

5

JURISDICTIONAL DELINEATION REPORT

PLNP 2011-00156

RECEIVED

JAN 26 2012

PLANNING DEPT.
County of Sacramento

Barrett Ranch East

***Sacramento County,
California***

***June 2011
REVISED January 2012***

Prepared For:

***GERALD ENTERPRISES, LP
PO Box 60825
Sacramento, CA 95860***

Prepared By:

***GIBSON & SKORDAL, LLC
Wetland Consultants
2277 Fair Oaks Blvd., Suite 105
Sacramento, California 95825***

INTRODUCTION

This report presents the results of a delineation of waters of the United States, including wetlands, which could be regulated by the U. S. Army Corps of Engineers under the authority of Section 404 of the Federal Clean Water Act. The delineation of waters of the United States was conducted within the study area of Barrett Ranch East.

LOCATION

The approximately 127-acre study area is located in Section 20 within Township 10 North, Range 6 East in Antelope, CA, and is portrayed on the Citrus Heights, California USGS 7.5 Minute Quadrangle. The approximate centroid of the study area is located at the following UTM coordinates: 643,845 Meters East/ 4,285,628 Meters East, Zone 10 North. Figure 1 is a vicinity map.

The study area is located on the remaining undeveloped section of Barrett Ranch at the northwest and northeast quadrants of the intersection of Don Julio Boulevard and Antelope Road. The site is west of Interstate Highway 80 and east of Walerga Road in northern Sacramento County.

To access the site from Sacramento; drive east on Interstate Highway 80 towards Roseville, CA; exit on Antelope Road and drive west approximately 2.25 miles to the intersection of Don Julio Boulevard and Antelope Road; at this point, the project site is situated on the undeveloped land on both sides of Don Julio Boulevard north of Antelope Road.

METHODOLOGY

This delineation was performed in accordance with the 1987 "**Corps of Engineers Wetlands Delineation Manual**,"¹ the "**Regional Supplement to the Corps of Engineers Wetland**

¹ Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

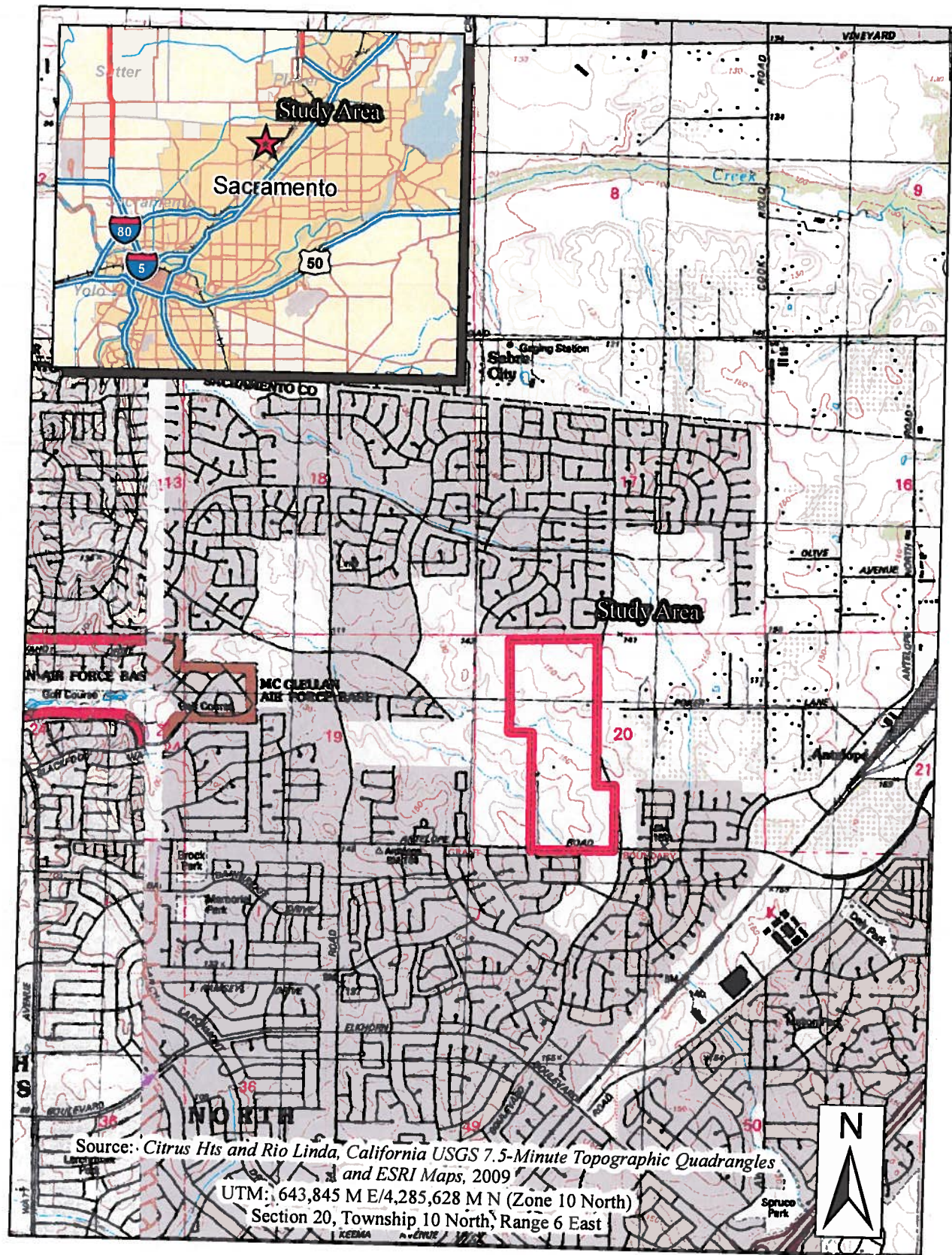


Figure 1
 Vicinity Map

Delineation Manual: Arid West Region (Version 2.0),”² and Sacramento District’s **“Minimum Standards for Acceptance of Preliminary Wetlands Delineations”** dated November 30, 2001. The Corps' regulations (33 CFR 328) were used to determine the presence of waters of the United States other than wetlands. The **"National List of Plant Species That Occur in Wetlands: California (Region 0)"³** was used to determine the wetland indicator status of plants observed in the study area.

A field survey was conducted on June 1, 2011, to delineate water features, including wetlands. Data points and water features were surveyed utilizing a Trimble GeoXT GPS receiver with sub-meter accuracy. The GPS field data was layered over a July 2009 geo-referenced aerial photo to produce the delineation map.

Detailed data on vegetation, soils, and hydrology characteristics were taken in the field. Data sheets documenting the basis for determining which areas are wetland or upland are provided in Appendix A.

GENERAL SITE CONDITIONS AND HABITAT

Existing Field Conditions

The study area is situated on undeveloped ruderal grasslands surrounded by development. The project site is bordered by residential development to the north and east, commercial and residential development to the south, and public school yards and residential development to the west. The study area consists of gently hilly to undulating terrain that drains to the west. The elevation at the study area ranges from a low of approximately 120 feet above sea level to a high of approximately 155 feet above sea level. Historical land uses included livestock grazing. Portions of the property have been disked in recent years. Presently, the study area is almost

² Wetlands Regulatory Assistance Program. September 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, Miss.

³ Reed, P.B. 1988. National List of Plant Species That Occur In Wetlands: California (Region 0). Biological Report 88(26.10). May 1988. National Ecology Center, National Wetlands Inventory, U.S. Fish & Wildlife Service, St. Petersburg, Florida.

entirely represented by annual grassland. Don Julio Boulevard bisects the property across the eastern most section of the study area (running north to south).

Plant Communities and Habitat Types

The western portion of the property is marked by low laying terraces that support annual grassland habitat dominated by yellow star-thistle (*Centaurea solstitialis*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), little quaking grass (*Briza minor*), and toad rush (*Juncus bufonius*). Other common species include Lemmon's canary grass (*Phalaris lemmonii*), rusty popcorn flower (*Plagiobothrys nothofulvus*), filaree (*Erodium sp.*), soft chess (*Bromus mollis*), loosestrife (*Lythrum hyssopifolia*), and Italian rye grass (*Lolium multiflorum*).

The eastern portion of the property is marked by undulating hills and swales that support annual grassland habitat dominated by star-thistle, wild oats, rip-gut brome, vetch, and toad rush. Other common species include Lemmon's canary grass, rusty popcorn flower, filaree, soft chess, loosestrife, and Italian rye grass. Trees mainly occur along a wetland swale in the eastern most section of the property and consist of black willow (*Salix nigra*).

Hydrology

Hydrology within the study area is significantly influenced by drainage/run-off from the adjacent school and residential land use. Although precipitation driven wetlands occur on the western most section of the project site, the eastern most section of the project site includes a seasonal wetland swale that receives nuisance water from the adjacent residential development. In addition, a channel (that conveys nuisance water from residential development located south of the study area) is located at the southwest corner of the study area.

Soils

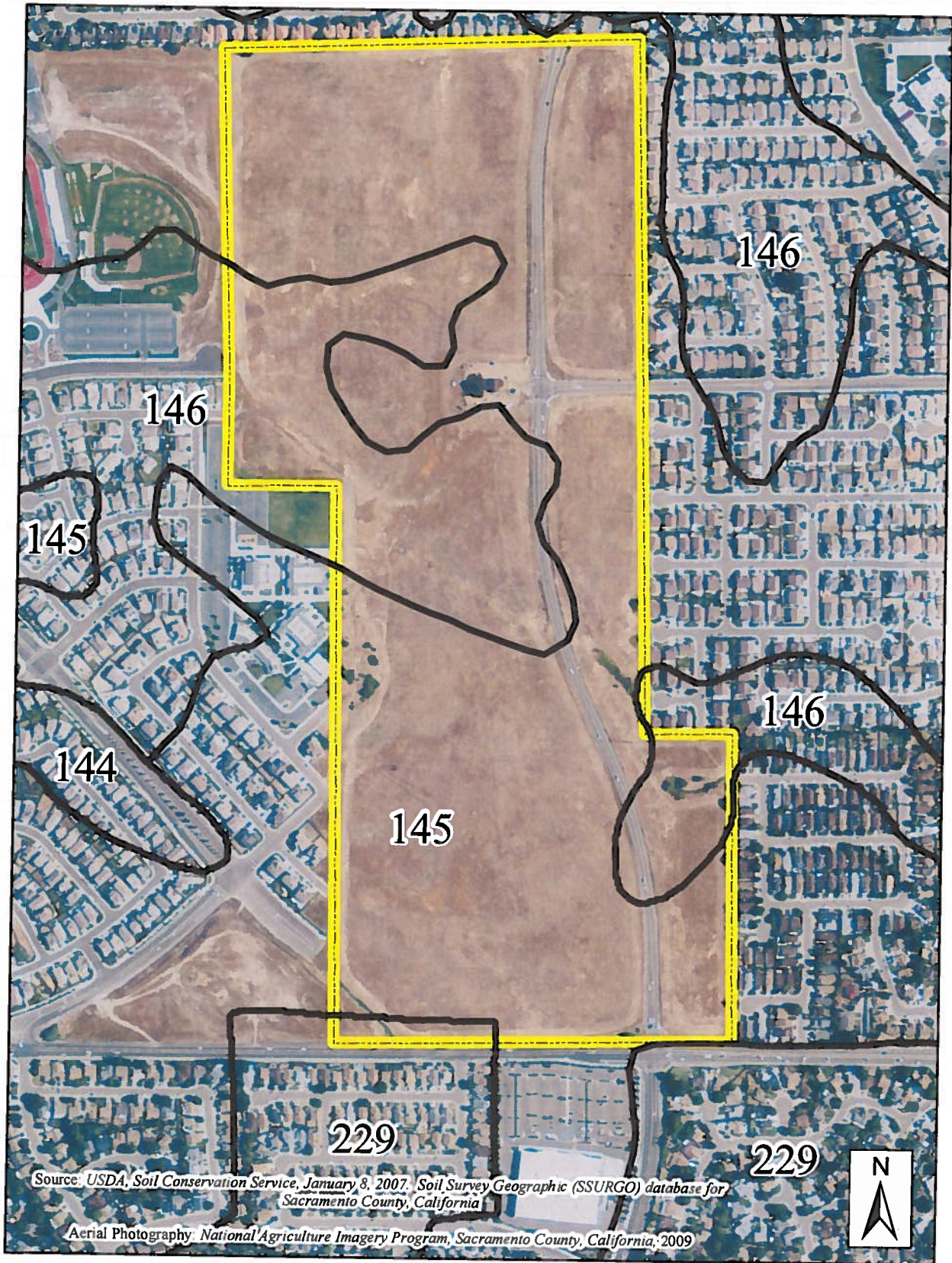
According to the April 1993, "Soil Survey of Sacramento County, California," three soil map units occur within the study area: Fiddymment fine sandy loam, 1 to 8% slopes (145), Fiddymment loam, 1 to 15% slopes (146), and Urban land-Xerarents-Fiddymment complex, 0-8% slopes (229).

The first is Fiddymment fine sandy loam, 1 to 8% slopes (145). It is a moderately deep and well drained soil that is mainly derived from weathered consolidated sandstone or siltstone. It has an underlying claypan of brown clay loam at about 15 inches. An approximately 12-inch hardpan cemented with silica is situated beneath the claypan at a depth of 28 inches. Permeability for this soil unit is very slow resulting in pooled water for short periods after heavy winter/spring rains or over-irrigation. This unit also contains inclusions of Andregg, Orangevale, and Redding soils, and Xerarents.

The second unit is Fiddymment loam, 1 to 15% slopes (146). It is a moderately deep and well drained soil strongly associated with hills, and it is mainly derived from weathered consolidated sandstone or siltstone. It has a claypan about 15 inches thick at a depth of about 14 inches. An approximately 6-inch thick hardpan cemented with silica is situated beneath the claypan. Permeability for this soil unit is very slow resulting in pooled water for short periods after heavy winter/spring rains or over-irrigation. This unit also contains inclusions of Corning and Kaseberg soils and Xerarents.

The third unit mapped within the study area is Urban land-Xerarents-Fiddymment complex, 0-8% slopes (229). This unit is associated with filled areas on hills including slopes that have been shaped for urban uses. It is composed of approximately 40% Urban land, 30% Xerarents, and 15% Fiddymment soils. The Urban component represents highly altered areas generally covered by impervious surfaces such as roads, parking lots, sidewalks, and buildings. The underlying soils may have been altered during construction and the soil profiles may be truncated. The Xerarents components are well drained, moderately deep to very deep, and have been altered/formed by earth-moving activities. The Fiddymment soil is moderately deep to hardpan and well drained. Dense subsoils result in temporary surface saturation after heavy rain events.

None of the above soil map units are listed in the June 1991, “**Hydric Soils of the United States**”, or the Natural Resources Conservation Service’s “**Field Office Official List of Hydric Soil Map Units for Sacramento County, California**” (county list) dated March 17, 1992. Figure 2 is a soils map, and Table 1 lists the map units present within the study area.



Jurisdictional Delineation Report
 Barrett Ranch East
 January 2012

Figure 2
 Soils Map

Table 1: Study Area Soil Map Units

<u>Map Symbol</u>	<u>Mapping Unit</u>	<u>Drainage Class</u>
145	Fiddymment fine sandy loam, 1-8% slopes	Well drained
146	Fiddymment loam, 1-15% slopes	Well drained
229	Urban lands-Xerarents-, Fiddymment complex 0-8% slopes	N/A (impervious)/ Well drained/ Well drained

FINDINGS

Potential Waters of the United States

We delineated a total of 1.866 acres of wetlands/waters including 0.060 acre of channel, 0.042 acre of drainage ditch, 1.039 acres of vernal pools, and 0.725 acre seasonal wetland swale.

Appendix B is a delineation map and acreage table by water feature type that portrays the study area boundary and data points; as well as, the location, size, and reach of water features. All of the vernal pools, seasonal wetland swales, and drainage ditch can drain into a drop inlet located at the northern end of D1. The drop inlet drains to a relatively permanent (unnamed) tributary that flows northward to where it falls into Dry Creek (a permanent water tributary), Dry Creek flows into Steelhead Creek (a permanent water tributary), Steelhead Creek Flows into the American River (A Traditional Navigable Water). The channel on the property is relatively permanent and flows northward to Dry Creek and follows the same route to a Traditional Navigable Water as described above.

Vernal Pool

Ten vernal pools (1.866 acres) were mapped in the study area. Vernal pools are wetlands that sustain long-term ponding and/or saturated soil conditions during and following periods of heavy precipitation in the winter and early spring. Additional water is provided by surface sheet flow and subsurface discharge onto the perched water-tables or impermeable surfaces which underlie in vernal pools. The vernal pools were observed along the western property boundary in the northern half of the site. Observed plant species within the vernal pools included stalked popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus alveolatus*), rabbit foot grass (*Polypogon monspeliensis*), and seaside barley (*Hordeum marinum*). The clay-loam soils typical in these features possess matrices of 10YR 3/2 with approximately 20% redoximorphic features (10YR 4/6) located in the matrix and root channels. Primary indicators of wetland hydrology were the presence a biotic crust and oxidized rhizospheres along living roots.

Seasonal Wetland Swale

Three seasonal wetland swales (0.725 acre) were mapped in the study area. Seasonal wetland swales typically occur in linear sloping drainages that lack a defined bed and bank, and support a

wetland plant community. Common plant species within these features include Italian ryegrass (*Lolium multiflorum*), little quaking grass (*Briza minor*), and curly dock (*Rumex crispus*). The clay loam soils possess matrices of 10YR 3/2 without any discernable redoximorphic features. However, due to the presence of nuisance water from nearby development, an aquic moisture regime was inferred to justify the presence of hydric soils. Indicators of hydrology were the presence of saturated soils to 6 inches deep.

