

Special-Status Plant Survey

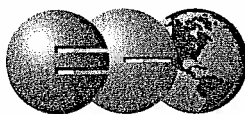
For

Whitlow Property

Sacramento County, California

October 26, 2005

Prepared for:
Lennar Communities



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

CONTENTS

Special-Status Plant Survey

Whitlow Property

INTRODUCTION 1
SITE CONDITIONS 3
METHODS 3
RESULTS and DISCUSSION 8
CONCLUSION 9
REFERENCES 10

LIST OF FIGURES

Figure 1. Project Site and Vicinity Map 2
Figure 2. Natural Resources Conservation Service Soil Types 4
Figure 3. Wetland Delineation 5

LIST OF TABLES

Table 1. Potentially Occurring Special-Status Plants 7

LIST OF ATTACHMENTS

- Attachment A – California Natural Diversity Database Plant Occurrences for the Buffalo Creek, Ca. 7.5-minute Quadrangle
- Attachment B – Plant Species Observed On-Site (April 19, and June 14, 2005)

INTRODUCTION

On behalf of Lennar Communities, ECORP Consulting, Inc. has conducted a special-status plant species survey of the ± 42-acre Whitlow Project Area, hereafter referred to as the Project Area. The purpose of this study was to identify and map the locations of special-status plant species observed within the Project Area. The Project Area is a rural residence located in mostly undeveloped lands north of Douglas Road and west of Grant Line Road, within Sacramento County, California (Figure 1. *Project Site and Vicinity Map*). Undeveloped pastureland and rural residences surround the subject property. The site corresponds to a portion of Section 3, Township 8 North, and Range 7 East of the "Buffalo Creek, California" 7.5-minute quadrangle (U.S. Department of the Interior, Geological Survey, photo-revised 1993). The site is located at approximately 38° 34' 30" north and 121° 12' 00" west.

Special-status plant species include those with federal and/or state listing (under the federal Endangered Species Act or California Endangered Species Act, respectively), and plants listed by the California Native Plant Society (CNPS) that meet the definition of a rare, threatened or endangered plant (List 1B and 2). Federally listed species are subject to protection under the federal Endangered Species Act. California listed species are subject to protection under the Native Plant Protection Act (Section 1901, Chapter 10 of the California Fish and Game Code) and the California Endangered Species Act (Section 2062 and 2067 of the California Fish and Game Code). The U.S. Fish and Wildlife Service also maintains a list of plants considered by staff to be of special concern. Formally listed (and candidate or proposed) species are subject to consideration as rare, threatened, or endangered under the California Environmental Quality Act (CEQA). Species identified as species of concern and/or those identified by CNPS may also, at the discretion of the CEQA Lead Agency, be subject to the same consideration.

