

¼ Sec   

Landowner/Manager: Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? X Yes    No If not, reason:

Is this a new location record?    Yes X No    Unknown

Total # of Individuals = 1421\_ Is this a subsequent visit? X Yes    No Compared to your last visit:    more    same X fewer

Phenology (plants):    % vegetative 95 % flowering 5 % fruiting (not reported)

Population Age Structure (animals):    # adults    # juveniles    # others

Site Function for Species (animals):    breeding    foraging    wintering    roosting    denning    other

Habitat Description (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope):

California sagebrush - purple sage series with *Eriogonum fasciculatum*, *Artemisia californica*, *Bromus* spp., and *Salvia leucophylla* dominant. Plants occurred predominantly on flat to slightly sloped (0 to 15%), southwest to southeast aspects with loam and sandy loam soils.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use: vacant, water storage tank, detention basin; Visible Disturbances: access road to water tank, detention basin; Possible Threats: proposed residential/commercial development.

Overall Site Quality:    Excellent X Good    Fair    Poor

Comments: this report summarizes twentyfour discrete locations, each with from 1 to an estimated 250 plants observed. Rainfall was below average and population is likely greater.

Should/Could this site be protected? How?

Other comments:

**DETERMINATION** (Check one or more, fill in blanks)

   Keyed in a site reference:

   Compared with specimen housed at:

   Compared with photo/drawing in:

   By another person (name):