Intermittent Channel

One channel (0.060 acre) was mapped in the study area. The channel possessed a distinct bed and bank and ordinary high water mark. This feature is classified as an intermittent channel and was flowing at the time of the field survey. The primary source of flow to these features is run-off and nuisance water from the adjacent development. This feature generally supported little to no vegetation.

Drainage Ditch

One drainage ditch (0.042 acre) was mapped along the eastern edge of the project site at the base of the fill pad for the adjacent public school. The drainage ditch was constructed for the purpose of draining run-off from the irrigated playing fields associated with the school. This feature is earthen and is approximately 2-4 feet wide. This ditch was wet at the time of survey.

VERIFICATION BY CORPS OF ENGINEERS

Ms. Lisa Gibson, Sacramento District Corps of Engineers field reviewed the site in July 2011, and made minor modifications to our delineation. These changes have been incorporated in this report and accompanying delineation map. The Corps' Verification Letter dated August 3, 2011, is included in Appendix C.

APPENDIX A

DATA SHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 1
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 40.98575"N Long: 121° 21' 04.75101"W Datum: NAD 83
 Soil Map Unit Name: Fiddymment loam, 1-15% slopes (146) NWI Classification: PEM - Persistent
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>x</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>x</u> No _____
Hydric Soil Present?	Yes <u>x</u> No _____		
Wetland Hydrology Present?	Yes <u>x</u> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>90</u> x1 = <u>90</u> FACW species <u>10</u> x2 = <u>20</u> FAC species <u>1</u> x3 = <u>3</u> FACU species <u>0</u> x4 = <u>0</u> UPL species <u>1</u> x5 = <u>5</u> Column Totals: <u>102</u> (A) <u>118</u> (B) Prevalence Index = B/A = <u>1.2</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: 10 ft ²)				
1. <u>Ranunculus alveolatus</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Plagiobothrys stipitatus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>	
3. <u>Polypogon monspeliensis</u>	<u>10</u>	<u>No</u>	<u>FACW+</u>	
4. <u>Hordeum hystrix</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	
5. <u>Hypochaeris glabra</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover	<u>102</u>	_____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			Hydrophytic Vegetation Present? Yes <u>x</u> No _____
Remarks:				

SOIL

Sampling Point: _____ 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 3/2	80	10YR 4/6	20	C	PL, M	sandy loam	PL = 15% / M = 5%

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:				Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	_____	
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	_____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	_____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 * Redox on pore lining
 * Depressional feature
 * Algal matting

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 2
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): hillslope / swale Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 40.93675"N Long: 121° 21' 04.60855"W Datum: NAD 83
 Soil Map Unit Name: Fiddymont loam, 1-15% slopes (146) NWI Classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>x</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>x</u>
Hydric Soil Present?	Yes _____	No <u>x</u>			
Wetland Hydrology Present?	Yes _____	No <u>x</u>			
Remarks:					

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	_____	_____	_____	
=Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>10</u> x3 = <u>30</u> FACU species <u>5</u> x4 = <u>20</u> UPL species <u>84</u> x5 = <u>420</u> Column Totals: <u>99</u> (A) <u>470</u> (B) Prevalence Index = B/A = <u>4.7</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
Herb Stratum (Plot size: 10 ft ²)				
1. <i>Taeniatherum caput-medusae</i>	80	Yes	UPL	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Lolium perenne</i>	10	No	FAC*	
3. <i>Vulpia myuros</i>	5	No	FACU*	
4. <i>Hypochaeris glabra</i>	2	No	UPL	
5. <i>Galium sp.</i>	1	No	--	
6. <i>Raphanus sativus</i>	1	No	UPL	
7. <i>Eremocarpus setigerus</i>	1	No	UPL	
8. _____	_____	_____	_____	
100 =Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			Hydrophytic Vegetation Present? Yes _____ No <u>x</u>

Remarks:

SOIL

Sampling Point: _____ 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8+	10YR 3/3	95	10YR 4/6	5	C	PL	sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u> X </u>
--	---

Remarks:
* Redox observed in soil profile is likely a result of excessive and late rain in 2011

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water Marks (B1) (Riverine)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Drift Deposits (B3) (Riverine)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u> X </u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* Upland adjacent to Vernal Pool 1
* No drainage pattern
* Slight slope
* Although redox was found in the pore linings, water passing through this system does not appear to saturate the substrate for a duration long enough to form a wetland - likely a result of a heavy rainy season

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 3
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): swale / hillslope Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 42.36968"N Long: 121° 20' 57.96210"W Datum: NAD 83
 Soil Map Unit Name: Fiddymment loam, 1-15% slopes (146) NWI Classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>x</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>x</u>
Hydric Soil Present?	Yes _____	No <u>x</u>			
Wetland Hydrology Present?	Yes _____	No <u>x</u>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____	<u>50%</u> (A/B)
4. _____	_____	_____	_____		
_____ =Total Cover	_____	_____	_____		
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:	
1. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x1 = <u>0</u>	
3. _____	_____	_____	_____	FACW species <u>1</u> x2 = <u>2</u>	
4. _____	_____	_____	_____	FAC species <u>45</u> x3 = <u>135</u>	
5. _____	_____	_____	_____	FACU species <u>46</u> x4 = <u>184</u>	
_____ =Total Cover	_____	_____	_____	UPL species <u>17</u> x5 = <u>85</u>	
				Column Totals: <u>109</u> (A)	<u>406</u> (B)
				Prevalence Index = B/A =	<u>3.7</u>
Herb Stratum (Plot size: 10 ft ²)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <i>Bromus mollis</i>	<u>45</u>	<u>Yes</u>	<u>FACU-</u>	_____ Dominance Test is >50%	
2. <i>Lolium perenne</i>	<u>30</u>	<u>Yes</u>	<u>FAC*</u>	_____ Prevalence Index is ≤3.0 ¹	
3. <i>Hordeum hystrix</i>	<u>15</u>	<u>No</u>	<u>FAC</u>	_____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Taeniatherum caput-medusae</i>	<u>10</u>	<u>No</u>	<u>UPL</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Centaurea solstitialis</i>	<u>5</u>	<u>No</u>	<u>UPL</u>		
6. <i>Briza minor</i>	<u>1</u>	<u>No</u>	<u>FACW-</u>		
7. <i>Brodiaea elegans</i>	<u>1</u>	<u>No</u>	<u>FACU</u>		
8. <i>Hypochaeris glabra</i>	<u>1</u>	<u>No</u>	<u>UPL</u>		
9. <i>Vicia villosa</i>	<u>1</u>	<u>No</u>	<u>UPL</u>		
_____ =Total Cover	<u>109</u>	_____	_____		
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes _____	No <u>x</u>
_____ =Total Cover	_____	_____	_____		
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____				
Remarks:					

SOIL

Sampling Point: _____ 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8+	10YR 3/2	99	10YR 4/6	1	C	PL	loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?	Yes _____ No X
Type: _____		
Depth (inches): _____		

Remarks:
* Redox observed in soil profile is likely a result of excessive and late rain in 2011

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:				Wetland Hydrology Present?	Yes _____ No X
Surface Water Present?	Yes _____ No _____	Depth (inches): _____			
Water Table Present?	Yes _____ No _____	Depth (inches): _____			
Saturation Present?	Yes _____ No _____	Depth (inches): _____			
(includes capillary fringe)					

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
* No algal matting
* Slight slope
* Although redox was found in the pore linings, water passing through this system does not appear to saturate the substrate for a duration long enough to form a wetland - likely a result of a heavy rainy season

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 4
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): swale / hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 34.97489"N Long: 121° 21' 02.96515"W Datum: NAD 83
 Soil Map Unit Name: Fiddymont loam, 1-15% slopes (146) NWI Classification: PEM - Persistent
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>x</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>x</u> No _____
Hydric Soil Present?	Yes <u>x</u> No _____		
Wetland Hydrology Present?	Yes <u>x</u> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
=Total Cover					
Prevalence Index Worksheet:					
<u>Sapling/Shrub Stratum</u> (Plot size: _____)		Total % Cover of:			Multiply by:
1. _____	_____	_____	_____	OBL species <u>0</u> x1 = <u>0</u>	_____
2. _____	_____	_____	_____	FACW species <u>90</u> x2 = <u>180</u>	_____
3. _____	_____	_____	_____	FAC species <u>5</u> x3 = <u>15</u>	_____
4. _____	_____	_____	_____	FACU species <u>5</u> x4 = <u>20</u>	_____
5. _____	_____	_____	_____	UPL species <u>0</u> x5 = <u>0</u>	_____
=Total Cover				Column Totals: <u>100</u> (A)	<u>215</u> (B)
Prevalence Index = B/A = <u>2.2</u>					
Hydrophytic Vegetation Indicators:					
<u>X</u> Dominance Test is >50%					
<u>X</u> Prevalence Index is ≤3.0 ¹					
_____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)					
_____ Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <u>x</u> No _____					
Remarks:					

<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>x</u> No _____
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: _____ **4**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8+	10YR 4/2	98	10YR 4/6	2	C	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p>___ Histosol (A1)</p> <p>___ Histic Epipedon (A2)</p> <p>___ Black Histic (A3)</p> <p>___ Hydrogen Sulfide (A4)</p> <p>___ Stratified Layers (A5) (LRR C)</p> <p>___ 1 cm Muck (A9) (LRR D)</p> <p>___ Depleted Below Dark Surface (A11)</p> <p>___ Thick Dark Surface (A12)</p> <p>___ Sandy Mucky Mineral (S1)</p> <p>___ Sandy Gleyed Matrix (S4)</p>	<p>___ Sandy Redox (S5)</p> <p>___ Stripped Matrix (S6)</p> <p>___ Loamy Mucky Mineral (F1)</p> <p>___ Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p>___ Redox Dark Surface (F6)</p> <p>___ Depleted Dark Surface (F7)</p> <p>___ Redox Depressions (F8)</p> <p>___ Vernal Pools (F9)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p>___ 1 cm Muck (A9) (LRR C)</p> <p>___ 2 cm Muck (A10) (LRR B)</p> <p>___ Reduced Vertic (F18)</p> <p>___ Red Parent Material (TF2)</p> <p>___ Other (Explain in Remarks)</p>
---	---	--

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____</p>
---	---

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p>		<p>Secondary Indicators (2 or more required)</p>
<input checked="" type="checkbox"/> Surface Water (A1)	___ Salt Crust (B11)	___ Water Marks (B1) (Riverine)
___ High Water Table (A2)	___ Biotic Crust (B12)	___ Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Drift Deposits (B3) (Riverine)
___ Water Marks (B1) (Nonriverine)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2) (Nonriverine)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3) (Nonriverine)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Inundation Visible on Aerial Imagery (B7)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)	___ Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<p>Field Observations:</p> <p>Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u></p> <p>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u></p> <p>(includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</p>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

- * 1" standing water
- * Saturated soil to 6"
- * Water is from adjacent school yard and associated irrigation
- * A swale has eroded on the fill pad for the school

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 5
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): swale / hillslope Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 29.51986"N Long: 121° 20' 51.51780"W Datum: NAD 83
 Soil Map Unit Name: Fiddymont loam, 1-15% slopes (146) NWI Classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>x</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>x</u>
Hydric Soil Present?	Yes _____	No <u>x</u>			
Wetland Hydrology Present?	Yes _____	No <u>x</u>			
Remarks:					
* The data point was taken down slope of a concrete culvert under Don Julio Blvd. draining west toward school					
* The swale appears to receive minor hydrologic input of nuisance water from upstream development					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50%</u> (A/B)
4. _____	_____	_____	_____		
	=Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species <u>0</u> x1 =	<u>0</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x2 =	<u>0</u>
4. _____	_____	_____	_____	FAC species <u>60</u> x3 =	<u>180</u>
5. _____	_____	_____	_____	FACU species <u>46</u> x4 =	<u>184</u>
	=Total Cover			UPL species <u>1</u> x5 =	<u>5</u>
				Column Totals: <u>107</u> (A)	<u>369</u> (B)
				Prevalence Index = B/A =	<u>3.4</u>
Herb Stratum (Plot size: 10 ft²)				Hydrophytic Vegetation Indicators:	
1. <u>Lolium perenne</u>	<u>50</u>	<u>Yes</u>	<u>FAC*</u>	_____ Dominance Test is >50%	
2. <u>Bromus mollis</u>	<u>45</u>	<u>Yes</u>	<u>FACU-</u>	_____ Prevalence Index is ≤3.0 ¹	
3. <u>Hordeum hystrix</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	_____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Phalaris paradoxa</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>Vulpia myuros</u>	<u>1</u>	<u>No</u>	<u>FACU*</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
	=Total Cover				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes _____	No <u>x</u>
2. _____	_____	_____	_____		
	=Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____				

Remarks:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8"+	10YR 3/3	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR C)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR D)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Vernal Pools (F9)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR C)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR B)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
---	--	---

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No X</p>
---	--

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1) (Nonriverine)</p> <p><input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)</p> <p><input type="checkbox"/> Drift Deposits (B3) (Nonriverine)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p>Secondary Indicators (2 or more required)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Biotic Crust (B12)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><input type="checkbox"/> Water Marks (B1) (Riverine)</p> <p><input type="checkbox"/> Sediment Deposits (B2) (Riverine)</p> <p><input type="checkbox"/> Drift Deposits (B3) (Riverine)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>	
--	--	---	--	--	--

<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No _____ Depth (inches): _____</p> <p>Water Table Present? Yes _____ No _____ Depth (inches): _____</p> <p>Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes _____ No X</p>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

* Area is below a concrete culvert that conveys ephemeral storm water
 * The storm water does not appear to saturate the substrate for a duration long enough for wetland adaptations to develop

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 6
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): swale / hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 28.45982"N Long: 121° 20' 47.84282"W Datum: NAD 83
 Soil Map Unit Name: Fiddymment fine sandy loam, 1-8% slopes (145) NWI Classification: PEM - Persistent
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>x</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>x</u> No _____
Hydric Soil Present?	Yes <u>x</u> No _____		
Wetland Hydrology Present?	Yes <u>x</u> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>27</u> x2 = <u>54</u> FAC species <u>75</u> x3 = <u>225</u> FACU species <u>0</u> x4 = <u>0</u> UPL species <u>0</u> x5 = <u>0</u> Column Totals: <u>102</u> (A) <u>279</u> (B) Prevalence Index = B/A = <u>2.7</u>
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: 10 ft ²)	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lolium perenne</u>	70	Yes	FAC*	
2. <u>Rumex crispus</u>	15	No	FACW-	
3. <u>Briza minor</u>	10	No	FACW-	
4. <u>Picris echioides</u>	5	No	FAC*	
5. <u>Cyperus eragrostis</u>	2	No	FACW	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
102 =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>x</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			
Remarks:				

SOIL

Sampling Point: _____ 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8+	10YR 3/2	100					loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Depth (inches): _____	

Remarks:
 * Aquic moisture regime is assumed due to long term saturation of the substrate resulting from nuisance water from adjacent residential development

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present?
Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 6+	
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 * Saturated to surface

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 7
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): swale / hillslope Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 28.69370"N Long: 121° 20' 47.63736"W Datum: NAD 83
 Soil Map Unit Name: Fiddyment fine sandy loam, 1-8% slopes (145) NWI Classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>x</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>x</u>
Hydric Soil Present?	Yes _____	No <u>x</u>			
Wetland Hydrology Present?	Yes _____	No <u>x</u>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0%</u> (A/B)
4. _____	_____	_____	_____		
	=Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index Worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species <u>0</u> x1 =	<u>0</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x2 =	<u>0</u>
4. _____	_____	_____	_____	FAC species <u>17</u> x3 =	<u>51</u>
5. _____	_____	_____	_____	FACU species <u>70</u> x4 =	<u>280</u>
	=Total Cover			UPL species <u>21</u> x5 =	<u>105</u>
				Column Totals: <u>108</u> (A)	<u>436</u> (B)
				Prevalence Index = B/A =	<u>4.0</u>
Herb Stratum (Plot size: 10 ft²)				Hydrophytic Vegetation Indicators:	
1. <u>Vulpia myuros</u>	<u>40</u>	<u>Yes</u>	<u>FACU*</u>	_____ Dominance Test is >50%	
2. <u>Bromus mollis</u>	<u>30</u>	<u>Yes</u>	<u>FACU-</u>	_____ Prevalence Index is ≤3.0 ¹	
3. <u>Convolvulus arvensis</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	_____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Hordeum hystrix</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>Lolium perenne</u>	<u>2</u>	<u>No</u>	<u>FAC*</u>		
6. <u>Bromus diandrus</u>	<u>1</u>	<u>No</u>	<u>UPL</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
	=Total Cover				
Woody Vine Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. _____	_____	_____	_____	Hydrophytic Vegetation Present?	Yes _____ No <u>x</u>
2. _____	_____	_____	_____		
	=Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks:					

SOIL

Sampling Point: _____ 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8+	10YR 3/3	98	10YR 3/6	2	C	M	loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	Hydric Soil Present? Yes _____ No X _____
Type: _____ Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes _____ No X _____
Surface Water Present? Yes _____ No _____	Depth (inches): _____	
Water Table Present? Yes _____ No _____	Depth (inches): _____	
Saturation Present? Yes _____ No _____	Depth (inches): _____	