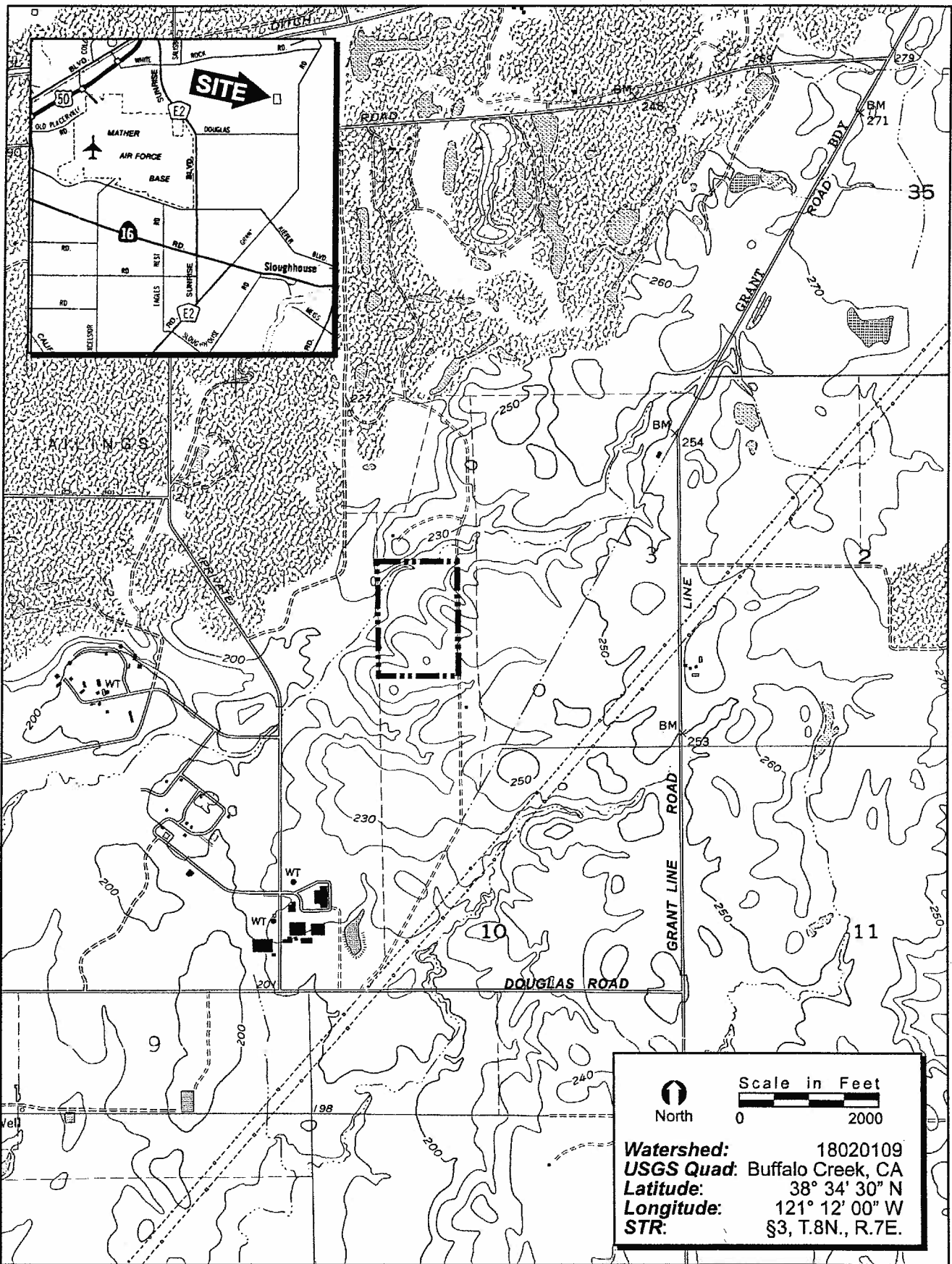


FIGURE 1. Project Site and Vicinity Map

2004-261 Willow Property

SITE CONDITIONS

The Project Area is comprised of gently rolling terrain and is situated at elevations ranging from approximately 200 to 240 feet above mean sea level. With the exception of the on-site residential area, the Project Area is an undeveloped parcel that has historically been utilized as livestock grazing pasture. According to the *Soil Survey of Sacramento County, California* (U.S. Department of Agriculture, Soil Conservation Service 1993), four soil units have been mapped within the site (Figure 2. *Natural Resources Conservation Service Soil Types*). These are: (159) Hicksville gravelly loam, 0-2% slopes, (192) Red Bluff loam, 2-5% slopes, (193) Red Bluff-Redding complex, 0-5% slopes, and (198) Redding gravelly loam, 0-8% slopes.

The predominant vegetation community within the Project Area is annual grassland. This community is comprised of non-native species such as soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), ryegrass (*Lolium multiflorum*), wild oat (*Avena fatua*), vulpia (*Vulpia bromoides*), barbed goatgrass (*Aegilops triuncialis*), and barley (*Hordeum murinum*). Other species that occur within the grassland community on-site are winter vetch (*Vicia villosa*), filaree (*Erodium botrys*), Spanish clover (*Lotus purshianus*), hairy hawkbit (*Leontodon taraxacoides*), and rose clover (*Trifolium hirtum*).

Aside from a single pond, the aquatic habitats within the Project Area are ephemeral. Vernal pools, a seasonal wetlands, seasonal wetland swales, and ephemeral drainages are scattered throughout the site (Figure 3. *Wetland Delineation*). This special-status plant survey specifically targeted these habitats, as these represent potentially suitable habitat for the target species. These wetlands are discussed in further detail in the Results and Discussion section.

METHODS

The special-status plant species survey was conducted in accordance with the U.S. Fish and Wildlife Service's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996), as well as the

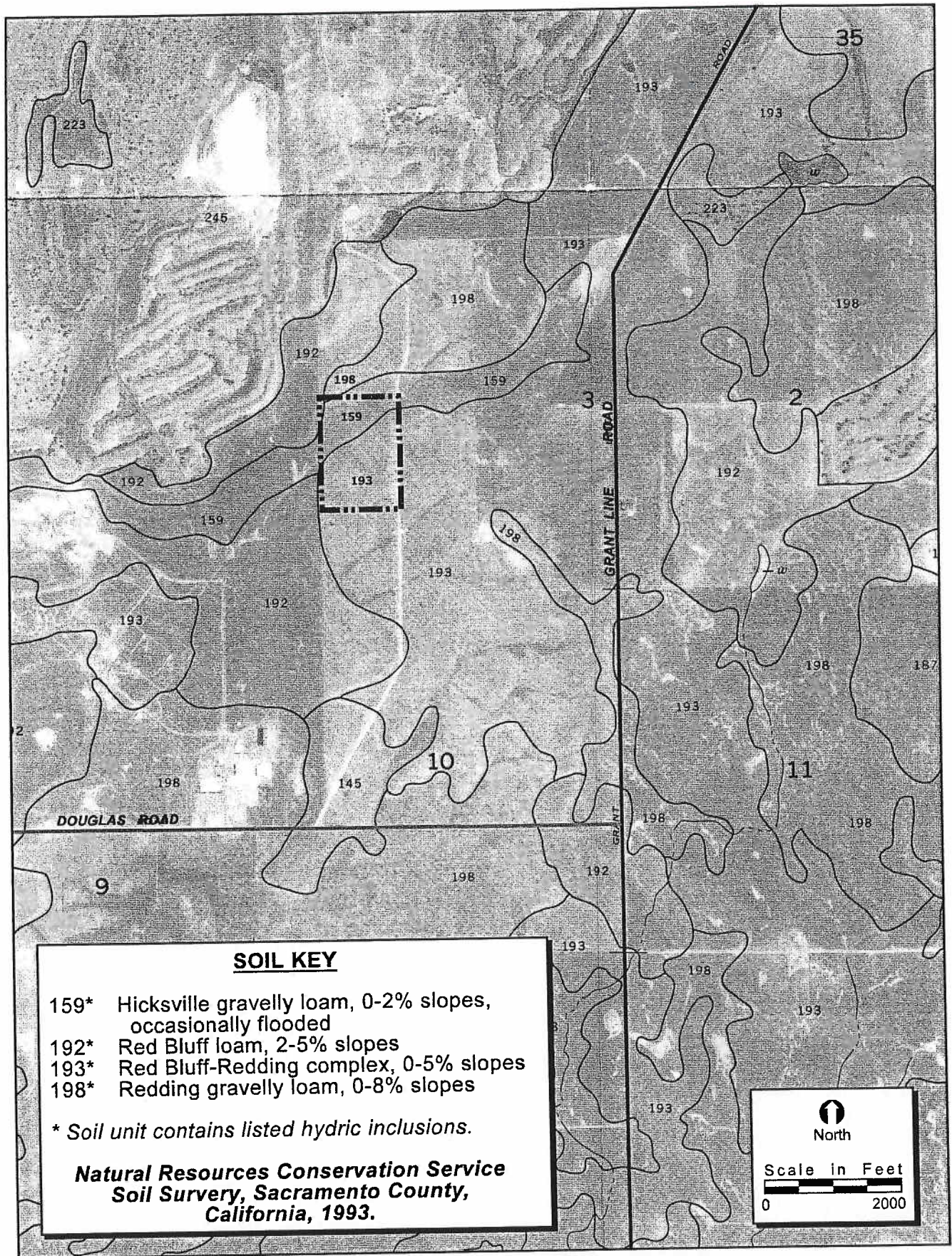





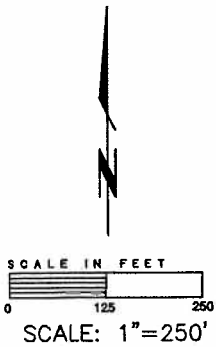


FIGURE 2. Natural Resources Conservation Service Soil Types

WATERS OF THE U.S. ACREAGE		EXISTING ACREAGE
CLASSIFICATION		
WETLANDS:		
Vernal Pool		1.223
Seasonal Wetland		0.002
Seasonal Wetland Swale		1.139
OTHER WATERS:		
Pond		1.914
Ephemeral Drainage		0.144
TOTAL:		4.422



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10/19/04

FIGURE 3. Wetland Delineation



guidelines contained in the California Native Plant Society's *Inventory of Rare and Endangered Plants of California, Sixth Edition* (CNPS 2001).