X Other: personal knowledge

**OTHER KNOWLEDGEABLE INDIVIDUALS** (Name/Address/Phone)

**PHOTOGRAPHS** (Check one or more)

Subject

Type

   Plant/Animal

   Slide

   Habitat

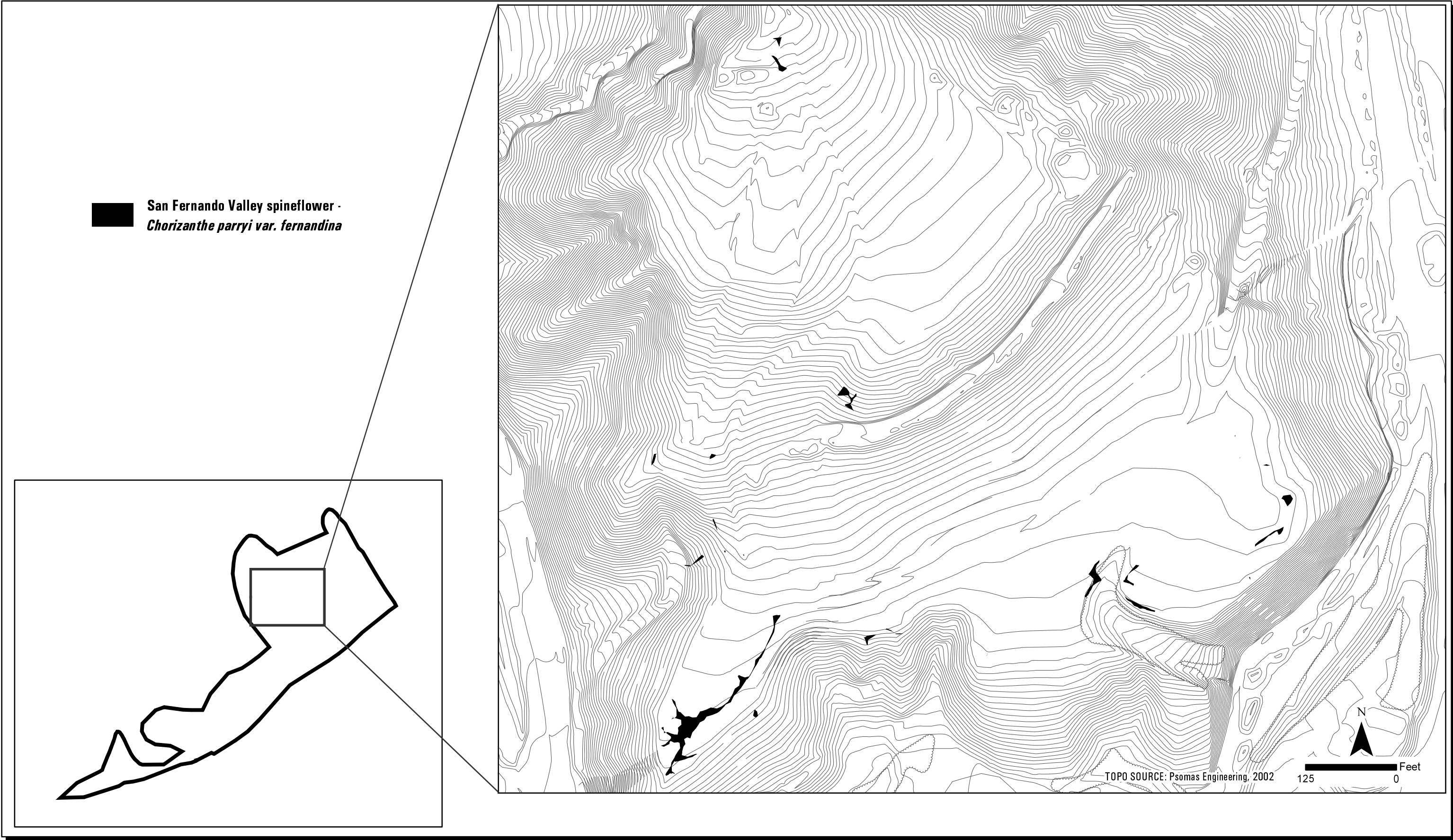
   Print

   Diagnostic Feature

   Other

May we obtain duplicates **at our cost?**

   Yes X No



Valencia Commerce Center  
**2004 San Fernando Valley spineflower Results**

**FIGURE**  
**1**



# CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

## OFFICE USE ONLY

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Document Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Index Code \_\_\_\_\_ Occurrence # \_\_\_\_\_  
Copy Sent To \_\_\_\_\_

Scientific name (no codes): *Gnaphalium sp. nova*

Reporter: Anuja Parikh, Nathan Gale

Phone: (760) 942-5147

Address: Dudek & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: April 16, 2004

County: Los Angeles

Collection:

If yes, #

Mus./Herb:

Location: Santa Clarita Valley, south-facing canyon north of the junction of Commerce Center Drive and SR 126.

Quad Name: Val Verde  
¼ of ¼ Sec

X 7½' 15'

Elevation: 1000-1100' T 4N R 17W W

Landowner/Manager: Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? X Yes \_\_\_ No \_\_\_ If not, reason:

Is this a new location record? \_\_\_ Yes X No \_\_\_ Unknown

Total # of Individuals = 64 Is this a subsequent visit? X Yes \_\_\_ No \_\_\_ Compared to your last visit: \_\_\_ more \_\_\_ same X fewer

Phenology (plants): 100 % vegetative \_\_\_ % flowering \_\_\_ % fruiting (not reported)

Population Age Structure (animals): \_\_\_ # adults \_\_\_ # juveniles \_\_\_ # others

Site Function for Species (animals): \_\_\_ breeding \_\_\_ foraging \_\_\_ wintering \_\_\_ roosting \_\_\_ denning \_\_\_ other

Habitat Description (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope):

California sagebrush - purple sage series with *Salvia leucophylla*, *Malocothamnus fasciculatus*, *Artemisia californica*, and *Eriogonum fasciculatum* dominant. Plants occurred on southwest and northeast-facing slopes of up to 30 %m with clay or clay loam soils.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use: vacant; Visible Disturbances: detention basin at base of slope; Possible Threats: proposed residential/commercial development.

Overall Site Quality: \_\_\_ Excellent X Good \_\_\_ Fair \_\_\_ Poor

Comments: This report summarizes two populations in the same general vicinity.

Should/Could this site be protected? How?