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 * None present
 * No drainage patterns
 * No algal matting

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barrett Ranch East City/County: Sacramento Sampling Date: June 1, 2011
 Applicant/Owner: Gerald Enterprises, LP State: CA Sampling Point: 8
 Investigator(s): Jim Gibson / Sam Garcia Section, Township, Range: Section 20, Township 10 North, Range 6 East
 Landform (hillslope, terrace, etc.): swale / hillslope Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38° 42' 20.17577"N Long: 121° 20' 59.34920"W Datum: NAD 83
 Soil Map Unit Name: Fiddyment fine sandy loam, 1-8% slopes (145) NWI Classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
 Are Vegetation _____, Soil _____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>x</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>x</u>
Hydric Soil Present?	Yes _____ No <u>x</u>		
Wetland Hydrology Present?	Yes _____ No <u>x</u>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover			_____	
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover			_____	
Herb Stratum (Plot size: 10 ft²)				
1. <u>Hypochaeris glabra</u>	<u>60</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Vulpia myuros</u>	<u>30</u>	<u>Yes</u>	<u>FACU*</u>	
3. <u>Lolium perenne</u>	<u>20</u>	<u>Yes</u>	<u>FAC*</u>	
4. <u>Hordeum hystrix</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
5. <u>Bromus mollis</u>	<u>10</u>	<u>No</u>	<u>FACU-</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover			<u>130</u>	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover			_____	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			
Hydrophytic Vegetation Present? Yes _____ No <u>x</u>				
Remarks:				

SOIL

Sampling Point: _____ 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8+	10YR 3/3	99	10YR 5/6	1	C	PL	loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	
Type: _____	
Depth (inches): _____	
Hydric Soil Present?	Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

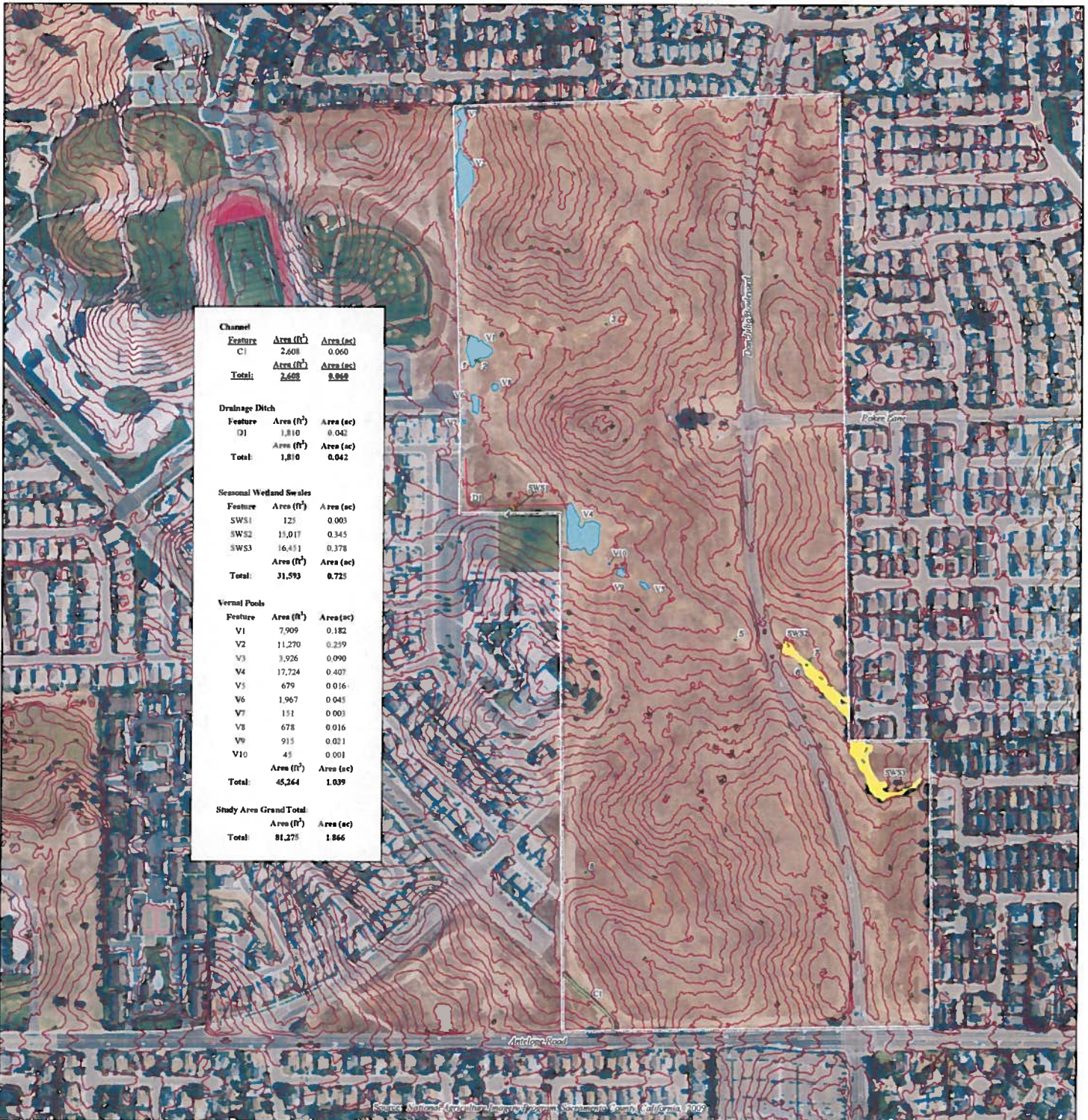
Field Observations:		Wetland Hydrology Present?
Surface Water Present? Yes _____ No _____	Depth (inches): _____	Yes _____ No X
Water Table Present? Yes _____ No _____	Depth (inches): _____	
Saturation Present? Yes _____ No _____	Depth (inches): _____	
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 * No standing water
 * No saturation
 * No algal matting

APPENDIX B

DELINEATION MAP

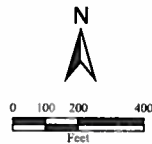


Channel			
Feature	Area (ft ²)	Area (ac)	
CI	2,608	0.060	
Total:	2,608	0.060	
Drainage Ditch			
Feature	Area (ft ²)	Area (ac)	
D1	1,810	0.042	
Total:	1,810	0.042	
Seasonal Wetland Swales			
Feature	Area (ft ²)	Area (ac)	
SW1	125	0.003	
SW2	15,017	0.345	
SW3	16,451	0.378	
Total:	31,593	0.725	
Vernal Pools			
Feature	Area (ft ²)	Area (ac)	
V1	7,909	0.182	
V2	11,270	0.259	
V3	3,926	0.090	
V4	17,724	0.407	
V5	679	0.016	
V6	1,967	0.045	
V7	151	0.003	
V8	678	0.016	
V9	915	0.021	
V10	45	0.001	
Total:	45,264	1.039	
Study Area Grand Total			
Feature	Area (ft ²)	Area (ac)	
Total:	81,275	1.866	

Source: National Aerial Photography Program Sacramento County, California, 2009

**Revised
Jurisdictional Delineation
Barrett Ranch East
Sacramento County, California**

- Data Point
- Vernal Pool
- Channel
- Seasonal Wetland Swale
- Drainage Ditch
- Study Area Boundary (+/-127 acres)



Prepared For:

Gerald Enterprises, LP
P.O. Box 60825
Sacramento, California 95860

2011 Per: Chris Brink, Sr. or CSR
Interpretation & Mapping



Prepared By: M. Hirkala

Prepared Date: June 1, 2011

Date Revised: July 21, 2011

Aerial Photo: July 2009

APPENDIX C

VERIFICATION LETTER



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2822

REPLY TO
ATTENTION OF

August 3, 2011

Regulatory Division SPK-2011-00720

Ms. Janet Barrett
P.O. Box 60825
Sacramento, California 95860

Dear Ms. Barrett:

We are responding to your consultants June 30, 2011 request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Barrett Ranch East site. The approximately 127-acre site is located north of Antelope Road, and is bisected by Don Julio Boulevard, within Section 20, Township 10 North, Range 6 East, Mount Diablo Meridian, Latitude 38.70912° North, Longitude 121.34817° West, in Antelope, Sacramento County, California.

Based on available information, we concur with the estimate of potential waters of the United States, as depicted on the Revised July 21, 2011 *Revised Jurisdictional Delineation Barrett Ranch East* drawing prepared by Gibson & Skordal, LLC. The approximately 1.866 acres of wetlands or other water bodies present, including 0.060 acre of channel, 0.042 acre of drainage ditch, 0.725 acre of seasonal wetland swales, and 1.039 acres of vernal pools, within the survey area may be jurisdictional waters of the United States. These waters may be regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed. Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal (RFA) form is enclosed to notify you of your options with this determination. This

determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2011-00720 in any correspondence concerning this project. If you have any questions, please contact me at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814-4708, email *Lisa.M.Gibson2@usace.army.mil*, or telephone 916-557-5288. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

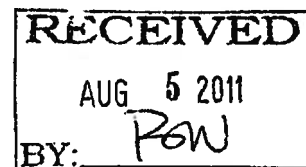
ORIGINAL SIGNED

Lisa M. Gibson
Senior Project Manager
California Delta Branch

Enclosure

Copies Furnished without enclosures:

- ✓ Mr. James Gibson, Gibson & Skordal, LLC., 2277 Fair Oaks Boulevard, Suite 105, Sacramento, California 95825
- Ms. Kellie Berry, Sacramento Valley Branch, Endangered Species Division, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901
- Mr. Paul Jones, U.S. Environmental Protection Agency, Region IX, Wetlands Regulatory Office (WTR-8), 75 Hawthorne Street, San Francisco, California 94105-3901
- Ms. Elizabeth Lee, Storm Water and Water Quality Certification Unit, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
- Mr. Kent Smith, California Department of Fish and Game, Region 2, 1701 Nimbus Road, Rancho Cordova, California 95670-4599
- Mr. Bill Orme, Chief, Water Quality Certification Unit, State Water Resources Control Board, 1001 I Street, Sacramento CA 95814-2828



Listed Wet-Season Branchiopod Survey 90-Day Report



Barrett Ranch East



Gibson & Skordal, LLC
WETLAND CONSULTANTS

2617 K Street, Suite 175
Sacramento, California 95816

Listed Wet-Season Branchiopod Survey 90-Day Report

Barrett Ranch East

Sacramento County, California

April 2013

Prepared For:

Gerald Enterprises, LP
P.O. Box 60825
Sacramento, California 95860



Prepared By:

Gibson & Skordal, LLC
WETLAND CONSULTANTS
2617 K Street, Suite 175
Sacramento, California 95816

OBJECTIVE

This report summarizes the results of protocol surveys for listed vernal pool branchiopods conducted on the Barrett Ranch East parcel during the 2012-13 wet-season. Survey target species included the federally endangered conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), and vernal pool tadpole shrimp (*Lepidurus packardi*), as well as the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*). Field surveys were conducted by Matt Hirkala under the authorization of the U.S. Fish and Wildlife Service (FWS) pursuant to Endangered/Threatened Species Take Permit No. PRT-195306. Authorization to conduct surveys was issued by FWS in an e-mail to this office on October 18, 2012 (U.S. Fish and Wildlife Service reference number 2012-TA-0098).

LOCATION

The approximately 127-acre study area is located in Section 20, Township 10 North, Range 6 East, MDB&M, (UTM 643,845 M E/4,285,628 M N; Zone 10 North). The study area is portrayed on the USGS Citrus Heights, California 7.5-Minute Series Topographic Quadrangle. Figure 1 is a vicinity map.

METHODS AND MATERIALS

Field surveys began on December 13, 2012, and were conducted approximately every two weeks until April 17, 2013, in accordance with the terms and conditions outlined in the FWS vernal pool crustacean survey guidelines dated April 1996, and the special terms and conditions of Endangered/Threatened Species Take Permit No. PRT-195306. All target water features were dry by the final sample date or had been continuously ponded for more than 120 days.

The surveyed features were sampled with a 5-foot long dip net with 650 micron mesh. Representative portions of a given feature's bottom, edges, and vertical water column were sampled for target branchiopods. Sampling involved making a series of pulls by extending the net out and pulling it back in a sweeping motion. The net was examined for the presence of branchiopods and then cleaned of debris between pulls. The number of pulls made in each seasonal wetland was commensurate to feature size and ponding depth. In addition, the survey wetlands were visually scanned for the presence of branchiopods prior to each net pull. Air temperature, water temperature, and approximate maximum depth of ponding was measured and recorded during each sampling session. Abundance categories were assigned in an attempt to quantify species concentration within a given feature. They are as follows: Low (L) indicates

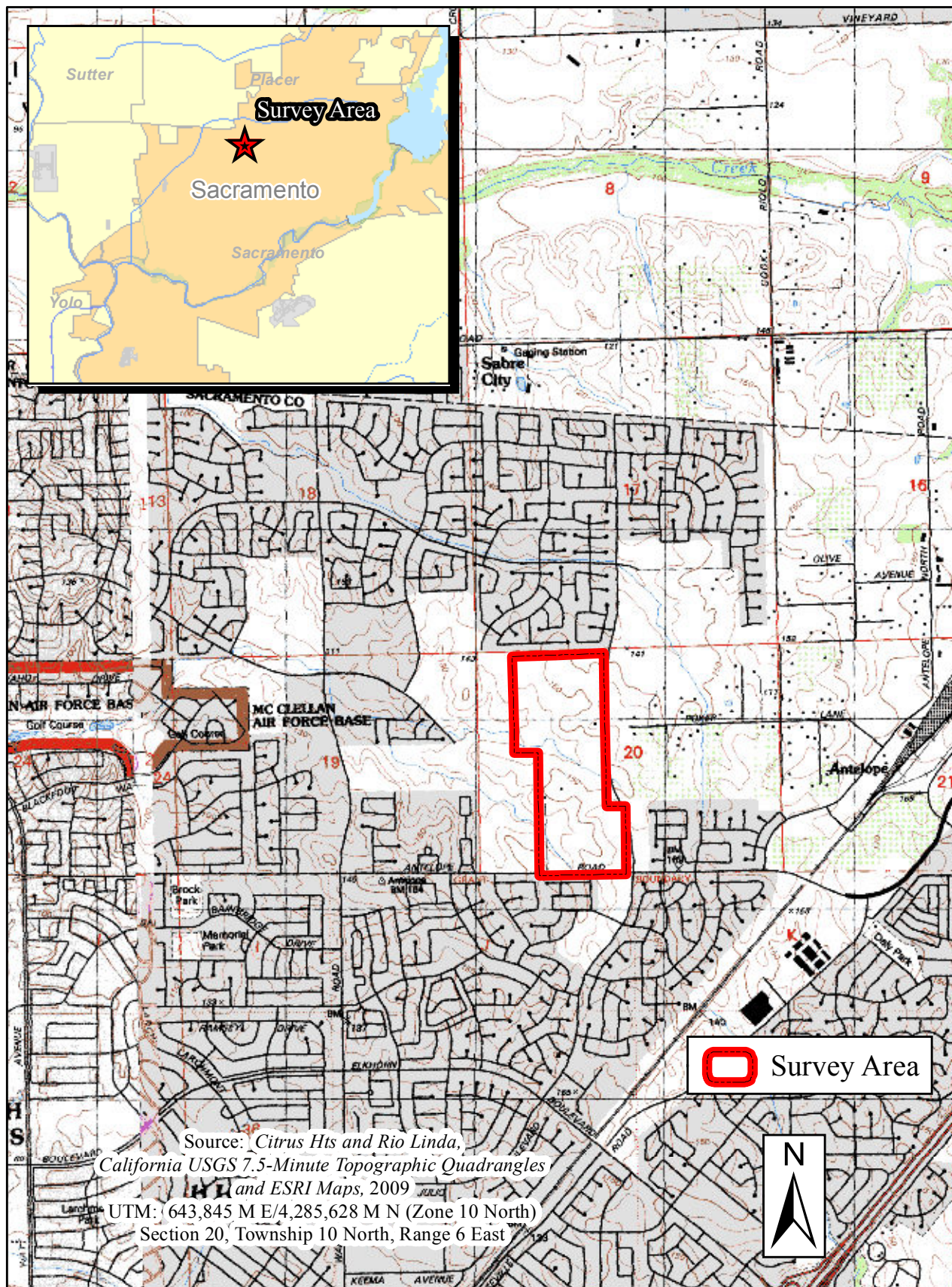


Figure 1
 Vicinity Map

less than 1 individual per net pull; Medium (M) indicates 1 to 4 individuals per net pull; and High (H) indicates 5 or greater individuals per net pull. Appendix A contains data sheets with the above described field data.

GENERAL SITE CONDITIONS AND HABITAT

The study area is situated on ruderal grasslands surrounded by commercial and residential developments. The study area consists of gently hilly to undulating terrain that drains to the west. The study area elevation ranges from approximately 120 feet to 155 feet above sea level. Historical land uses included livestock grazing, and portions of the property have been disked in recent years. Don Julio Boulevard bisects the property across the easternmost section of the survey area from north to south. The majority of the site was disked prior to the first sample session.

The western portion of the property is marked by low terraces that support annual grassland habitat that is usually dominated by yellow star-thistle (*Centaurea solstitialis*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), little quaking grass (*Briza minor*), and toad rush (*Juncus bufonius*). Other common species include Lemmon's canary grass (*Phalaris lemmonii*), rusty popcorn flower (*Plagiobothrys nothofulvus*), filaree (*Erodium* sp.), soft chess (*Bromus hordeaceus*), loosestrife (*Lythrum hyssopifolia*), and Italian rye grass (*Lolium multiflorum*).