Prior to initiating fieldwork, available baseline data, including soils, vegetation, hydrology, aerial photography (1"=150'), land-use history, and other appropriate information were evaluated. A list of potentially occurring special-status plant species was developed for the project site based upon vegetation communities and habitats present on-site, utilizing the California Department of Fish and Game Natural Diversity Data Base (CNDDDB, CDFG 2003) and the California Native Plant Society's *Inventory of Rare and Endangered Plants of California, Sixth Edition* (CNPS 2001). A condensed report of CNDDDB occurrences of special-status plant species for the "Buffalo Creek, California" 7.5-minute quadrangle is included as Attachment A. Generally, CNPS List 1B and 2 species are considered rare, threatened, or endangered. However, for the scope of this survey, we considered all potentially occurring CNPS listed plant species, including List 1B, 2, 3, and 4. Seven potentially occurring special-status plant species were identified. A list of these special-status plant species is provided in Table 1. A reference population of Sacramento Orcutt grass (*Orcuttia viscida*) was visited at Phoenix Field on April 1, April 29, May 1, and July 29, 2005. A reference population of slender Orcutt grass (*Orcuttia tenuis*) occurring at Montelena was visited on May 1, and June 14, 2005. And a reference population of Sanford's arrowhead (*Sagittaria sanfordii*) was visited at Antelope Station Park on April 1 and 29, and May 10, 2005. The University of California Davis Herbarium was visited on April 4, 2005 to examine specimens of dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), and Greene's legenere (*Legenere limosa*).

Comprehensive field surveys were conducted on April 19, and June 14, 2005, which coincided with the blooming periods for the target species. ECORP botanist Jessica Miller walked transects throughout the Project Area. However, most of the survey effort was focused within the wetland features on-site (see Figure 3), as these represent potentially suitable habitat for the target species. All plant species observed within the

Table 1. Potentially Occurring Special-Status Plants

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates
Plants						
Dwarf downingia	<i>Downingia pusilla</i>	-	-	2	vernal pool/wetlands	March-May
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	-	CE	1B	vernal pools	April-August
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	-	-	FSC, 1B	vernal pools	March-May
Greene's legenera	<i>Legenere limosa</i>	-	-	FSC, 1B	vernal pools	April-June
Slender Orcutt grass	<i>Orcuttia tenuis</i>	FT	CE	1B	vernal pools	May-October
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	FE	CE	1B	vernal pools	April-July
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	-	-	FSC, 1B	marshes/swamps	May-October

Status Codes:

- FE - Federal ESA listed, Endangered.
- FT - Federal ESA listed, Threatened.
- FSC - U. S. Fish and Wildlife Service Species of Concern (USFWS, updated August 11, 2004).
- CE - California ESA or Native Plant Protection Act listed, Endangered.
- 1B - California Native Plant Society/Rare or Endangered in California and elsewhere.
- 2 - California Native Plant Society/Rare or Endangered in California, more common elsewhere.

Project Area were identified using *The Jepson Manual: Higher Plants of California* (Hickman 1933).

RESULTS AND DISCUSSION

According to the CNDDDB, there are no previously documented occurrences of special-status plants on-site, and no special-status plant species were observed during the surveys. Seven special-status plant species had potential to occur within the Project Area (see Table 1). These are dwarf downingia, Boggs Lake hedge-hyssop, Ahart's dwarf rush, Greene's legenera, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead.

The pond is located in the northwest corner of the site. It has an ephemeral outfall channel on its eastern side. This pond feature and the associated ephemeral drainage represent suitable habitat for Sanford's arrowhead. The pond and the adjacent ephemeral drainage support sparse emergent vegetation including ryegrass, curly dock (*Rumex crispus*), Bermuda grass (*Cynodon dactylon*), swamp grass (*Crypsis schoenoides*), and creeping spikerush (*Eleocharis macrostachya*). Another ephemeral drainage is located along the western boundary of the Project Area. Plant species observed within this wetland feature include mannagrass (*Glyceria declinata*), Mediterranean barley (*Hordeum marinum*), ryegrass, and iris-leaf rush (*Juncus xiphioides*).

Several seasonal wetland swales occur within the Project Area. There is also a single seasonal wetland on-site adjacent to the pond. These features were considered potentially suitable habitat for dwarf downingia, Boggs Lake hedge-hyssop, Ahart's dwarf rush, and Greene's legenera. The vegetative components within the seasonal wetland swales and the seasonal wetland were similar. Dominant plants within these features include Mediterranean barley, toad rush (*Juncus bufonius*), annual hairgrass (*Deschampsia danthonioides*), hyssop loosestrife (*Lythrum hyssopifolium*), ryegrass, and creeping spikerush.

The vernal pools within the Project Area represent potentially suitable habitat for all of the target species, except for Sanford's arrowhead. Plant species observed within the vernal pools include Carter's buttercup (*Ranunculus bonariensis*), slender popcorn-flower (*Plagiobothrys stipitatus*), smooth goldfields (*Lasthenia glaberrima*), Fremont's goldfields (*Lasthenia fremontii*), dwarf woolly-heads (*Psilocarphus brevissimus*), and Vasey's coyote-thistle (*Eryngium vaseyi*). Other species observed within the vernal pools were Douglas' mesamint (*Pogogyne douglasii*), Solano and double-horn downingias (*Downingia ornatissima* and *D. bicornuta*, respectively), and bractless hedgehyssop (*Gratiola ebracteata*).