Other comments:

**DETERMINATION** (Check one or more, fill in blanks)

\_\_\_ Keyed in a site reference:

\_\_\_ Compared with specimen housed at:

\_\_\_ Compared with photo/drawing in:

X By another person (name): Andy Sanders

X Other: personal knowledge

**OTHER KNOWLEDGEABLE INDIVIDUALS** (Name/Address/Phone)

**PHOTOGRAPHS** (Check one or more)

Subject

Type

\_\_\_ Plant/Animal

\_\_\_ Slide

\_\_\_ Habitat

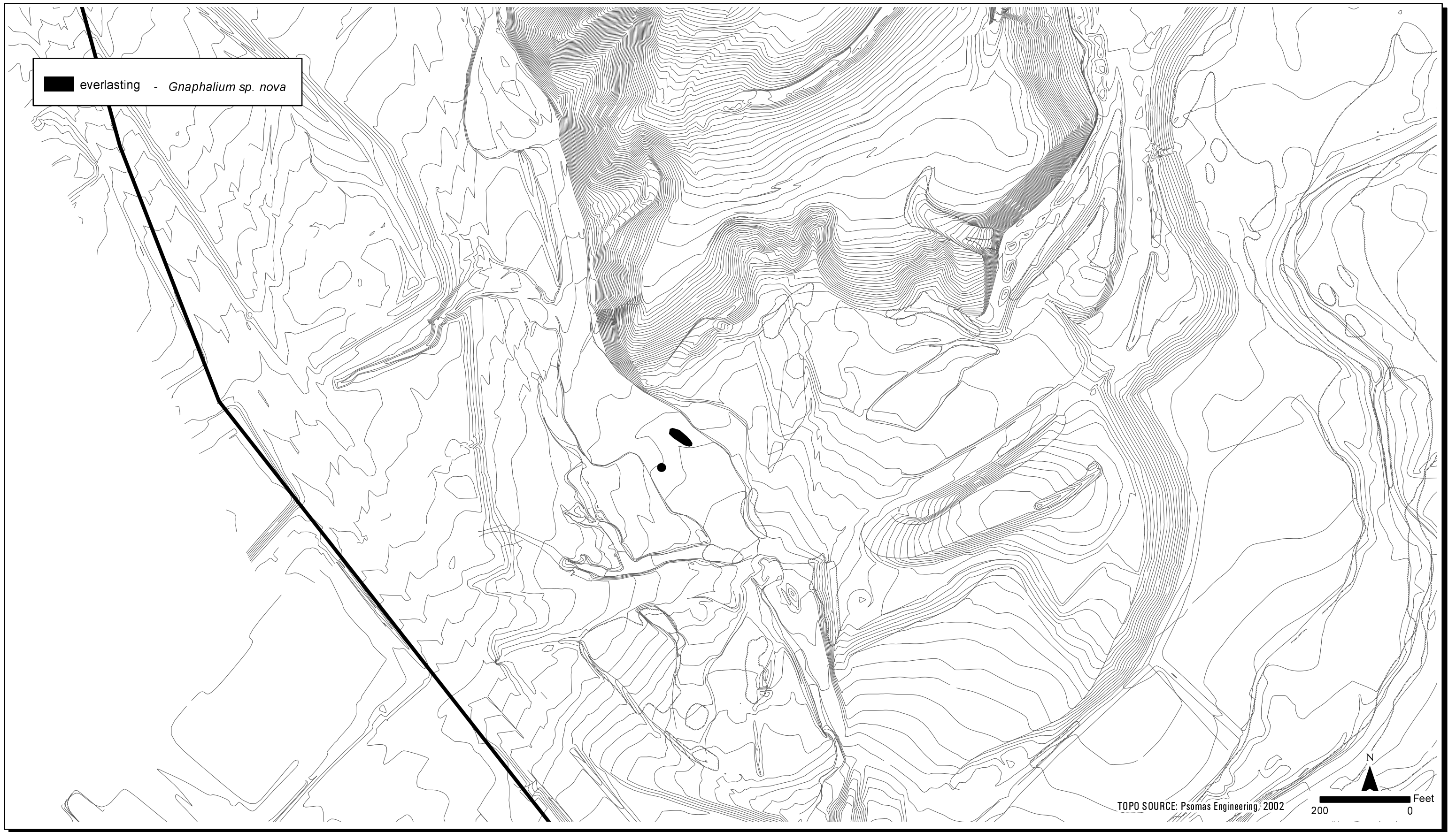
\_\_\_ Print

\_\_\_ Diagnostic Feature

\_\_\_ Other

May we obtain duplicates **at our cost?**

\_\_\_ Yes X No



Valencia Commerce Center  
**2004 Sensitive Plant Survey Results**

FIGURE  
1