The eastern portion of the property is marked by undulating hills and swales that support annual grassland habitat dominated by star-thistle, wild oats, rip-gut brome, vetch, and toad rush. Other common species include Lemmon's canary grass, rusty popcorn flower, filaree, soft chess, loosestrife, and Italian rye grass. Trees mainly occur along a wetland swale in the easternmost section of the property and consist of black willow (*Salix gooddingii*).

SURVEYED WETLANDS

A wetland delineation was performed within the survey area in June 2011 by Gibson & Skordal, LLC and subsequently verified by the U.S. Army Corps of Engineers Regulatory Division on August 3, 2011 (Corps Action ID SPK-2011-00720). A total of 1.866 acres of wetlands/waters are present including 1.039 acres of vernal pools and 0.725 acre seasonal wetland swales. Ten vernal pools were mapped in the study area, most of which are located along the eastern edge of

the study area. Vernal pools are wetlands that sustain long-term ponding and/or saturated soil conditions during and following periods of heavy precipitation in the winter and early spring. Additional water is provided by surface sheet flow and subsurface discharge onto the perched water-tables or impermeable surfaces which underlie vernal pools. The vernal pools are located along the western property boundary in the northern half of the site. Observed plant species included stalked popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus alveolatus*), rabbit foot grass (*Polypogon monspeliensis*), and seaside barley (*Hordeum marinum*). Appendix B contains the verified delineation map which includes an inset acreage table.

Though the wetland delineation categorized three water features as seasonal wetland swales, these features do not represent branchiopod habitat. SWS1 is situated on the edge of an earthen pad constructed as part of the elementary school playground and is oriented at an angle too steep to allow ponding. SWS2 and SWS3, which receive yard runoff throughout the summer and fall from the large housing developments to the east, lack the appropriate ephemeral hydrology necessary to support the target branchiopod species.

FINDINGS

No target branchiopod species were found within the surveyed features. Appendix C contains photographic documentation of representative landscapes and habitats in the survey area.

REFERENCES

Eng. L.L., D. Belk, and C.H. Erikson. 1990. California Anostraca: Distribution, Habitat and Status. *Journal of Crustacean Biology* 10(2): 247-277.

Eriksen, C.H., and D. Belk. 1999. *Fairy Shrimps of California's Puddles, Pools, and Playas*. Mad River Press, Inc., Eureka, California.

Hickman, J.C. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley and Los Angeles, California.

Mason, H.L. 1957. *A Flora of the Marshes of California*. University of California Press, Berkeley and Los Angeles, California.

Munz, P.A. 1973. A California Flora and Supplement. University of California Press, Berkeley and Los Angeles, California.

Patton, S.E. 1984. The Life History Patterns and the Distribution of Two Anostraca, *Linderiella occidentalis* and *Branchinecta sp.* MS Thesis, California University, Chico. 50 pp.

United States Department of the Interior, Fish and Wildlife Service. 1999. Endangered Species Take Permit No. TE-795935-3. November 2003.

United States Department of the Interior, Fish and Wildlife Service. April 1996. Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a) (1) (A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.

APPENDIX A

DATA SHEETS



Gibson & Skordal, LLC
WETLAND CONSULTANTS

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
D1	12/13/12	partly cloudy	16	15	4	100	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	12/13/12	partly cloudy	15	15	18	100	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	12/13/12	partly cloudy	15	15	16	100	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	12/13/12	partly cloudy	15	15	8	100	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	12/13/12	partly cloudy	15	15	16	100	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	12/13/12	partly cloudy	16	16	3	100	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	12/13/12	partly cloudy	16	15	6	100	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	12/13/12	partly cloudy	16	15	4	100	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	12/13/12	partly cloudy	16	15	6	100	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	12/13/12	partly cloudy	16	15	10	100	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	12/13/12	partly cloudy	15	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
D1	12/27/12	partly cloudy	11	10	5	100	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	12/27/12	partly cloudy	10	10	20	100	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	12/27/12	partly cloudy	10	10	20	100	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	12/27/12	partly cloudy	10	10	12	100	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	12/27/12	partly cloudy	11	10	18	100	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	12/27/12	partly cloudy	10	10	6	100	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	12/27/12	partly cloudy	10	10	7	100	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
V7	12/27/12	partly cloudy	10	10	5	100	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	12/27/12	partly cloudy	10	10	7	100	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	12/27/12	partly cloudy	10	10	12	100	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	12/27/12	partly cloudy	10	10	10	100	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
D1	1/10/13	clear	10	10	5	100	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	1/10/13	clear	10	10	20	100	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	1/10/13	clear	10	10	20	100	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	1/10/13	clear	10	10	12	100	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	1/10/13	clear	10	10	17	100	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	1/10/13	clear	10	10	6	100	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	1/10/13	clear	10	10	7	100	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	1/10/13	clear	10	10	3	100	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	1/10/13	clear	10	10	7	100	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	1/10/13	clear	10	10	12	100	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	1/10/13	clear	10	10	2	100	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
D1	1/24/13	cloudy	15	15	2	20	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	1/24/13	cloudy	15	15	14	100	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	1/24/13	cloudy	15	15	14	100	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
V3	1/24/13	cloudy	15	15	8	100	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	1/24/13	cloudy	15	15	15	100	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	1/24/13	cloudy	15	15	3	15	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	1/24/13	cloudy	15	15	4	100	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	1/24/13	cloudy	15	15	6	100	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	1/24/13	cloudy	15	15	4	100	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	1/24/13	cloudy	15	15	4	100	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	1/24/13	cloudy	15	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
D1	2/7/13	rain	10	N/A	0	0	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	2/7/13	rain	10	10	13	90	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	2/7/13	rain	10	10	8	90	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	2/7/13	rain	10	10	3	60	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	2/7/13	rain	10	10	15	100	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	2/7/13	rain	10	N/A	0	0	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	2/7/13	rain	10	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	2/7/13	rain	10	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	2/7/13	rain	10	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	2/7/13	rain	10	N/A	0	0	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	2/7/13	rain	10	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
D1	2/21/13	clear	15	N/A	0	0	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	2/21/13	clear	15	15	12	80	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	2/21/13	clear	15	15	7	80	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	2/21/13	clear	15	N/A	0	0	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	2/21/13	clear	15	15	12	80	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	2/21/13	clear	15	N/A	0	0	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	2/21/13	clear	15	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	2/21/13	clear	15	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	2/21/13	clear	15	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	2/21/13	clear	15	N/A	0	0	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	2/21/13	clear	15	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
D1	3/7/13	clear	16	N/A	0	0	1,810								Fallow	Agricultural Field	38.7041647108/-121.349760024	Matt Hirkala	
V1	3/7/13	clear	16	16	5	10	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	3/7/13	clear	16	15	5	20	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	3/7/13	clear	16	N/A	0	0	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	3/7/13	clear	16	15	6	35	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	3/7/13	clear	16	N/A	0	0	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	3/7/13	clear	16	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
V7	3/7/13	clear	16	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	3/7/13	clear	16	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	3/7/13	clear	16	N/A	0	0	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	3/7/13	clear	16	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
V1	3/14/13	clear	12	N/A	0	0	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	3/14/13	clear	12	N/A	0	0	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	3/14/13	clear	12	N/A	0	0	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	3/14/13	clear	12	12	6	35	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	3/14/13	clear	12	N/A	0	0	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	3/14/13	clear	12	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	3/14/13	clear	12	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	3/14/13	clear	12	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	3/14/13	clear	12	N/A	0	0	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	3/14/13	clear	12	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
V1	3/21/13	overcast	25	N/A	0	0	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	3/21/13	overcast	25	N/A	0	0	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	3/21/13	overcast	25	N/A	0	0	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	3/21/13	overcast	25	26	12	75	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
V5	3/21/13	overcast	25	N/A	0	0	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	3/21/13	overcast	25	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	3/21/13	overcast	25	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	3/21/13	overcast	25	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	3/21/13	overcast	25	N/A	0	0	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	3/21/13	overcast	25	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
V1	4/3/13	clear	12	N/A	0	0	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	4/3/13	clear	12	N/A	0	0	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	
V3	4/3/13	clear	12	N/A	0	0	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	4/3/13	clear	12	12	8	60	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	4/3/13	clear	12	12	6	100	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	4/3/13	clear	12	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	4/3/13	clear	12	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	4/3/13	clear	12	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	4/3/13	clear	12	11	4	100	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	4/3/13	clear	12	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	
V1	4/17/13	clear	10	N/A	0	0	7,909								Fallow	Agricultural Field	38.7114944319/-121.351294995	Matt Hirkala	
V2	4/17/13	clear	10	N/A	0	0	11,270								Fallow	Agricultural Field	38.7134406092/-121.351445157	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

2012-13 WET-SEASON LISTED BRANCHIOPOD SURVEY

Barrett Ranch East
Sacramento County

Per. #: TE-195306
Citrus Hts, CA USGS 7.5 Min. Quad.
Sec. 20; T. 10 N.; R. 6 E.

Survey Pool	Sampling Date	Weather Conditions	Air Temp. (C)	Water Temp. (C)	Record. Depth (Inches)	Record. Surface Area (percent of est. max.)	Est. Max. Surface Area (sq. ft.)	BRLY	BRCO	BRME	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Collector	Voucher Specimens Collected?
V3	4/17/13	clear	10	N/A	0	0	3,926								Fallow	Agricultural Field	38.7140276961/-121.351463842	Matt Hirkala	
V4	4/17/13	clear	10	10	4	30	17,724								Fallow	Agricultural Field	38.7094283312/-121.349826558	Matt Hirkala	
V5	4/17/13	clear	10	N/A	0	0	679								Fallow	Agricultural Field	38.7088221331/-121.348930704	Matt Hirkala	
V6	4/17/13	clear	10	N/A	0	0	1,967								Fallow	Agricultural Field	38.7108949252/-121.351331416	Matt Hirkala	
V7	4/17/13	clear	10	N/A	0	0	151								Fallow	Agricultural Field	38.710695537/-121.351492781	Matt Hirkala	
V8	4/17/13	clear	10	N/A	0	0	678								Fallow	Agricultural Field	38.711074947/-121.351046609	Matt Hirkala	
V9	4/17/13	clear	10	N/A	0	0	732								Fallow	Agricultural Field	38.7089724621/-121.349269434	Matt Hirkala	
V10	4/17/13	clear	10	N/A	0	0	45								Fallow	Agricultural Field	38.7090719294/-121.349434964	Matt Hirkala	

Note: Branchinecta lynchi = BRLY; Branchinecta conservatio = BRCO; Branchinecta mesovallensis = BRME; Lepidurus packardii = LEPA; and Linderiella occidentalis = LIOC.

APPENDIX B

DELINEATION MAP



Gibson & Skordal, LLC
WETLAND CONSULTANTS

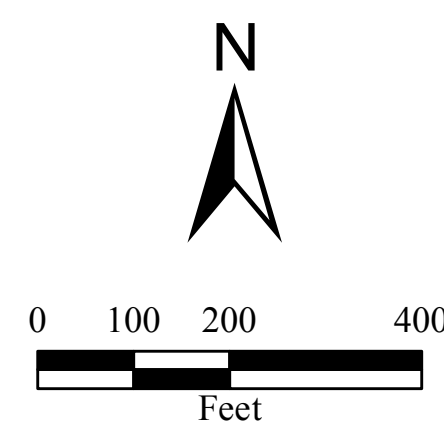


Channel		
Feature	Area (ft ²)	Area (ac)
C1	2,608	0.060
Total:	2,608	0.060
Drainage Ditch		
Feature	Area (ft ²)	Area (ac)
D1	1,810	0.042
Total:	1,810	0.042
Seasonal Wetland Swales		
Feature	Area (ft ²)	Area (ac)
SWS1	125	0.003
SWS2	15,017	0.345
SWS3	16,451	0.378
Total:	31,593	0.725
Vernal Pools		
Feature	Area (ft ²)	Area (ac)
V1	7,909	0.182
V2	11,270	0.259
V3	3,926	0.090
V4	17,724	0.407
V5	679	0.016
V6	1,967	0.045
V7	151	0.003
V8	678	0.016
V9	915	0.021
V10	45	0.001
Total:	45,264	1.039
Study Area Grand Total:		
Feature	Area (ft ²)	Area (ac)
Total:	81,275	1.866

Source: National Agriculture Imagery Program, Sacramento County, California, 2009

Revised Jurisdictional Delineation Barrett Ranch East Sacramento County, California

- Data Point
- Vernal Pool
- Channel
- Seasonal Wetland Swale
- Drainage Ditch
- Study Area Boundary (+/-127 acres)



Prepared For:
Gerald Enterprises, LP
P.O. Box 60825
Sacramento, California 95860

2277 Fair Oaks Blvd., Suite 105
Sacramento, CA 95825
www.gibsonandskordal.com
phone: 916-569-1830

Gibson & Skordal, LLC
WETLAND CONSULTANTS

Prepared By: M. Hirkala
Prepared Date: June 1, 2011
Date Revised: July 21, 2011
Aerial Photo: July 2009

APPENDIX C

DIGITAL PHOTOGRAPHS



Gibson & Skordal, LLC
WETLAND CONSULTANTS



V4 facing south (February 21, 2013).



V4 facing east (February 21, 2013).



V2 facing north (February 21, 2013).



V2 facing west (February 21, 2013).



V1 facing south from east edge of V2. (February 21, 2013).



General view north from north edge of V4 (February 21, 2013).



Gibson & Skordal, LLC

WETLAND CONSULTANTS

July 22, 2014

Mr. George Carpenter
Winn Communities
3001 I Street, Suite 300
Sacramento, California 95816

**Subject: Special-Status Plant Surveys, Barrett Ranch - Sacramento County,
California**

Dear Mr. Carpenter:

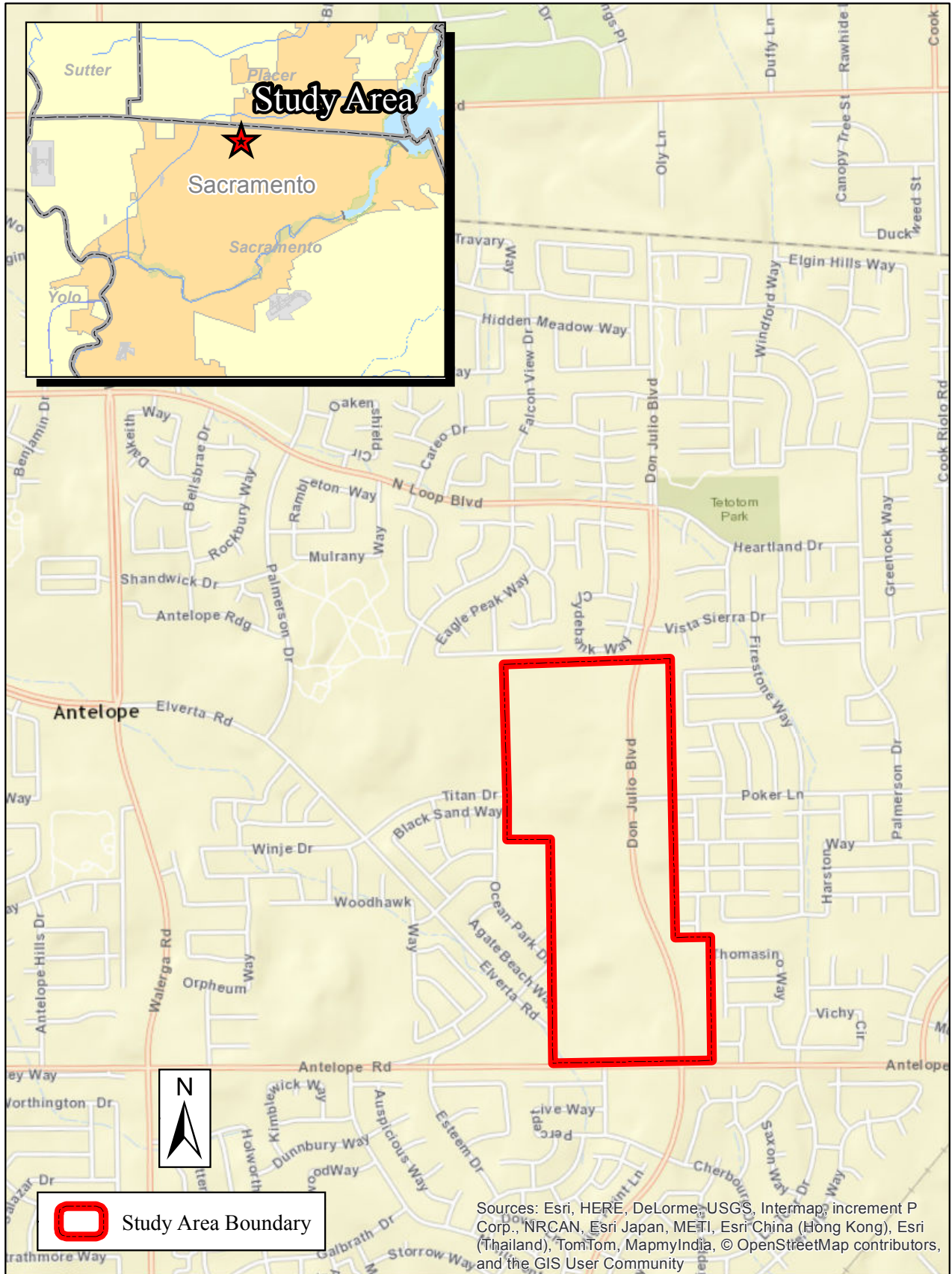
This report summarizes the results of a special-status plant survey conducted within the Barrett Ranch survey area.