A comprehensive list of all the plant species observed within the Project Area is included as Attachment B.

CONCLUSION

ECORP Consulting, Inc., conducted a special-status plant survey for the Whitlow Project Area in Sacramento County, California. The target species for this survey included dwarf downingia, Boggs Lake hedge-hyssop, Ahart's dwarf rush, Greene's legenera, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead. No special-status plants were observed on-site.

REFERENCES

- California Department of Fish and Game (CDFG). 2003. California Natural Diversity Database. Version 3.0.5, dated January 15, 2005. Natural Heritage Division, Sacramento, CA.
- California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California* (Sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA. 388 pp.
- Hickman, J. C. (ed.). 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. Berkeley, CA.
- U. S. Department of Agriculture (USDA). Soil Conservation Service. 1993. Soil Survey Sacramento County, California. U. S. Department of Agriculture, Soil Conservation Service, Davis, California.
- U. S. Department of Interior, Geological Survey. 1993. "Buffalo Creek, California" 7.5-Minute Quadrangle, Geologic Survey. Denver, Colorado.
- U. S. Fish and Wildlife Service (USFWS). 1996. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. United States Department of the Interior, USFWS. Sacramento, CA.

LIST OF ATTACHMENTS

Attachment A – California Natural Diversity Database Occurrences for the Buffalo
Creek, Ca. 7.5-minute Quadrangle

Attachment B – Plant Species Observed On-Site (April 19, and June 14, 2005)

ATTACHMENT A

California Natural Diversity Database Plant Occurrences for the Buffalo Creek, Ca.
7.5-minute Quadrangle

Gratiola heterosepala

Boggs Lake hedge-hyssop

Element Code: PDSCR0R060

Status
 Federal: None
 State: Endangered

NDDB Element Ranks
 Global: G3
 State: S3.1

Other Lists
 CNPS List: 1B
 R-E-D Code: 1-2-2

Habitat Associations

General: MARSHES AND SWAMPS (FRESHWATER), VERNAL POOLS.

Micro: CLAY SOILS; USUALLY IN VERNAL POOLS, SOMETIMES ON LAKE MARGINS. 5-2400M.

Occurrence No. 18 **Map Index:** 12991 **EO Index:** 30956 **Dates Last Seen**
Occ Rank: Good **Element:** 1991-04-XX
Origin: Natural/Native occurrence **Site:** 1991-04-XX
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 1999-03-16
Main Source: SACRAMENTO CO. 1998 (LIT)

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.52326° / -121.19422° **Township:** 08N
UTM: Zone-10 N4265419 E657415 **Range:** 07E
Area: 9.7 ac **Mapping Precision:** SPECIFIC **Section:** 27 **Qtr:** N
Elevation: 220 ft **Symbol Type:** POLYGON **Meridian:** M

Location: NEAR KIEFER LANDFILL, ABOUT 0.2-0.5 MILE ENE OF KIEFER BLVD AT GRANT LINE ROAD, SOUTHEAST OF RANCHO CORDOVA.

Location Detail: PLANTS OBSERVED IN SEVEN POOLS. MAPPED AT CNDDDB AS FIVE POLYGONS: SOUTHERN TWO POLYGONS WITH THREE POOLS IS LOCATED ABOUT 0.25 MI DUE EAST OF INTERSECTION OF ROADS; NORTHERN 3 POLYGONS W/4 POOLS IS LOCATED ABOUT 0.45 MI ENE OF INTERSECTION.

Ecological: VERNAL POOLS SURROUNDED BY ANNUAL GRASSLAND. ASSOCIATED VEGETATION INCLUDES PLAGIOBOTHRYIS STIPITATUS, ERYNGIUM VASEYI, PSILOCARPHUS BREVISSIMUS, DOWNINGIA BICORNUTA, AND ORCUTTIA VISCIDA.

Threat: CATTLE GRAZING, BUT POPULATION APPEARS STABLE UNDER CURRENT REGIME. INDIRECT IMPACTS FROM PROPOSED LANDFILL EXPANSION.

General: 10,000+ PLANTS OBSERVED IN ONE POOL IN 1988 (D. STONE), UNKNOWN NUMBER OF PLANTS OBSERVED IN 6 ADDITIONAL POOLS IN 1990-1991 BY JONES AND STOKES ASSOC.(SACRAMENTO CO. 1998).

Owner/Manager: SAC COUNTY

Occurrence No. 48 **Map Index:** 24906 **EO Index:** 6407 **Dates Last Seen**
Occ Rank: Excellent **Element:** 1989-06-02
Origin: Natural/Native occurrence **Site:** 1989-06-02
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 1995-12-13
Main Source: WYMER, N. 1989 (OBS)

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.62046° / -121.15306° **Township:** 09N
UTM: Zone-10 N4276278 E660786 **Range:** 07E
Area: 3.4 ac **Mapping Precision:** SPECIFIC **Section:** 24 **Qtr:** XX
Elevation: 290 ft **Symbol Type:** POLYGON **Meridian:** M

Location: NW OF INTERSECTION OF PRAIRIE CITY RD AND WHITE ROCK RD. AEROJET PROPERTY.

Ecological: IN PONDS WITH DOWNINGIA BICORNUTA, ELEOCHARIS PALUSTRIS, GRATIOLA EBRACTEATA, LASTHENIA GLABERRIMA, PLAGIOBOTHRYIS STIPITATA MICRANTHA, AND PSILOCARPHUS BREVISSIMUS.

Threat: POSSIBLE SITE OF CLAY EXTRACTION BY AEROJET.

General: PLANTS NOT COUNTED IN 1988 OR 1989. MAPPED AS 3 SMALL POLYGONS.

Owner/Manager: PVT-AEROJET GENERAL CORP

Gratiola heterosepala

Boggs Lake hedge-hyssop

Element Code: PDSCR0R060

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 1B
State: Endangered	State: S3.1	R-E-D Code: 1-2-2

Habitat Associations

General: MARSHES AND SWAMPS (FRESHWATER), VERNAL POOLS.