LOCATION

The approximately 127-acre study area is located in Section 20, Township 10 North, Range 6 East, MDB&M, (UTM 643,845 meters Easting/4,285,628 meters Northing; Zone 10 North). The study area is portrayed on the USGS Citrus Heights, California 7.5-Minute Series Topographic Quadrangle. **Figure 1** is a vicinity map.

GENERAL SITE CONDITIONS AND HABITAT

The study area primarily consists of gently hilly to undulating non-native annual grasslands surrounded by commercial and residential developments. An elementary school directly abuts the site to the west, and Don Julio Boulevard bisects the property from north to south. The parcel elevation ranges from approximately 120 feet to 155 feet above sea level, and site in general drains to the west. Though historical land uses were agricultural in nature and included livestock pasturage and dry crops, the site has been fallow for the last several years. The majority of the site was disked last year. **Figure 2** is a map of the study area.





The property is characterized by low terraces and undulating hills that support non-native annual grasslands dominated by yellow star-thistle (*Centaurea solstitialis*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), little quaking grass (*Briza minor*), and toad rush (*Juncus bufonius*). Other common species include Lemmon's canary grass (*Phalaris lemmonii*), rusty popcorn flower (*Plagiobothrys nothofulvus*), filaree (*Erodium* sp.), soft chess (*Bromus hordeaceus*), loosestrife (*Lythrum hyssopifolia*), and Italian rye grass (*Festuca perennis*). Trees mainly occur along the periphery of the property and mostly consist of black willow (*Salix gooddingii*), live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), black locust (*Robinia pseudoacacia*), privet (*Ligustrum* sp.), almond (*Prunus dulcis*), and cottonwood (*Populus freemontii*), as well as several ornamentals.

A wetland delineation was performed within the survey area in June 2011 by Gibson & Skordal and subsequently verified by the U.S. Army Corps of Engineers Regulatory Division on August 3, 2011 (Corps Action ID SPK-2011-00720). Mapped habitat types included ten vernal pools, three seasonal wetland swales, one intermittent channel, and one ditch. All of the vernal pools are located along the western property boundary in the northern half of the site and consist of stalked popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus alveolatus*), rabbit foot grass (*Polypogon monspeliensis*), and seaside barley (*Hordeum marinum*).

The intermittent channel possesses a distinct bed and bank and ordinary high water mark. Vegetation consisted mostly of narrow-leaf cattail (*Typha angustifolia*), floating primrose (*Ludwigia peploides*), and manna grass (*Glyceria declinata*).

Though the wetland delineation categorized three water features as seasonal wetland swales, these represent highly disturbed habitats. One is situated on the edge of an earthen pad constructed as part of the elementary school playground and is oriented at an angle too steep to allow ponding. The remaining two, which receive yard runoff throughout the summer and fall from the large housing developments to the east, lack the natural ephemeral hydrology typically associated with seasonal wetland swales.

The drainage ditch is located along the eastern edge of the project site at the base of the fill pad for the adjacent school. This feature is earthen and is approximately 2-4 feet wide.

METHODOLOGY

Initially, a record search of the California Natural Diversity Database (CNDDDB) was conducted to list all documented sightings of special-status plants within ten miles of the site. Special-

status plant species include those officially listed by California or the federal government as endangered, threatened, or rare, as well as those proposed for formal state or federal listing as candidate species for listing as endangered, threatened, or rare. We also included those plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS); this includes species on Lists 1, 2, 3, and 4 of the CNPS Ranking System:

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

The CNPS Threat Rank is an extension that is added onto the CNPS List. It ranges from .1 to .3 and indicates the level of endangerment to the species with .1 representing the most endangered and .3 being the least endangered.

Table 1 lists the results of the CNDDDB special-status plant query including their listing status and habitat associations. **Figure 3** is an exhibit displaying CNDDDB occurrences of special-status plants within a 10-mile radius of the study area. The following is a summary of special status species and their habitats as they relate to the study area.

Field surveys were performed on May 28, 2014. Meandering transects were performed throughout the entire study area parcel on foot.

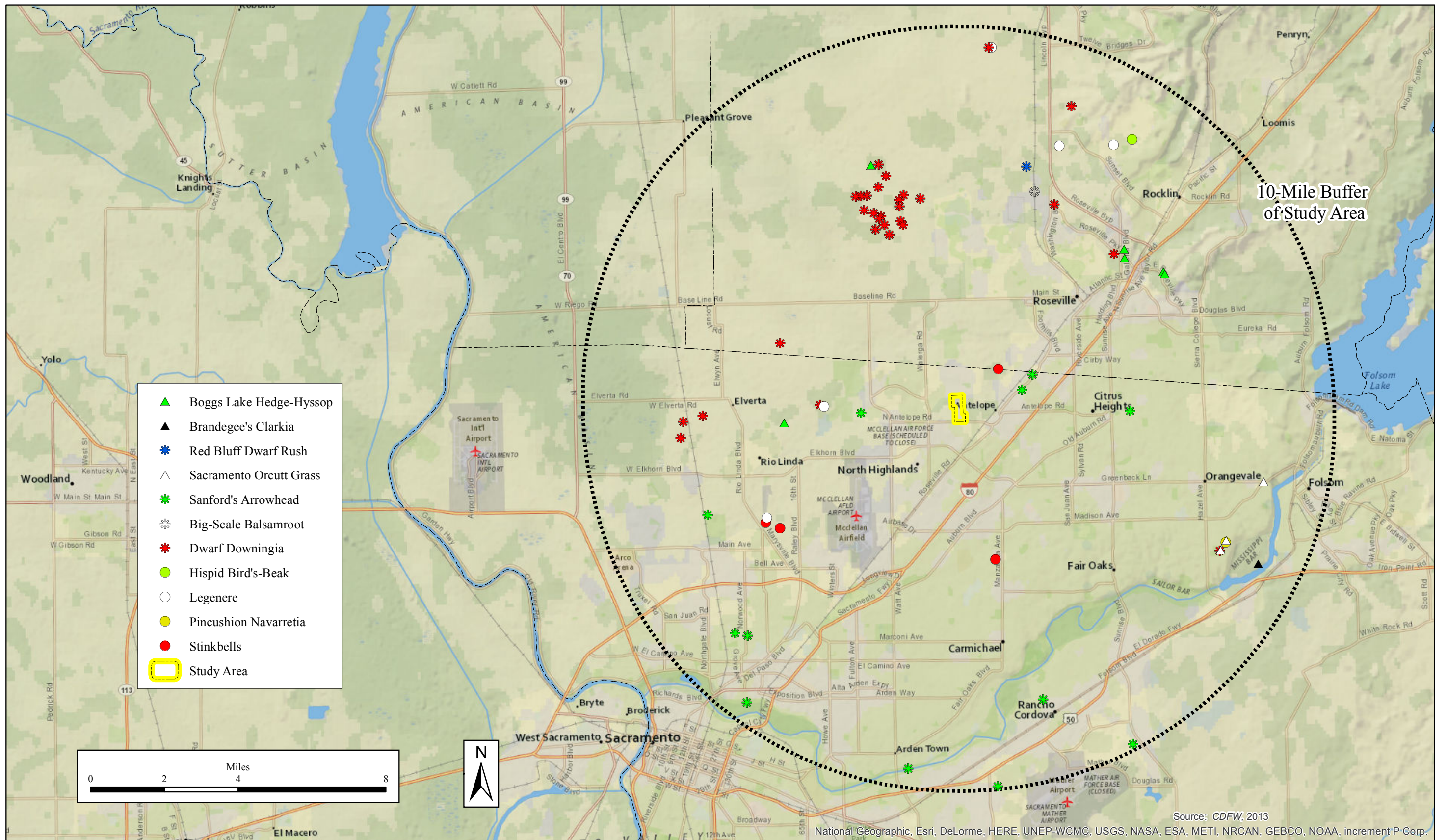
RESULTS AND DISCUSSION

Plants Associated with Vernal Pools and Other Wet Habitats

Special-status plant species associated with wet habitats identified by the CNDDDB as occurring in the search area include hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*), dwarf downingia (*Downingia pusilla*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), pin cushion navarretia (*Navarretia myersii* ssp. *myersii*), legenere (*Legenere limosa*), Sacramento orcutt grass (*Orcuttia viscida*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), and Sanford's arrowhead (*Sagittaria sanfordii*). Hispid bird's-beak favors meadows, playas, foothill and valley grasslands with damp alkaline soils. Pincushion navarretia, Sacramento orcutt grass,

**TABLE 1:
EVALUATION OF SPECIAL STATUS SPECIES HABITATS**

Scientific Name (Common Name)	Federal Status	State Status	CNPS Listing	Habitat Requirements	Bloom Date
<i>Balsamorhiza macrolepis</i> (big-scale balsamroot)	None	None	CNPS-1B.2	Prefers chaparral, cismontane woodland, and valley and foothill grasslands.	March to June
<i>Chloropyron molle</i> ssp. <i>hispidum</i> (hispid bird's-beak)	None	None	CNPS-1B.1	Meadows, playas, foothill and valley grasslands with damp alkaline soils.	June to September
<i>Clarkia biloba</i> ssp. <i>brandegeae</i> (Brandegee's clarkia)	None	None	CNPS-4.2	Chaparral and cismontane woodland, but may occur in foothill oak woodland and grassland.	May to July
<i>Downingia pusilla</i> (dwarf downingia)	None	None	CNPS-2B.2	Vernal pools and other seasonal wetlands.	March to May
<i>Fritillaria agrestis</i> (stinkbells)	None	None	CNPS-4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, non-native grasslands with heavy clay soils -- sometimes found on serpentine soils.	March to June
<i>Gratiola heterosepala</i> (Bogg's Lake hedge-hyssop)	None	Endangered	CNPS-1B.2	Vernal pools and margins of lakes/ponds	April to August
<i>Juncus leiospermus</i> var. <i>leiospermus</i> (Red Bluff dwarf rush)	None	None	CNPS-1B.1	Prefers meadows and seeps, vernal pools or other vernal mesic areas within cismontane woodland, and valley and foothill grasslands.	March to May
<i>Legenere limosa</i> (legenere)	None	None	CNPS-1B.1	Vernal pools and other seasonal wetlands.	April to June
<i>Navarretia myersii</i> ssp. <i>myersii</i> (pin cushion navarretia)	None	None	CNPS-1B.1	Vernal pools and other seasonal wetlands.	May
<i>Orcuttia viscida</i> (Sacramento orcutt grass)	Endangered	Endangered	CNPS-1B.1	Vernal pools and other seasonal wetlands.	April to July
<i>Sagittaria sanfordii</i> (Sanford's arrowhead)	None	None	CNPS-1B.2	Emergent freshwater marsh habitats including ponds, drainages, canals, or irrigation ditches.	Late May to August



dwarf downingia, and legenera are strongly associated with vernal pools or other seasonal wetlands. Bogg's Lake hedge-hyssop is found in vernal pools, but it also favors other shallow water habitats such as lake margins and marshes. Red Bluff dwarf rush occurs in vernal pools, but it is also found in the wetter portions of other habitats such as chaparral, cismontane woodland, meadows, seeps, and valley and foothill grasslands. Sanford's arrowhead generally occurs in or near standing or slow-moving drainages, canals, ditches, or ponds.

Habitat for hispid bird's-beak is not present in the study area. None of the remaining species were observed during the field survey.

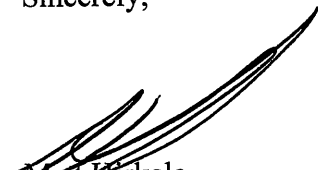
Special Status Plant Species Associated with Upland Habitats

Several other special status species plants, such as stinkbells (*Fritillaria agrestis*), big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), and Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*) have been recorded as occurring within ten miles of the study area. Stinkbells, so named because of its strong odor, is a species of lily commonly associated with non-native annual grasslands with heavy clay soils from 30 to 5,100 feet. It blooms from March to June and also favors other habitat types such as chaparral, cismontane woodland, and pinyon and juniper woodland. Stinkbells have also been documented on serpentine soils. Big-scale balsamroot is found in valley or foothill grasslands or cismontane woodland habitats; it sometimes is found on serpentine soils. Brandegee's clarkia is generally associated with chaparral and cismontane woodland, but is also documented in foothill oak woodland and grassland.

The study area lacks the habitat types for stinkbells and Brandegee's clarkia. Though potential habitat for big-scale balsamroot is present, no specimens were observed within the survey area during the site survey.

If you have any questions regarding this information, please contact me at (916) 822-3230 or mhirkala@gibsonandskordal.com.

Sincerely,



Matt Hirkala

Biologist/GIS Specialist

27039.00
Reports
File
⑥

SPECIAL STATUS SPECIES HABITAT ASSESSMENT

PLNP 2011 - 00156

RECEIVED

JAN 26 2012

PLANNING DEPT.
County of Sacramento

BARRETT RANCH EAST



Gibson & Skordal, LLC
WETLAND CONSULTANTS

2277 Fair Oaks Boulevard, Suite 105
Sacramento, California 95825

SPECIAL STATUS SPECIES HABITAT ASSESSMENT

BARRETT RANCH EAST

Sacramento County, California

October 2011

Prepared For:

Gerald Enterprises, LP
P.O. Box 60825
Sacramento, California 95860

Prepared By:



Gibson & Skordal, LLC

WETLAND CONSULTANTS

2277 Far Oaks Boulevard, Suite 105
Sacramento, California 95825

INTRODUCTION

This report presents the results of a special status species assessment for the below described Barrett Ranch East property.

LOCATION

The approximately 127-acre study area is located in Section 20, Township 10 North, Range 6 East, MDB&M, (UTM 643,845 M E/4,285,628 M N; Zone 10 North). The study area is portrayed on the USGS Citrus Heights, California 7.5-Minute Series Topographic Quadrangle. Figure 1 is a vicinity map.

SPECIAL STATUS SPECIES ASSESSMENT

This report summarizes our evaluation of the potential presence of special status species within the study area. The special status species evaluation considers those species identified as having relative scarcity and/or declining populations by the United States Fish & Wildlife Service (FWS) or California Department of Fish & Game (CDFG). Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for federal listing, and those classified as species of special concern by CDFG. We also included those species considered to be "special animals" or "fully protected" by the CDFG and those plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS); this includes species on Lists 1, 2, 3, and 4 of the CNPS Ranking System:

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

The CNPS Threat Rank is an extension that is added onto the CNPS List. It ranges from .1 to .3 and indicates the level of endangerment to the species with .1 representing the most endangered and .3 being the least endangered.

Also included are taxa meeting the criteria for listing under Section 15380 of the California Environmental Quality Act (CEQA) Guidelines. (Note that all CNPS List 1 and 2 and some List 3 species may fall under Section 15380 of CEQA.)

The study area was assessed for the potential presence of special status species. Initially, a record search of the California Natural Diversity Database (CNDDB) was conducted to list all documented sightings of special status species within ten miles of the site.

Table 1 provides a list of special status species that were evaluated including their listing status, habitat associations, and whether potential habitats occur in the study area. Appendix A contains an exhibit displaying CNDDB occurrences within a 10-mile radius of the study area. The following is a detailed summary of special status species and their habitats as they relate to the study area.

GENERAL SITE CONDITIONS AND HABITAT

Existing Field Conditions

The study area is situated on ruderal grasslands surrounded by commercial and residential developments at elevations ranging from approximately 120 to 155 feet above sea level. The study area drains to the west and consists of gently hilly to undulating terrain. Historically the site was utilized as livestock pasturage, and portions of the property have been disked in recent years. Don Julio Boulevard bisects the property across the easternmost section of the survey area from north to south.

The western portion of the property is marked by low terraces that support annual grassland habitat dominated by yellow star-thistle (*Centaurea solstitialis*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), little quaking grass (*Briza minor*), and toad rush (*Juncus bufonius*). Other common species include Lemmon's canary grass (*Phalaris lemmonii*), rusty popcorn flower (*Plagiobothrys nothofulvus*), filaree (*Erodium sp.*), soft chess (*Bromus mollis*), loosestrife (*Lythrum hyssopifolia*), and Italian rye grass (*Lolium multiflorum*).

The eastern portion of the property is marked by undulating hills and swales that support annual grassland habitat dominated by star-thistle, wild oats, rip-gut brome, vetch, and toad rush. Other common species include Lemmon's canary grass, rusty popcorn flower, filaree, soft chess, loosestrife, and Italian rye grass. Trees mainly occur along a wetland swale in the eastern most section of the property and consist of black willow (*Salix nigra*).

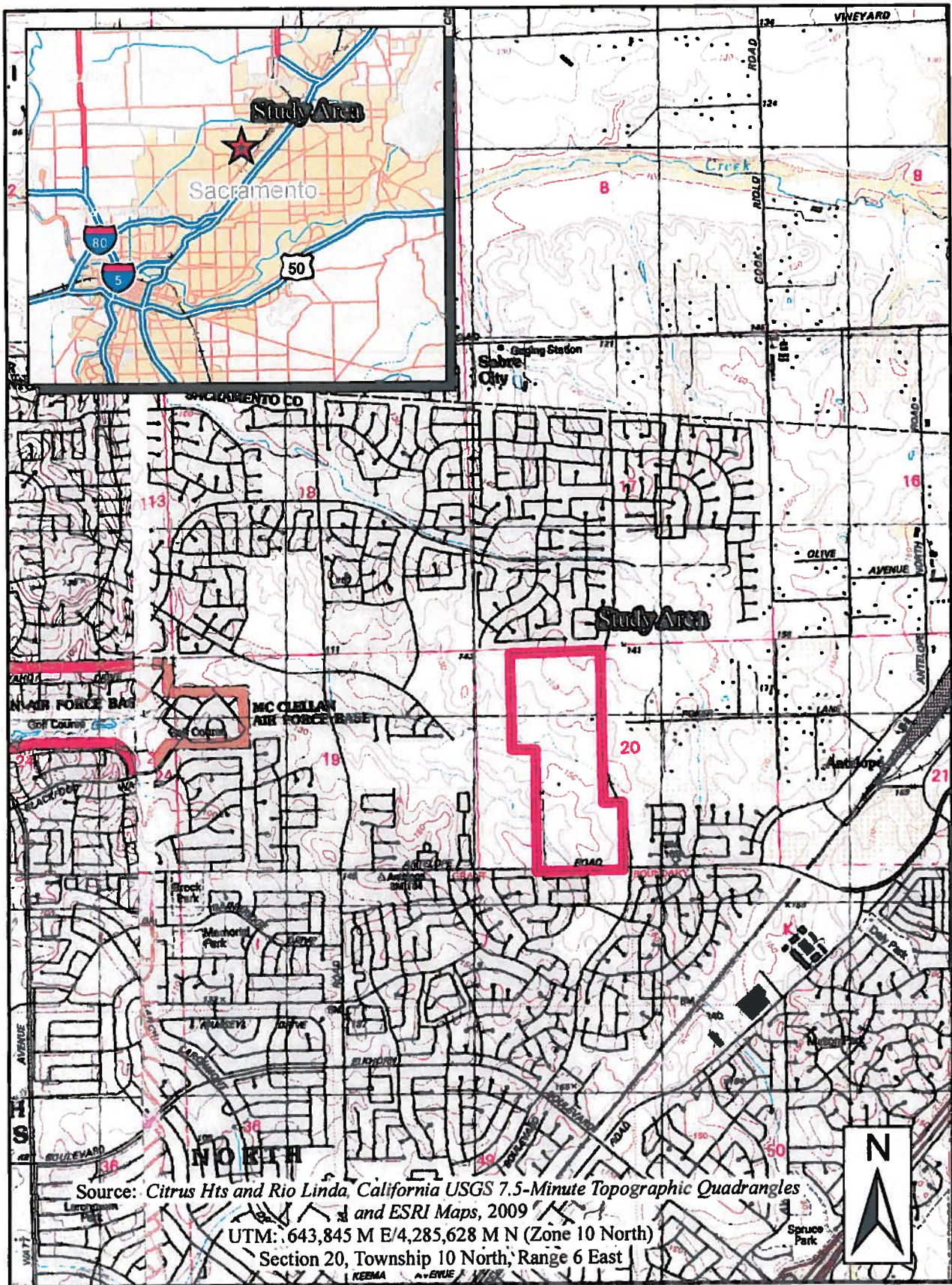


TABLE 1:
EVALUATION OF SPECIAL STATUS SPECIES HABITATS

	Federal Status	State Status	CNPS Listing	Habitat Association	Potential Habitat In Study Area
<i>Antrozous pallidus</i> (pallid bat)	None	Species of Special Concern		Roosts in rock outcrops, hollow trees, abandoned mines, barns, and attics.	Foraging habitat present
<i>Lasiorycteris noctivagans</i> (silver-haired bat)	None	CDFG-Special Animals		Roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. It forages in open wooded areas near water features.	Foraging habitat present
<i>Accipiter cooperi</i> (Cooper's hawk)	None	CDFG-Special Animals		Inhabits forested habitats, forest edge, and riparian habitat, may forage in adjacent grassland and fields.	Nesting and foraging habitat present
<i>Agelaius tricolor</i> (tricolored blackbird)	None	Species of Special Concern		Colonial nester in cattails, bulrush, or blackberries associated with wetland or drainage habitats.	Nesting and foraging habitat present
<i>Ardea alba</i> (great egret)	None	CDFG-Special Animals		Rivers, streams, lakes, marsh and other aquatic habitats.	Foraging habitat present
<i>Ardea herodias</i> (great blue heron)	None	CDFG-Special Animals		Rivers, streams, lakes, marsh and other aquatic habitats.	Foraging habitat present
<i>Athene cucularia</i> (burrowing owl)	None	Species of Special Concern		Nests in abandoned ground squirrel burrows associated with open grassland habitats.	Nesting and foraging habitat present
<i>Buteo Swainsoni</i> (Swainson's hawk)	None	Threatened		Nests in tall cottonwoods, valley oaks or willows. Forages in fields, cropland, irrigated pasture, and grassland often near riparian corridors.	Nesting and foraging habitat present
<i>Elanus leucurus</i> (white-tailed kite)	None	Fully Protected		Nests in riparian corridors along streams and rivers, and forages in nearby grasslands and fields.	Nesting and foraging habitat present
<i>Falco columbarius</i> (Merlin)	None	CDFG-Special Animals		It is not known to nest in California, but it is a winter transient throughout most of California with wintering populations in the Central Valley.	Foraging habitat present
<i>Phalacrocorax auritus</i> (double-crested cormorant)	None	CDFG-Special Animals		Nests in colonies on rocks, cliff, or in trees. It prefers open water habitats such as coastlines, ponds, rivers, lakes, estuaries, or lagoons.	Habitat not present
<i>Progne subis</i> (purple martin)	None	Species of Special Concern		Prefers open areas near bodies of water or wetlands. It is a colonial nester which utilizes cavities in trees, cliff faces, buildings.	Habitat not present

**TABLE 1:
EVALUATION OF SPECIAL STATUS SPECIES HABITATS**

	None	Threatened		Colonial nester in vertical cliffs and banks associated with riparian zones along streams, rivers, and lakes.	Habitat not present
<i>Riparia riparia</i> (bank swallow)	None	Threatened			Habitat not present
<i>Emys marmorata</i> (western pond turtle)	None	Species of Special Concern		Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	Habitat not present
<i>Spea hammondi</i> (western spadefoot toad)	None	Species of Special Concern		Breeds in vernal pools, seasonal wetlands and associated swales. Forages and hibernates in adjacent grasslands.	Habitat present
<i>Thamnophis gigas</i> (giant garter snake)	Threatened	Threatened		Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.	Habitat present
<i>Andrena subopasta</i> (No common name)	None	None		The life cycle of this bee is poorly understood. It is known to collect pollen from goldfields, sandwort, and butter and eggs, which are associated with vernal pools or grasslands.	Habitat present
<i>Branchinecta conservatio</i> (Conservancy fairy shrimp)	Endangered	None		Vernal pools or other seasonal wetlands.	Habitat present
<i>Branchinecta lynchi</i> (vernal pool fairy shrimp)	Threatened	None		Vernal pools or other seasonal wetlands.	Habitat present
<i>Branchinecta mesovallensis</i> (midvalley fairy shrimp)	None	None		Vernal pools or other seasonal wetlands.	Habitat present
<i>Desmoceris californicus</i> <i>dimorphus</i> (valley elderberry longhorn beetle)	Threatened	None		Dependent upon elderberry plant (<i>Sambucus mexicana</i>) as primary host species	No elderberries present, habitat not present
<i>Dumontia oregonensis</i> (hairy water flea)	None	None		Vernal pools.	Habitat present
<i>Hydrochara rickseckeri</i> (Ricksecker's water scavenger beetle)	None	None		Ponds, lakes, streams, rivers, vernal pools, and other freshwater features.	Habitat present
<i>Lepidurus packardii</i> (vernal pool tadpole shrimp)	Endangered	None		Vernal pools or other seasonal wetlands.	Habitat present
<i>Lindertiella occidentalis</i> (California linderiella)	None	None		Vernal pools or other seasonal wetlands.	Habitat present

**TABLE 1:
EVALUATION OF SPECIAL STATUS SPECIES HABITATS**

<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i> (big-scale balsamroot)	None	None	CNPS-1B.2	Prefers chaparral, cismontane woodland, and valley and foothill grasslands.	Habitat present
<i>Chloropyron molle</i> ssp. <i>hispidum</i> (hispid bird's-beak)	None	None	CNPS-1B.1	Meadows, playas, foothill and valley grasslands with damp alkaline soils.	Habitat not present
<i>Clarkia biloba</i> ssp. <i>brandegeae</i> (Brandegee's clarkia)	None	None	CNPS-1B.2	Generally associated with chaparral and cismontane woodland, but may occur in foothill oak woodland and grassland.	Habitat not present
<i>Downingia pusilla</i> (dwarf downingia)	None	None	CNPS-2.2	Vernal pools.	Habitat present
<i>Fritillaria agrestis</i> (stinkbells)	None	None	CNPS-4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, non-native grasslands with heavy clay soils -- sometimes found on serpentine soils.	Habitat not present
<i>Gratiola heterosepala</i> (Bogg's Lake hedge-hyssop)	None	Endangered	CNPS-1B.2	Vernal pools and margins of lakes/ponds	Habitat present
<i>Juncus leiospermus</i> var. <i>leiospermus</i> (Red Bluff dwarf rush)	None	None	CNPS-1B.1	Prefers meadows and seeps, vernal pools, cismontane woodland, and valley and foothill grasslands.	Habitat present
<i>Legenere limosa</i> (legenere)	None	None	CNPS-1B.1	Vernal pools.	Habitat present
<i>Navarretia myersii</i> ssp. <i>myersii</i> (pin cushion navarretia)	None	None	CNPS-1B.1	Vernal pools.	Habitat present
<i>Orcuttia viscida</i> (Sacramento orcutt grass)	Endangered	Endangered	CNPS-1B.1	Vernal pools.	Habitat present
<i>Sagittaria sanfordii</i> (Sanford's arrowhead)	None	None	CNPS-1B.2	Emergent marsh habitat, typically associated with drainages, canals, or irrigation ditches.	Habitat present

A wetland delineation was performed within the study area in June 2011 by Gibson & Skordal, LLC and subsequently verified by the U.S. Army Corps of Engineers Regulatory Division on August 3, 2011 (Corps Action ID SPK-2011-00720). A total of 1.866 acres of water features are present including 0.060 acre of intermittent channel, 0.042 acre of drainage ditch, 1.039 acres of vernal pools, and 0.725 acre seasonal wetland swales. Ten vernal pool wetlands are located along the western boundary in the northern half of the site while most of the seasonal wetland swales are situated along the lower eastern edge. Observed plant species within these wetland features included stalked popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus alveolatus*), rabbit foot grass (*Polypogon monspeliensis*), seaside barley (*Hordeum marinum*), Italian ryegrass (*Lolium multiflorum*), little quaking grass (*Briza minor*), and/or curly dock (*Rumex crispus*). The intermittent channel crosses the southwest corner of the study area. It possesses a distinct bed and bank with ordinary high water mark, and it generally supports little to no vegetation. The drainage ditch, which parallels part of the central western boundary, was constructed at the base of the fill pad for a public school that abuts the parcel to the west. This feature is earthen and is approximately 2-4 feet wide.

Hydrology within the study area is significantly influenced by drainage/run-off from the adjacent school and surrounding residential lands. Although the vernal pool wetlands are precipitation driven, the seasonal wetland swales in the eastern section of the project site receive nuisance water from the neighboring residential developments. The intermittent channel conveys nuisance water from residential developments located south of the study area while the ditch was constructed to drain run-off from the irrigated playing fields associated with adjacent school. Figure 2 is a map of the study area.

Mammals

Pallid Bat

Pallid bat (*Antrozous pallidus*) is a listed CDFG species of special concern. It favors roosting sites in crevices in rock outcrops, caves, hollow trees, abandoned mines, and human-made structures such as barns, attics, and sheds. Though pallid bats are gregarious, they tend to group in smaller colonies of 10 to 100 individuals. It is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which it seizes after landing.

Foraging habitat is present within the study area.

Silver-Haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is a listed CDFG special animal. Primarily considered a coastal and montane forest species, the silver-haired bat roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. This insectivore's favored foraging sites include open wooded areas near water features.

Foraging habitat is present within the study area.

Birds

Cooper's Hawk

Cooper's hawk (*Accipiter cooperi*), which is also known as the blue darter or chicken hawk, is a listed CDFG special animal. This raptor is an ambush predator that prefers to forage in or near wooded locations for birds, domestic poultry, and small mammals. Unlike falcons which use their beaks, Cooper's hawks subdue prey by continuously squeezing with talon-equipped feet. It has been observed on occasion drowning captured prey in water. This species prefers tree nesting in wooded areas typically 10 to 60 feet above ground level.

The study area contains suitable foraging and nesting habitats for this species.

Tricolored Blackbird

Tricolored blackbirds (*Agelaius tricolor*) are listed by CDFG as a species of special concern due to declining populations in the region. They are colonial nesters that favor dense stands of cattails and/or bulrush, but they also commonly utilize blackberry thickets associated with drainages, ditches, and canals. The closest recorded nesting colony is approximately 7.25 miles to the east near Strap Ravine.

The study area contains suitable foraging and nesting habitats for this species.

Great Egret

The great egret (*Ardea alba*) is listed by CDFG as a special animal. This bird usually forages alone in shallow open water and wetlands for fish, amphibians, and aquatic invertebrates. The species has recovered from historic persecution by plume hunters, but destruction of wetlands,



*Special Status Species Habitat Assessment
Barrett Ranch East
October 2011*

**Figure 2
Study Area**

especially in the West where colonies are few and widely scattered, poses a current threat. Great egrets prefer breeding habitat in or near open waters and wetlands.

Foraging habitat is present within the study area.

Great Blue Heron

The great blue heron (*Ardea herodias*) is listed by CDFG as a special animal. This wading bird forages in wetlands and shallow open waters for fish, aquatic invertebrates, small mammals, and amphibians. It usually nests in rookeries that are situated in wetlands or near open waters.

Foraging habitat is present within the study area.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a ground nesting raptor species that is afforded protection by CDFG as a species of special concern due to declining populations in the Great Central Valley of California. They typically inhabit open grasslands and nest in abandoned ground squirrel burrows, cavities associated with raised mounds, levees, or soft berm features. The nearest CNDDDB occurrence is located less than five mile northwest of the site.

The site contains foraging and nesting habitat.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species currently listed as threatened in California by the CDFG. Breeding pairs typically nest in tall cottonwoods, valley oaks, or willows associated with riparian corridors, grassland, irrigated pasture, and cropland with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter. Numerous occurrences of Swainson's hawk nesting sites are located within ten miles of the study area including one less than four miles to the north on Kaseberg Creek.

The site contains foraging and nesting habitat.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*), also known as black-shouldered kite, is a CDFG fully protected species. This non-migrating bird typically attains a wingspan of approximately 40 inches and feeds primarily on insects, small mammals, reptiles, and amphibians, which it forages from open grasslands. It builds a platform-like nest of sticks in trees or shrubs and lays 3 to 5 eggs, but may brood a second clutch if prey is abundant. The kite's distinct style of hunting includes hovering before diving onto its target.

Foraging and nesting habitats are present within the study area.

Merlin

The Merlin (*Falco columbarius*) is listed by CDFG as a special animal. Though it has never been observed nesting in California, it is a transient throughout most of the state. Wintering populations are known to occur in the Central Valley and along the coast.

Foraging habitat is present within the study area.

Double-Crested Cormorant

The double-crested cormorant (*Phalacrocorax auritus*) is listed by CDFG as a special animal. This diving aquatic bird is the most widespread cormorant in North America. It prefers open water habitats such as ponds, rivers, estuaries, lagoons, and open coastlines where it forages for fish, amphibians, and crustaceans. It constructs nests near water in colonies on cliffs, rocks, or in trees.

The study area does not contain suitable foraging and nesting habitats for this species.

Purple Martin

The purple martin (*Progne subis*) is a California species of special concern. This bird winters in South America and migrates to Mexico, the United States, and southern Canada to breed. It is a colonial nester and utilizes natural cavities such as hollow trees, cliffs, and abandoned woodpecker dens, though it also takes advantage of created nesting sites such as bird houses or gourds. It feeds on winged insects which it catches on the fly, and it prefers open areas near lakes, ponds, marshes or other water features.

The site lacks the suitable habitat to support this species.

Bank Swallow

The bank swallow (*Riparia riparia*) is a California threatened species. This bird nests in colonies of two or three pairs to a few thousand in vertical cliffs and banks associated with riparian zones, lakes, and streams. The species is known to colonize human-made vertical banks or building structures such as bridges.

The site lacks the suitable habitat to support this species.

Amphibians & Reptiles

Western Pond Turtle

The western pond turtle (*Emys marmorata*) is a California species of special concern. Its favored habitats include streams, large rivers and canals with slow-moving water, aquatic vegetation, and open basking sites. Although the turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals and some plants. Western pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks.

The necessary habitat is not present within the study area.

Western Spadefoot Toad

The western spadefoot toad (*Spea hamondii*) is a California species of special concern. It is a nocturnally active animal, and prefers to forage in grassland, scrub, and chaparral for a variety of invertebrates such as insects and worms. This species breeds from January to May in vernal pools, pools in ephemeral stream courses, and other fish-free water features. Females commonly lay more than 500 eggs in one season. The tadpoles develop in 3 to 11 weeks, and must complete their metamorphosis before the temporary pools dry.