Micro: CLAY SOILS; USUALLY IN VERNAL POOLS, SOMETIMES ON LAKE MARGINS. 5-2400M.

Occurrence No. 57	Map Index: 28976	EO Index: 30713	Dates Last Seen
Occ Rank: Unknown			Element: 1993-06-18
Origin: Natural/Native occurrence			Site: 1993-06-18
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1994-08-08
Main Source: TAYLOR, D. 1993 (PERS)			

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.54240° / -121.23355°	Township: 08N
UTM: Zone-10 N4267477 E653945	Range: 07E
Area: 1,492.9 ac	Section: XX
Elevation: 160 ft	Meridian: M
	Qtr: XX
Mapping Precision: NON-SPECIFIC	
Symbol Type: POLYGON	

Location: BETWEEN DOUGLAS RD AND KIEFER BLVD, E OF SUNRISE BLVD AND MATHER AFB.

Location Detail: MAPPED AS NON-SPECIFIC POLYGON PER SECTIONS GIVEN ON LIST (8, 17, & 20).

General: ONLY INFO IS LIST FROM D. TAYLOR GIVING TRS (AS REPORTED BY SUGNET & ASSOC). EXACT LOCATION UNKNOWN. BETTER INFO NEEDED.

Owner/Manager: UNKNOWN

Occurrence No. 82	Map Index: 40095	EO Index: 35097	Dates Last Seen
Occ Rank: Unknown			Element: 1991-04-XX
Origin: Natural/Native occurrence			Site: 1991-04-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-11-05
Main Source: SACRAMENTO CO. 1998 (LIT)			

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.53063° / -121.19119°	Township: 08N
UTM: Zone-10 N4266242 E657663	Range: 07E
Radius: 80 meters	Section: 22
Elevation: 227 ft	Meridian: M
	Qtr: SE
Mapping Precision: SPECIFIC	
Symbol Type: POINT	

Location: NEAR KIEFER LANDFILL, EAST SIDE OF GRANT LINE ROAD ABOUT 0.9 MILE NE OF KIEFER BLVD, SOUTHEAST OF RANCHO CORDOVA.

Location Detail: PLANTS OBSERVED IN ONE POOL. MAPPED IN DRAINAGE ON EAST SIDE OF ROAD ABOUT 200 METERS NE OF 227' BENCHMARK.

Ecological: VERNAL POOL.

Threat: INDIRECT IMPACTS FROM PROPOSED LANDFILL EXPANSION.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 1990-1991 BY JONES AND STOKES ASSOC.(SACRAMENTO CO. 1998).

Owner/Manager: SAC COUNTY

Juncus leiospermus var. ahartii

Ahart's dwarf rush

Element Code: PMJUN011L1

Status
 Federal: None
 State: None

NDDB Element Ranks
 Global: G2T1
 State: S1.2

Other Lists
 CNPS List: 1B
 R-E-D Code: 3-2-3

Habitat Associations
 General: VERNAL POOLS.

Micro: RESTRICTED TO THE EDGES OF VERNAL POOLS. 30-100M.

Occurrence No. 7 Map Index: 43632 EO Index: 43632 Dates Last Seen
 Occ Rank: None Element: XXXX-XX-XX
 Origin: Natural/Native occurrence Site: XXXX-XX-XX
 Presence: Possibly Extirpated
 Trend: Unknown Record Last Updated: 2000-08-25
 Main Source: BITTMAN, R. 1999 (PERS)

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.52384° / -121.24060° Township: 08N
 UTM: Zone-10 N4265406 E653370 Range: 07E
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 29 Qtr: NW
 Elevation: 150 ft Symbol Type: POINT Meridian: M

Location: SOUTHEAST CORNER OF KIEFER BOULEVARD AND SUNRISE BOULEVARD, WEST OF BLODGETT RESERVOIR, SOUTHEAST OF RANCHO CORDOVA.

Location Detail: PROPOSED SHALAKO GOLF COURSE.

Threat: PROPOSED GOLF COURSE.

General: 4 PLANTS OBSERVED. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Legenere limosa

legenere

Element Code: PDCAM0C010

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-3-3

Habitat Associations

General: VERNAL POOLS. MANY HISTORICAL OCCURRENCES ARE EXTIRPATED.
Micro: IN BEDS OF VERNAL POOLS. 1-880M.

Occurrence No. 12	Map Index: 11838	EO Index: 30958	Dates Last Seen
Occ Rank: Unknown			Element: 1983-05-31
Origin: Natural/Native occurrence			Site: 1983-05-31
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-04-14
Main Source: DAINS, V. 1983 (OBS)			

Quad Summary: BUFFALO CREEK (3812152/511C)
County Summary: SACRAMENTO

Lat/Long: 38.56860° / -121.21580°	Township: 08N
UTM: Zone-10 N4270414 E655436	Range: 07E
Radius: 80 meters	Section: XX
Elevation: 200 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: APPROX. 0.8 MI NW OF JCT DOUGLAS ROAD AND NIMBUS ROAD, 1.6 MI NE OF JCT DOUGLAS RD AND SUNRISE BLVD.
Location Detail: N SIDE OF CREEK.
Ecological: VERNAL POOL. CORNING SOILS WITH ALAMO CLAY.
Threat: AREA PLANNED FOR DEVELOPMENT AS INDUSTRIAL PARK.
General: MORE THAN 1000 PLANTS IN LARGE VERNAL POOL (1-2 ACRES) IN 1983.
Owner/Manager: PVT

Occurrence No. 13	Map Index: 11827	EO Index: 30957	Dates Last Seen
Occ Rank: Unknown			Element: 1983-05-31
Origin: Natural/Native occurrence			Site: 1983-05-31
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-04-14
Main Source: DAINS, V. 1983 (OBS)			

Quad Summary: BUFFALO CREEK (3812152/511C)
County Summary: SACRAMENTO

Lat/Long: 38.56544° / -121.22241°	Township: 08N
UTM: Zone-10 N4270053 E654867	Range: 07E
Radius: 80 meters	Section: XX
Elevation: 190 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: 1.2 MI NE OF JCT DOUGLAS ROAD AND SUNRISE BLVD, IMMEDIATELY N OF MAN-MADE KNOLL.
Location Detail: N SIDE OF CREEK.
Ecological: VERNAL POOL ON CORNING SOILS WITH ALAMO CLAY.
Threat: AREA PROPOSED AS AN INDUSTRIAL PARK.
General: ABOUT 100 PLANTS IN 1983 IN 1000 SQUARE FOOT VERNAL POOL.
Owner/Manager: PVT