The study area encompasses the appropriate habitat to support this species.

Giant Garter Snake

Giant garter snake (*Thamnophis gigas*) is designated as a federal threatened and state threatened species afforded special protection by FWS and CDFG. The snakes are generally associated with larger canals, irrigation ditches, and other semi-permanent to permanent aquatic sites with slow moving water and an abundance of emergent vegetation. The USGS Rio Linda, California 7.5-Minute Series Topographic Quadrangle, which begins approximately 1.4 miles to the west of the study area, contains several occurrences of giant garter snake. The location information for at least one of these occurrences has been suppressed by the California Department of Fish and Game.

Although the swale in the eastern portion of the study area contains marginal suitable habitat, there is no connectivity to known occurrences of giant garter snake.

Invertebrates

Bee (No Common Name)

This bee (*Andrena subapasta*) is not a state or federal listed species; however, it has been assigned a State Ranking code of S3 meaning that 21 to 100 elemental occurrences or 3,000 to 10,000 individuals have been identified within the state. This species is known to collect pollen from sandwort (*Arenaria sp.*), butter and eggs (*Triphysaria erianthus*), and goldfields (*Lasthenia sp.*) which grow in vernal pools or adjacent grasslands. Though its life cycle is poorly understood, other bees of this genus are solitary and burrow into the ground to cache collected pollen and lay eggs.

The study area encompasses the appropriate habitat to support this species.

Vernal Pool Branchiopods

The record search lists several occurrences of the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) as well as the non-listed California linderiella (*Linderiella occidentalis*) as occurring within ten miles of the study area. Due to the dearth of distribution information and/or the high potential for listing, we also included the federally endangered Conservancy fairy shrimp (*Branchinecta conservatio*) as well as the non-listed midvalley fairy shrimp (*Branchinecta mesovallensis*) in our special status species habitat assessment even though none are listed as occurring in the area of interest. These species exclusively inhabit vernal pools or other

seasonally ponded wetlands that sustain inundation during the winter before drying in the late spring

The vernal pools provide potential habitat for all of the above species.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federal threatened insect that is dependent upon the elderberry plant (*Sambucus sp.*) as a primary host species. Elderberry shrubs are a common component of riparian areas throughout the Sacramento Valley region.

The study area does not provide the necessary elderberry shrub habitat needed to support the valley elderberry longhorn beetle.

Hairy Water Flea

Hairy water flea (*Dumontia oregonensis*) is not a state or federal listed species; however, it has been assigned a State Ranking code of S1 meaning that less than six elemental occurrences or less than 1,000 individuals have been identified within the state. The habits of this poorly understood species have not been thoroughly documented, though they are associated with vernal pools. In California specimens have only been observed within the confines of Travis Air Force Base and Mather Field.

The study area vernal pools potentially represent the appropriate habitat for this species.

Ricksecker's Water Scavenger Beetle

This aquatic beetle (*Hydrochara rickseckeri*) is not a state or federal listed species; however, it has been assigned a State Ranking code of S1S2 meaning that <6 to 20 elemental occurrences or <1,000 to 3,000 individuals have been identified within the state. The habits of this poorly understood species have not been thoroughly documented. They are believed to be scavengers and metamorphose from a predacious larval stage. This species favors shallow, weedy freshwater habitats such as vernal pools, lakes, ponds, and slow moving streams. It is capable of flight, but its dispersal capabilities are not well understood.

The study area encompasses the appropriate habitat to support this species.

Plants

Plants Associated with Vernal Pools and Other Wet Habitats

Special status plant species identified by CNDDDB as occurring in the search area include hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*), dwarf downingia (*Downingia pusilla*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), pin cushion navarretia (*Navarretia myersii* ssp. *myersii*), legenere (*Legenere limosa*), Sacramento orcutt grass (*Orcuttia viscida*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), and Sanford's arrowhead (*Sagittaria sanfordii*). Hispid bird's-beak favors meadows, playas, foothill and valley grasslands with damp alkaline soils. Pincushion navarretia, Sacramento orcutt grass, dwarf downingia, and legenere are strongly associated with vernal pools or other seasonal wetlands. Bogg's Lake hedge-hyssop is found in vernal pools, but it also favors other shallow water habitats such as lake margins and marshes. Red Bluff dwarf rush occurs in vernal pools, but it is also found in the wetter portions of other habitats such as chaparral, cismontane woodland, meadows, seeps, and valley and foothill grasslands. Sanford's arrowhead generally occurs in or near standing or slow-moving drainages, canals, ditches, or ponds.

The study area contains potential habitat for all of the above species except hispid bird's-beak.

Other Special Status Plant Species

Several other special status species plants, such as stinkbells (*Fritillaria agrestis*), big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), and Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*) have been recorded as occurring within ten miles of the study area. Stinkbells, so named because of its strong odor, is a species of lily commonly associated with non-native annual grasslands with heavy clay soils from 30 to 5,100 feet. It blooms from March to June and also favors other habitat types such as chaparral, cismontane woodland, and pinyon and juniper woodland. Stinkbells have also been documented on serpentine soils. Big-scale balsamroot is also found in valley or foothill grasslands or cismontane woodland habitats; it sometimes is found on serpentine soils. Brandegee's clarkia is generally associated with chaparral and cismontane woodland, but is also documented in foothill oak woodland and grassland.

The study area supports the habitat types for all of the above plants species except stinkbells and Brandegee's clarkia.

SUMMARY OF SPECIAL STATUS SPECIES HABITAT ASSESSMENT

Based on the presence of suitable habitat, the following species may occupy the study area: pallid bat, silver-haired bat, Cooper's hawk, tricolored blackbird, great egret, great blue heron, burrowing owl, Swainson's hawk, white-tailed kite, Merlin, western spadefoot toad, giant garter snake, *Andrena subapasta*, Conservancy fairy shrimp, vernal pool fairy shrimp, midvalley fairy shrimp, hairy water flea, Ricksecker's water scavenger beetle, vernal pool tadpole shrimp, California linderiella, big-scale balsamroot, dwarf downingia, Bogg's Lake hedge-hyssop, Red Bluff dwarf rush, legenera, pin cushion navarretia, Sacramento orcutt grass, and Sanford's arrowhead.

If future development of the study area will occur during the raptor nesting season, which extends from February to September, we recommend that a pre-construction nesting survey be completed within two weeks of the start of work.

APPENDIX A

CNDDDB OCCURRENCES MAP



Gibson & Skordal, LLC
WETLAND CONSULTANTS

⑦

WETLAND PRESERVATION / COMPENSATION PLAN

RECEIVED

JAN 26 2012

PLANNING DEPT.
County of Sacramento

PLNP 2011 - 00156

Barrett Ranch East

***Sacramento County,
California***

January 2012

Prepared For:

***GERALD ENTERPRISES, LP
PO Box 60825
Sacramento, CA 95860***

Prepared By:

***GIBSON & SKORDAL, LLC
Wetland Consultants
2277 Fair Oaks Blvd., Suite 105
Sacramento, California 95825***

INTRODUCTION

This report provides a discussion of the proposed project and its wetland/waters impacts and mitigation measures. Also included is a discussion of long term measures to protect preserved wetlands.

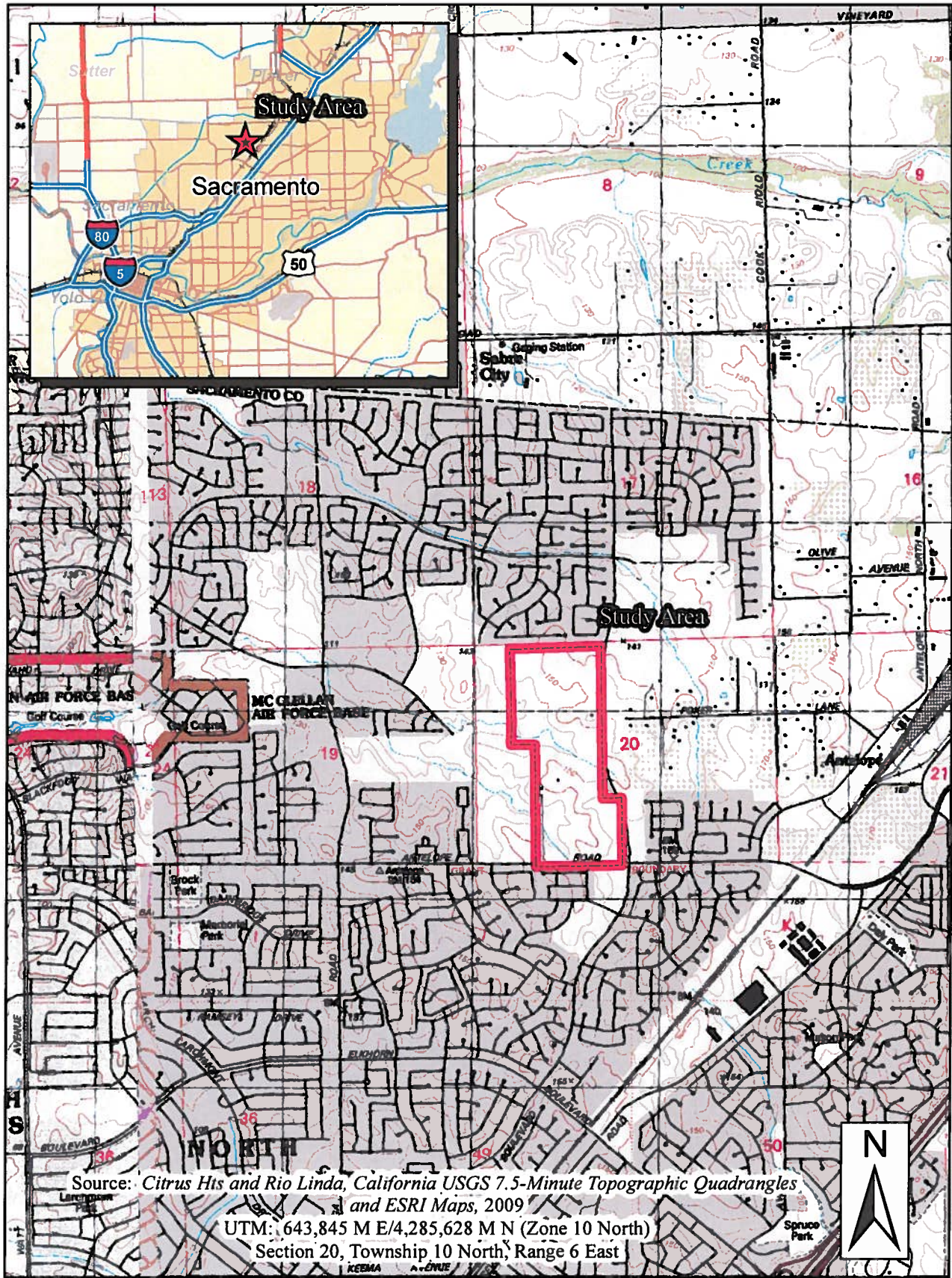
PROJECT LOCATION

The 126.5-acre property is located on the north side of Antelope Road, and along the east and west side of Don Julio Boulevard, in the Antelope community. Figure 1 is a Vicinity Map.

PROJECT DESCRIPTION

The following is being proposed within the project area. An illustrative land use plan is included in Appendix A.

1. A General Plan Amendment to reconfigure the land use designations of approximately 126.5 acres with the following land uses Low Density Residential, Medium Density Residential and Commercial and Offices (C & O).
2. A Community Plan Amendment to change the land use designations of approximately 126.5 acres from RD-7, SPA (Special Planning Area), AR-1, RD-10, to RD-7, RD-10, RD-20, RD-25, SC, and "O".
3. A Rezone to change the land use designations of approximately 126.5 acres from UR (Urban Reserve), SPA (Special Planning Area), AR-2, to RD-7 , RD-10, RD-20, RD-25, SC, and "O".
4. A large lot Tentative Parcel Map to divide approximately 116.5 acres into 4 large lot parcels.
5. An Affordable Housing Plan consisting of "rezone only" provisions for future affordable housing requirements.



GENERAL SITE CONDITIONS AND HABITAT

Existing Field Conditions

The site is situated on undeveloped ruderal grasslands surrounded by development. The site is bordered by residential development to the north and east, commercial and residential development to the south, and public school yards and residential development to the west. The site consists of gently hilly to undulating terrain that drains to the west. The elevation ranges from a low of approximately 120 feet above sea level to a high of approximately 155 feet above sea level. Historical land uses included livestock grazing. Portions of the property have been disked in recent years. Presently, it is almost entirely represented by annual grassland. Don Julio Boulevard bisects the property across the easternmost section of the site (running north to south).

Plant Communities and Habitat Types

The western portion of the property is marked by low lying terraces that support annual grassland habitat dominated by yellow star-thistle (*Centaurea solstitialis*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), little quaking grass (*Briza minor*), and toad rush (*Juncus bufonius*). Other common species include Lemmon's canary grass (*Phalaris lemmonii*), rusty popcorn flower (*Plagiobothrys nothofulvus*), filaree (*Erodium sp.*), soft chess (*Bromus mollis*), loosestrife (*Lythrum hyssopifolia*), and Italian rye grass (*Lolium multiflorum*).

The eastern portion of the property is marked by undulating hills and swales that support annual grassland habitat dominated by star-thistle, wild oats, rip-gut brome, vetch, and toad rush. Other common species include Lemmon's canary grass, rusty popcorn flower, filaree, soft chess, loosestrife, and Italian rye grass. Trees mainly occur along a wetland swale in the easternmost section of the property and consist of black willow (*Salix nigra*).

Hydrology

Hydrology within the site is significantly influenced by drainage/run-off from the adjacent school and residential land use. Although precipitation driven wetlands occur on the westernmost section of the site, the easternmost section of the site includes a seasonal wetland

swale that receives nuisance water from the adjacent residential development. In addition, a channel (that conveys nuisance water from residential development located south of the study area) is located at the southwest corner of the site.

Soils

According to the April 1993, “**Soil Survey of Sacramento County, California,**” three soil map units occur within the site: Fiddymment fine sandy loam, 1 to 8% slopes (145), Fiddymment loam, 1 to 15% slopes (146), and Urban land-Xerarents-Fiddymment complex, 0-8% slopes (229). Figure 2 is a soils map, and Table 1 lists the map units present within the study area.

The first is Fiddymment fine sandy loam, 1 to 8% slopes (145). It is a moderately deep and well drained soil that is mainly derived from weathered consolidated sandstone or siltstone. It has an underlying claypan of brown clay loam at about 15 inches. An approximately 12-inch hardpan cemented with silica is situated beneath the claypan at a depth of 28 inches. Permeability for this soil unit is very slow resulting in pooled water for short periods after heavy winter/spring rains or over-irrigation. This unit also contains inclusions of Andregg, Orangevale, and Redding soils, and Xerarents.

The second unit is Fiddymment loam, 1 to 15% slopes (146). It is a moderately deep and well drained soil strongly associated with hills, and it is mainly derived from weathered consolidated sandstone or siltstone. It has a claypan about 15 inches thick at a depth of about 14 inches. An approximately 6-inch thick hardpan cemented with silica is situated beneath the claypan. Permeability for this soil unit is very slow resulting in pooled water for short periods after heavy winter/spring rains or over-irrigation. This unit also contains inclusions of Corning and Kaseberg soils and Xerarents.