Occurrence No. 47	Map Index: 41016	EO Index: 41016	Dates Last Seen
Occ Rank: Good			Element: 1993-XX-XX
Origin: Natural/Native occurrence			Site: 1997-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1999-05-04
Main Source: JONES & STOKES ASSOC. 1997 (LIT)			

Quad Summary: BUFFALO CREEK (3812152/511C), CARMICHAEL (3812153/512D)
County Summary: SACRAMENTO

Lat/Long: 38.52618° / -121.25141°	Township: 08N
UTM: Zone-10 N4265647 E652423	Range: 07E
Area: 2.5 ac	Section: 19
Elevation: 145 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

Location: MATHER FIELD, ABOUT 0.6 MILE EAST OF EAGLES NEST ROAD ALONG NORTH SIDE OF KIEFER BLVD, RANCHO CORDOVA.
Location Detail: MAPPED IN 1 POOL IMMEDIATELY NORTH OF KIEFER BLVD. JSA POOL #1390.
Ecological: GROWING WITHIN AN INTERCONNECTED VERNAL POOL AND SWALE SYSTEM. ASSOCIATED WITH ELEOCHARIS MACROSTACHYA, LASTHENIA GLABERRIMA, ERYNGIUM, GRATIOLA EBRACTEATA, DOWNINGIA SPP., ISOETES, AND PILULARIA AMERICANA.
General: ABOUT 500 PLANTS OBSERVED IN 1993. AREA SEARCHED BUT NO PLANTS OBSERVED IN 1997.
Owner/Manager: SAC COUNTY

Orcuttia tenuis

slender orcutt grass

Element Code: PMPOA4G050

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3	CNPS List: 1B
State: Endangered	State: S3.1	R-E-D Code: 2-3-3

Habitat Associations

General: VERNAL POOLS.

Micro: 30-1735M.

Occurrence No. 71	Map Index: 34526	EO Index: 272	Dates Last Seen
Occ Rank: Good			Element: 1993-05-20
Origin: Natural/Native occurrence			Site: 1993-05-20
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1996-04-02
Main Source: WHITNEY, K. 1993 (OBS)			

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.55422° / -121.22933°	Township: 08N
UTM: Zone-10 N4268795 E654288	Range: 07E
Radius: 80 meters	Section: 17
Elevation: 175 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NE
Symbol Type: POINT	

Location: EAST OF MATHER AIR FORCE BASE; 0.85 MI SE OF JCT SUNRISE BLVD AND DOUGLAS ROAD.

Location Detail: ON BORDER OF SECTION LINE BETWEEN SECTION 17 AND 8.

Ecological: ASSOCIATED WITH ELEOCHARIS MACROSTACHYA, ERYNGIUM VASEYI, & NAVARRETIA LEUCOCEPHALA.

General: 500 PLANTS ESTIMATED IN 1993.

Owner/Manager: PVT

Orcuttia viscida

Sacramento orcutt grass

Element Code: PMPOA4G070

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G1	CNPS List: 1B
State: Endangered	State: S1.1	R-E-D Code: 3-3-3

Habitat Associations

General: VERNAL POOLS.

Micro: 30-100M.

Occurrence No. 1	Map Index: 40832	EO Index: 40832	Dates Last Seen
Occ Rank: Good			Element: 1998-07-28
Origin: Natural/Native occurrence			Site: 1998-07-28
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1999-02-11
Main Source: PRESTON, R. 1998 (OBS)			

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.53149° / -121.18853°	Township: 08N
UTM: Zone-10 N4266343 E657893	Range: 07E
Area: 5.1 ac	Section: 22
Elevation: 220 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: SE
Symbol Type: POLYGON	

Location: GRANT LINE ROAD ABOUT 2.9 MILES NORTH OF JACKSON HIGHWAY (HWY 16), NORTH OF SLOUGHHOUSE.

Location Detail: MAPPED IN LARGE POOL ALONG EAST SIDE OF ROAD, ABOUT 1 MILE NORTHEAST OF KIEFER ROAD AND JUST SW OF BEND IN GRANTLINE ROAD.

Ecological: DEEP VERNAL POOL WITH ISOETES HOWELLII, ERYNGIUM VASEYI, PSILOCARPUS BREVISSIMUS, LILAEA SCILLOIDES, PLAGIOBOTHRYIS STIPITATUS MICRANTHUS, AND ELEOCHARIS MACROSTACHYA.

Threat: GRAZING (THREAT?), COMPETITION WITH ELEOCHARIS MACROSTACHYA AND EXOTIC GLYCERIA DECLINATA.

General: TYPE LOCALITY. ABUNDANT IN 1986 AND 1987, ABOUT 400,000 IN 1995, AND 138,000 IN 1998. NUMEROUS COLLECTIONS MADE BY B. CRAMPTON AT THIS SITE. THIS SITE FORMERLY INCLUDED WITH NEARBY OCCURRENCE #6.

Owner/Manager: SAC COUNTY, PVT

Occurrence No. 6	Map Index: 11881	EO Index: 14411	Dates Last Seen
Occ Rank: Excellent			Element: 1998-07-27
Origin: Natural/Native occurrence			Site: 1998-07-27
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1999-02-11
Main Source: JONES & STOKES ASSOC. 1990 (OBS)			

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.52317° / -121.19421°	Township: 08N
UTM: Zone-10 N4265410 E657416	Range: 07E
Area: 40.2 ac	Section: 27
Elevation: 220 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: SE
Symbol Type: POLYGON	

Location: NEAR KIEFER LANDFILL, EAST SIDE OF GRANT LINE RD, NORTH AND SOUTH OF KIEFER BLVD, SOUTHEAST OF RANCHO CORDOVA.

Location Detail: SEEN IN SEVERAL POOLS N OF KIEFER BLVD; SEARCHED FOR BUT NOT FOUND S OF KIEFER FOR SEVERAL YRS; MAY BE EXTIRPATED FROM THERE DUE TO AGRICULTURE AND USE AS PERMANENT LIVESTOCK PONDS. TADPOLE SHRIMP FOUND IN POOLS WITH O. VISCIDA IN 1995.

Ecological: VERNAL POOL SURROUNDED BY ANNUAL GRASSLAND. REDDING GRAVELLY LOAM SOIL. ASSOCIATED WITH ELEOCHARIS MACROSTACHYA, ERYNGIUM VASEYI, ALLOCARYA STIPITATA, PSILOCARPUS BREVISSIMUS, LILAEA SCILLOIDES, MARSILEA VESTITA, & DOWNINGIA BICORNUTA.

Threat: LANDFILL EXPANSION MAY DESTROY SOME POOLS; REVISED EIR DUE OUT IN 1996.

General: 1000'S OF PLANTS IN 1990, 1,000,000+ IN 1995, 129,000+ IN 1998. INCLUDES FORMER OCC #S 3,7,9,10,12, AND 14. MAPPED AS PER JONES & STOKES REPORT, 1990.

Owner/Manager: SAC COUNTY, PVT

Orcuttia viscida

Sacramento orcutt grass

Element Code: PMPOA4G070

Status
 Federal: Endangered
 State: Endangered

NDDB Element Ranks
 Global: G1
 State: S1.1

Other Lists
 CNPS List: 1B
 R-E-D Code: 3-3-3

Habitat Associations
 General: VERNAL POOLS.
 Micro: 30-100M.

Occurrence No. 17 Map Index: 11785 EO Index: 21912 Dates Last Seen
 Occ Rank: Good Element: 1995-07-12
 Origin: Natural/Native occurrence Site: 1995-07-12
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1997-03-26
 Main Source: STONE, D. 1987 (OBS)

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.52887° / -121.24205° Township: 08N
 UTM: Zone-10 N4265961 E653233 Range: 07E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 20 Qtr: SW
 Elevation: 150 ft Symbol Type: POINT Meridian: M

Location: EAST SIDE OF SUNRISE BLVD, APPROX. 0.2 MI NORTH OF ITS INTERSECTION WITH KIEFER BLVD.
 Location Detail: SITE OF PROPOSED INDUSTRIAL PARK DEVELOPMENT; POPULATION TO BE WITHIN PRESERVE/MITIGATION AREA.
 Ecological: Y-SHAPED VERNAL POOL SURROUNDED BY ANNUAL GRASSLAND. W/ERYNGIUM VASEYI, ELEOCHARIS MACROSTACHYA, ALLOCARYA STIPITATA, PSILOCARPHUS, GRATIOLA EBRACTEATA AND NAVARRETIA LEUCOCEPHALA.
 Threat: MODERATE-INTENSIVE GRAZING. THE INVASIVE GLYCERIA DECLINATA AND WIDENING OF SUNRISE BLVD MAY ALSO THREATEN.
 General: GREATER THAN 10,000 PLANTS IN 1987 IN 1995. ANNUAL DURATION OF INUNDATION HAS BEEN ARTIFICIALLY INCREASED BY ELEVATED GRADE OF SUNRISE BLVD.
 Owner/Manager: PVT

Occurrence No. 18 Map Index: 11806 EO Index: 22363 Dates Last Seen
 Occ Rank: Fair Element: 1987-10-19
 Origin: Natural/Native occurrence Site: 1987-10-19
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1994-12-01
 Main Source: STONE, D. 1987 (OBS)

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.53452° / -121.22970° Township: 08N
 UTM: Zone-10 N4266609 E654298 Range: 07E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 20 Qtr: NE
 Elevation: 165 ft Symbol Type: POINT Meridian: M

Location: APPROX. 0.9 MILE NORTHEAST OF INTERSECTION OF KIEFER BLVD & SUNRISE BLVD, BENEATH TRANSMISSION LINES.
 Ecological: VERNAL POOL SURROUNDED BY ANNUAL GRASSLAND. WITH ELEOCHARIS MACROSTACHYA, ERYNGIUM VASEYI, PSILOCARPHUS BREVISSIMUS, ALLOCARYA STIPITATA, NAVARRETIA LEUCOCEPHALA, DOWNINGIA BICORNUTA, ETC.
 Threat: GRAZING, COMPETITION FROM ELEOCHARIS, & ACTIVITIES ASSOCIATED WITH TRANSMISSION LINE MAINTENANCE & DEVELOPMENT THREATEN.
 General: 1000 PLANTS ESTIMATED IN 1987.
 Owner/Manager: PVT

Orcuttia viscida

Sacramento orcutt grass

Element Code: PMPOA4G070

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G1	CNPS List: 1B
State: Endangered	State: S1.1	R-E-D Code: 3-3-3

Habitat Associations

General: VERNAL POOLS.

Micro: 30-100M.

Occurrence No.: 19	Map Index: 26036	EO Index: 5231	Dates Last Seen
Occ Rank: Good			Element: 1995-08-17
Origin: Natural/Native occurrence			Site: 1995-08-17
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1997-03-27
Main Source: WITHAM, C. 1995 (OBS)			

Quad Summary: BUFFALO CREEK (3812152/511C)

County Summary: SACRAMENTO

Lat/Long: 38.55291° / -121.17401°	Township: 08N
UTM: Zone-10 N4268745 E659111	Range: 07E
Area: 5.7 ac	Section: 14
Elevation: 250 ft	Meridian: M
	Qtr: NE
	Mapping Precision: SPECIFIC
	Symbol Type: POLYGON

Location: ENE OF MATHER AFB. 4 POOLS; 75-500 YARDS S OF GLORY LANE, 0.75-0.9 MI E OF GRANT LINE RD.

Location Detail: NE 1/4 OF NE 1/4 OF SECTION 14.

Ecological: POOLS WITHIN GRASSLAND IN RED BLUFF/REDDING SOILS. WITH ERYNGIUM VASEYI, NAVARRETIA LEUCOCEPHALA, DOWNINGIA BICORNUTA.

Threat: POOLS MODERATELY TRAMPLED BY CATTLE. POSSIBLY WITHIN SACRAMENTO COUNTY'S URBAN LIMIT.

General: HUNDREDS OF PLANTS IN 1994, 1.2 MILLION ESTIMATED IN 1995.

Owner/Manager: PVT

ATTACHMENT B

Plant Species Observed On-Site (April 19, and June 14, 2005)

Plant Species Observed On-Site (April 19, and June 14, 2005)

<u>Scientific Name</u>	<u>Common Name</u>
<i>Aegilops triuncialis</i>	Barbed goatgrass
<i>Aira caryophyllea</i>	Hairgrass
<i>Alopecurus saccatus</i>	Pacific foxtail
<i>Amsinckia menziesii</i>	Rancher's fireweed
<i>Avena barbata</i>	Slender wild oat
<i>Avena fatua</i>	Wild oat
<i>Bacopa rotundifolia</i>	Round-leaf water-hyssop
<i>Bellardia trixago</i>	Mediterranean lineseed
<i>Brassica nigra</i>	Black mustard
<i>Briza minor</i>	Little quaking grass
<i>Brodiaea elegans</i>	Harvest brodiaea
<i>Bromus diandrus</i>	Rippgut brome
<i>Bromus hordeaceus</i>	Soft brome
<i>Callitriche marginata</i>	Winged water-starwort
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Castilleja attenuata</i>	Valley tassels
<i>Castilleja campestris</i> ssp. <i>campestris</i>	Field owl's-clover
<i>Centaurea solstitialis</i>	Yellow star-thistle
<i>Centaureum muehlenbergii</i>	Monterey centauray
<i>Cerastium glomeratum</i>	Mouse-ear chickweed
<i>Chamomilla suaveolens</i>	Pineapple weed
<i>Cirsium vulgare</i>	Bull thistle
<i>Crassula aquatica</i>	Water pygmy-weed
<i>Crypsis schoenoides</i>	Swamp grass
<i>Cynodon dactylon</i>	Bermuda grass
<i>Deschampsia danthonioides</i>	Annual hairgrass
<i>Downingia bicornuta</i>	Double-horn downingia
<i>Downingia ornatissima</i>	Solano downingia
<i>Eleocharis acicularis</i>	Least spikerush
<i>Eleocharis macrostachya</i>	Creeping spikerush
<i>Epilobium brachycarpum</i>	Panicled willow-herb
<i>Epilobium densiflorum</i>	Dense-flower spike-primrose
<i>Eremocarpus setigerus</i>	Turkey mullien
<i>Erodium botrys</i>	Filaree
<i>Erodium moschatum</i>	White-stem filaree
<i>Eryngium vaseyi</i>	Vasey's coyote-thistle
<i>Eucalyptus globulus</i>	Blue gum
<i>Filago gallica</i>	Herba impia
<i>Galium aparine</i>	Goose grass
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Glyceria declinata</i>	Mannagrass
<i>Gratiola ebracteata</i>	Bractless hedgehyssop
<i>Hemizonia fitchii</i>	Fitch's spikeweed

Plant Species Observed On-Site (April 19, and June 14, 2005) Continued

<u>Scientific Name</u>	<u>Common Name</u>
<i>Hordeum marinum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Barley
<i>Hypochaeris glabra</i>	Smooth cat's-ear
<i>Isoetes nuttallii</i>	Nuttall's quillwort
<i>Isoetes orcuttii</i>	Orcutt's quillwort
<i>Juncus balticus</i>	Baltic rush
<i>Juncus bufonius</i>	Toad rush
<i>Juncus capitatus</i>	Capped rush
<i>Juncus xiphioides</i>	Iris-leaf rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lasthenia fremontii</i>	Fremont's goldfields
<i>Lasthenia glaberrima</i>	Smooth goldfields
<i>Leontodon taraxacoides</i>	Hairy hawkbit
<i>Lolium multiflorum</i>	Ryegrass
<i>Lotus purshianus</i>	Spanish clover
<i>Lupinus bicolor</i>	Bicolored lupine
<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Mimulus guttatus</i>	Common large monkey-flower
<i>Montia fontana</i>	Fountain miner's-lettuce
<i>Morus alba</i>	White mulberry
<i>Navarretia leucocephala</i>	White-head navarretia
<i>Pilularia americana</i>	American pillwort
<i>Plagiobothrys greenei</i>	Greene's popcorn-flower
<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower
<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower
<i>Poa annua</i>	Annual bluegrass
<i>Pogogyne douglasii</i>	Douglas' mesamint
<i>Polygonum arenastrum</i>	Prostrate knotweed
<i>Polygonum species</i>	Smartweed
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Psilocarphus brevissimus</i>	Dwarf woolly-heads
<i>Ranunculus aquatilis</i>	White water buttercup
<i>Ranunculus bonariensis</i>	Carter's buttercup
<i>Ranunculus muricatus</i>	Spiny-fruit buttercup
<i>Raphanus sativus</i>	Purple wild radish
<i>Robinia pseudoacacia</i>	Black locust
<i>Rumex acetosella</i>	Sheep sorrel
<i>Rumex crispus</i>	Curly dock
<i>Rumex pulcher</i>	Fiddle dock
<i>Salix species</i>	Willow
<i>Silybum marianum</i>	Milk thistle
<i>Spergularia rubra</i>	Purple sandspurry
<i>Trichostema lanceolatum</i>	Vinegar weed

Plant Species Observed On-Site (April 19, and June 14, 2005) Continued

<u>Scientific Name</u>	<u>Common Name</u>
<i>Trifolium depauperatum</i>	Dwarf sack clover
<i>Trifolium dubium</i>	Shamrock clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium repens</i>	White clover
<i>Trifolium variegatum</i>	White-tip clover
<i>Trifolium willdonovii</i>	Tomcat clover
<i>Triphysaria eriantha</i>	Butter and eggs
<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Triteleia laxa</i>	Ithuriel's spear
<i>Veronica peregrina</i>	Purslane speedwell
<i>Vicia villosa</i>	Winter vetch
<i>Vulpia bromoides</i>	Vulpia
<i>Vulpia microstachys</i>	Vulpia
<i>Vulpia myuros</i>	Rat-tail vulpia