The third unit mapped within the study area is Urban land-Xerarents-Fiddymment complex, 0-8% slopes (229). This unit is associated with filled areas on hills including slopes that have been shaped for urban uses. It is composed of approximately 40% Urban land, 30% Xerarents, and 15% Fiddymment soils. The Urban component represents highly altered areas generally covered by impervious surfaces such as roads, parking lots, sidewalks, and buildings. The underlying soils may have been altered during construction and the soil profiles may be truncated. The Xerarents components are well drained, moderately deep to very deep, and have been

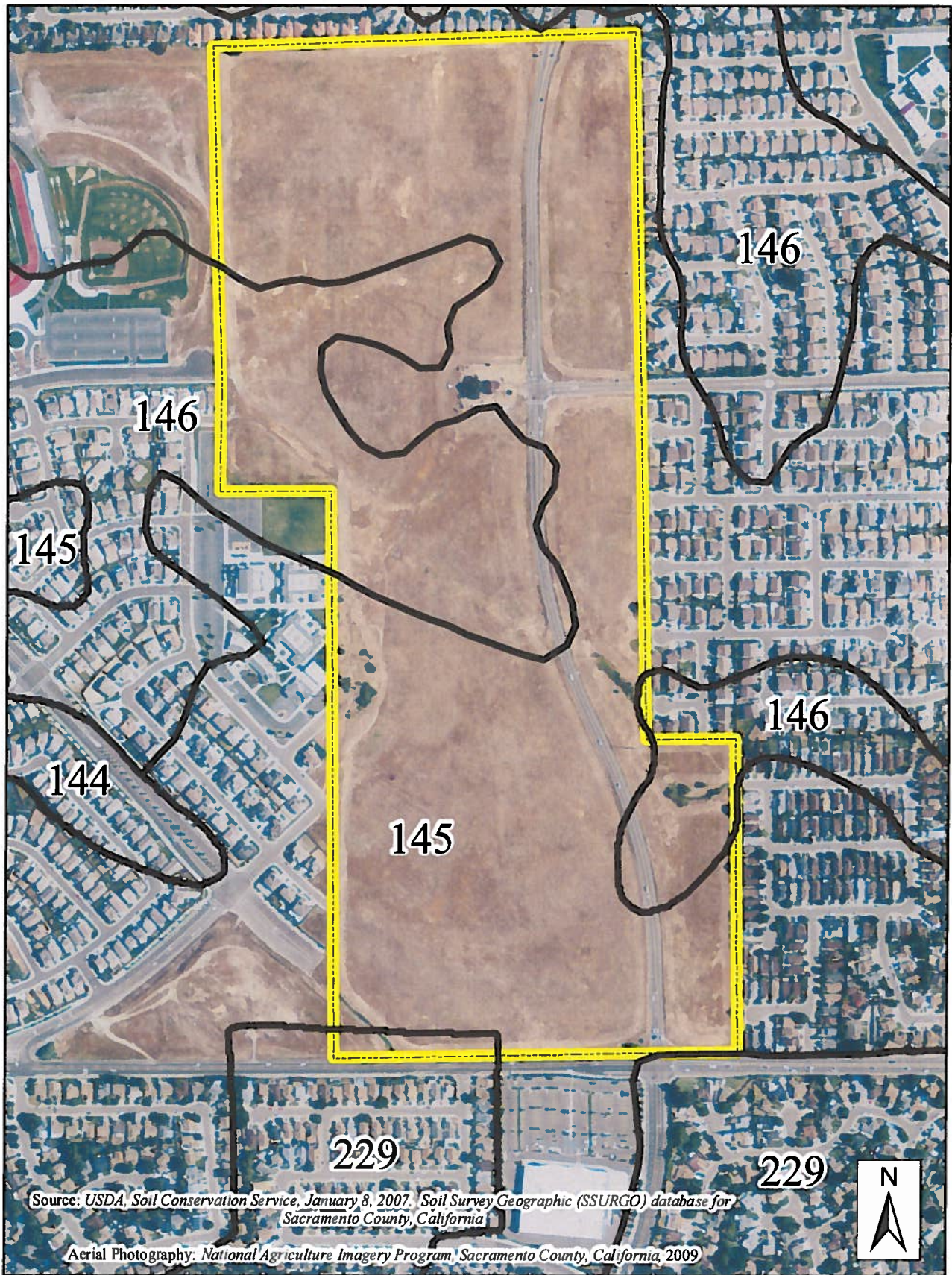


Figure 2
 Soils Map

Table 1: Study Area Soil Map Units

<u>Map Symbol</u>	<u>Mapping Unit</u>	<u>Drainage Class</u>
145	Fiddymment fine sandy loam, 1-8% slopes	Well drained
146	Fiddymment loam, 1-15% slopes	Well drained
229	Urban lands-Xerarents-, Fiddymment complex 0-8% slopes	N/A (impervious)/ Well drained/ Well drained

altered/formed by earth-moving activities. The Fiddyment soil is moderately deep to hardpan and well drained. Dense subsoils result in temporary surface saturation after heavy rain events.

EXISTING WETLANDS/WATERS

A jurisdictional delineation was conducted by Gibson & Skordal, LLC in June 2011. The delineation was verified by the Corps of Engineers in a letter dated August 3, 2011. A copy of the verification letter is included in Appendix B.

A total of 1.866 acres of wetlands/waters exists on the site including 0.060 acre of channel, 0.042 acre of drainage ditch, 1.039 acre of vernal pools, and 0.725 acre seasonal wetland swale. Appendix C is a delineation map and acreage table by water feature type.

IMPACTS TO WETLANDS/WATERS

The project will result in directly impacting a total of 1.144 acres of wetlands/waters, consisting of 0.06 acre of channel, 0.042 acre of drainage ditch, .003 acre of seasonal wetland swale, and 1.039 acres of vernal pool. A total of 0.722 acre of Seasonal wetland swale will be preserved within a 4.5 acre open space area along the eastern boundary of the site. No indirect impacts to the preserved wetlands are anticipated since they are upslope from impacted wetlands and they receive most of their water from offsite sources. Appendix D is an exhibit showing impacted and preserved wetlands/waters.

PROPOSED MITIGATION

Currently, the proposed method for mitigating the 1.144 acre of wetlands/waters is to purchase 1.144 acre of credits at a mitigation bank. Mitigation may be expanded as a result of requirements from the Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Game. If, at a later date, it is determined to be more desirable, wetlands could be constructed onsite, and monitored over a five year period to assure that creation was successful.

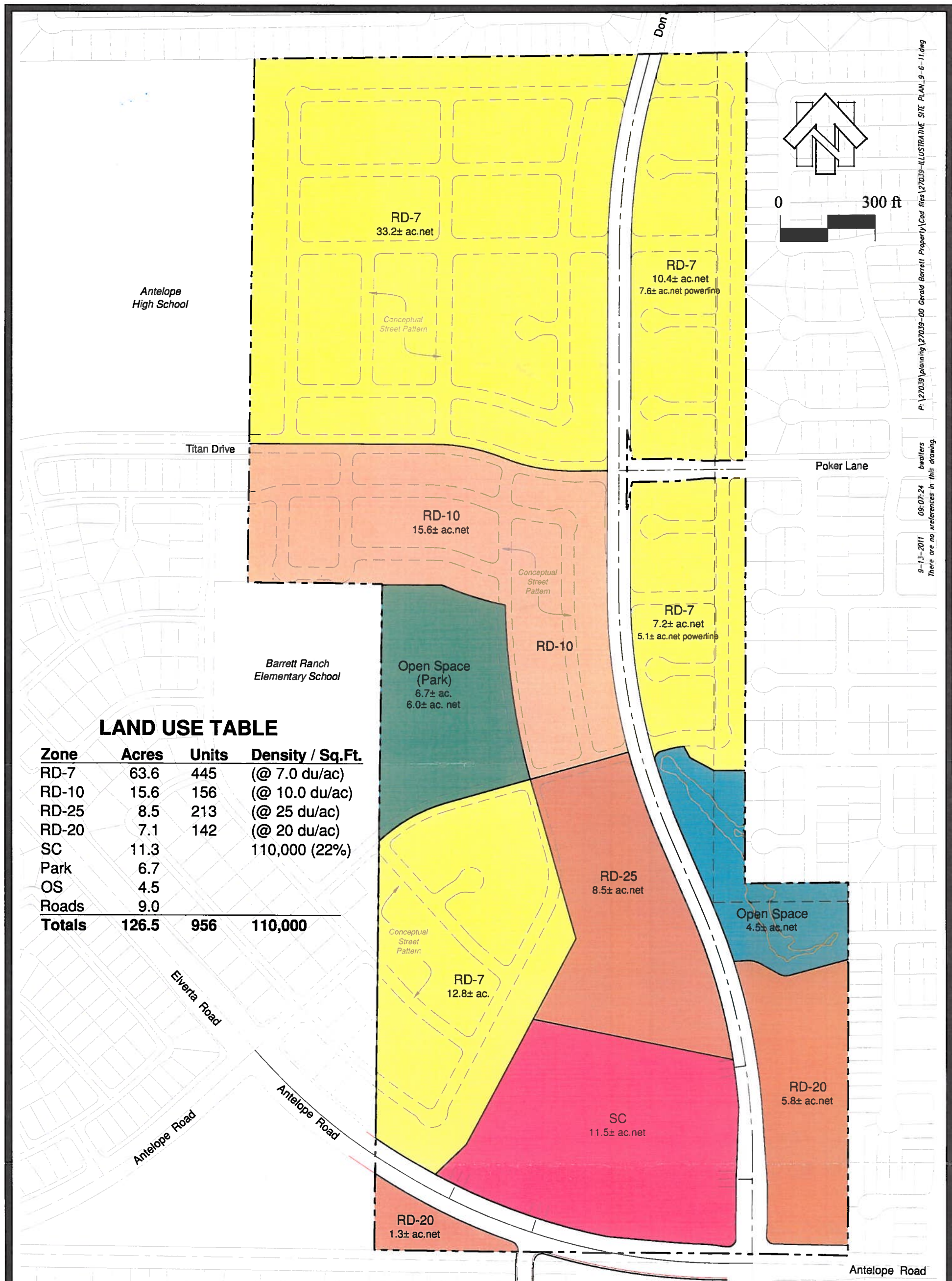
LONG TERM MAINTENANCE AND MANAGEMENT

The 4.5 acre open space area will be deeded to an approved public entity or a non-profit organization to manage and maintain in perpetuity. Funding for maintenance would be obtained from an endowment sufficient to cover costs on a yearly basis. Other alternative means of funding may be implemented as long as the mechanism is assured. A conservation easement will also be placed on the open space area to assure that it will remain in an undeveloped state.

The open space area will be fenced along Don Julio Boulevard and other roadways with post and cable fencing. Open fencing such as wrought iron would be utilized between the open space area and proposed residential development.

APPENDIX A

ILLUSTRATIVE LAND USE PLAN



LAND USE TABLE

Zone	Acres	Units	Density / Sq.Ft.
RD-7	63.6	445	(@ 7.0 du/ac)
RD-10	15.6	156	(@ 10.0 du/ac)
RD-25	8.5	213	(@ 25 du/ac)
RD-20	7.1	142	(@ 20 du/ac)
SC	11.3		110,000 (22%)
Park	6.7		
OS	4.5		
Roads	9.0		
Totals	126.5	956	110,000

P:\27039\planning\27039-00 Gerard Barrett Property\Cad files\ILLUSTRATIVE SITE PLAN_9-6-11.dwg
 9-13-2011 09:07:24
 bwallers
 There are no references in this drawing.

**Illustrative
 Land Use Plan
 Barrett Ranch East**

Scale: 1"=300'
 (when plotted 11 x 17)

9-14-11

27039.00



APPENDIX B

VERIFICATION LETTER



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

August 3, 2011

Regulatory Division SPK-2011-00720

Ms. Janet Barrett
P.O. Box 60825
Sacramento, California 95860

Dear Ms. Barrett:

We are responding to your consultants June 30, 2011 request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Barrett Ranch East site. The approximately 127-acre site is located north of Antelope Road, and is bisected by Don Julio Boulevard, within Section 20, Township 10 North, Range 6 East, Mount Diablo Meridian, Latitude 38.70912° North, Longitude 121.34817° West, in Antelope, Sacramento County, California.

Based on available information, we concur with the estimate of potential waters of the United States, as depicted on the Revised July 21, 2011 *Revised Jurisdictional Delineation Barrett Ranch East* drawing prepared by Gibson & Skordal, LLC. The approximately 1.866 acres of wetlands or other water bodies present, including 0.060 acre of channel, 0.042 acre of drainage ditch, 0.725 acre of seasonal wetland swales, and 1.039 acres of vernal pools, within the survey area may be jurisdictional waters of the United States. These waters may be regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed. Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal (RFA) form is enclosed to notify you of your options with this determination. This

determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2011-00720 in any correspondence concerning this project. If you have any questions, please contact me at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814-4708, email *Lisa.M.Gibson2@usace.army.mil*, or telephone 916-557-5288. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

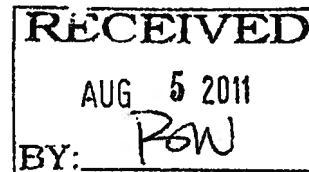
ORIGINAL SIGNED

Lisa M. Gibson
Senior Project Manager
California Delta Branch

Enclosure

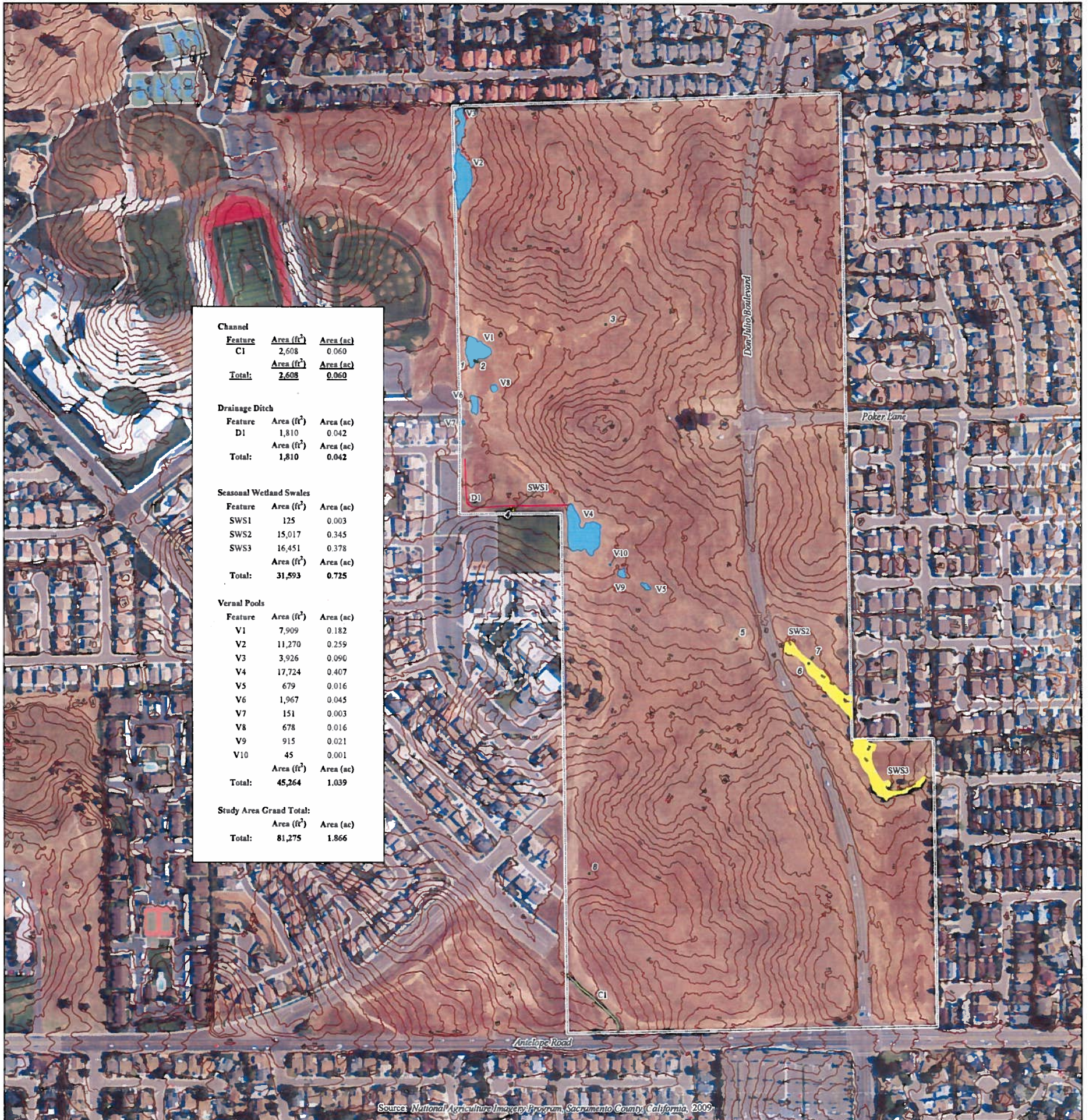
Copies Furnished without enclosures:

- ✓ Mr. James Gibson, Gibson & Skordal, LLC., 2277 Fair Oaks Boulevard, Suite 105, Sacramento, California 95825
- Ms. Kellie Berry, Sacramento Valley Branch, Endangered Species Division, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901
- Mr. Paul Jones, U.S. Environmental Protection Agency, Region IX, Wetlands Regulatory Office (WTR-8), 75 Hawthorne Street, San Francisco, California 94105-3901
- Ms. Elizabeth Lee, Storm Water and Water Quality Certification Unit, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
- Mr. Kent Smith, California Department of Fish and Game, Region 2, 1701 Nimbus Road, Rancho Cordova, California 95670-4599
- Mr. Bill Orme, Chief, Water Quality Certification Unit, State Water Resources Control Board, 1001 I Street, Sacramento CA 95814-2828



APPENDIX C

DELINEATION MAP



Channel		
Feature	Area (ft ²)	Area (ac)
C1	2,608	0.060
Total:	2,608	0.060

Drainage Ditch		
Feature	Area (ft ²)	Area (ac)
D1	1,810	0.042
Total:	1,810	0.042

Seasonal Wetland Swales		
Feature	Area (ft ²)	Area (ac)
SWS1	125	0.003
SWS2	15,017	0.345
SWS3	16,451	0.378
Total:	31,593	0.725

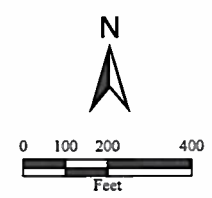
Vernal Pools		
Feature	Area (ft ²)	Area (ac)
V1	7,909	0.182
V2	11,270	0.259
V3	3,926	0.090
V4	17,724	0.407
V5	679	0.016
V6	1,967	0.045
V7	151	0.003
V8	678	0.016
V9	915	0.021
V10	45	0.001
Total:	45,264	1.039

Study Area Grand Total:		
Feature	Area (ft ²)	Area (ac)
Total:	81,275	1.866

Source: National Agriculture Imagery Program, Sacramento County, California, 2009

**Revised
Jurisdictional Delineation
Barrett Ranch East
Sacramento County, California**

- Data Point
- Vernal Pool
- Channel
- Seasonal Wetland Swale
- Drainage Ditch
- Study Area Boundary (+/-127 acres)



Prepared For:
Gerald Enterprises, LP
P.O. Box 60825
Sacramento, California 95860

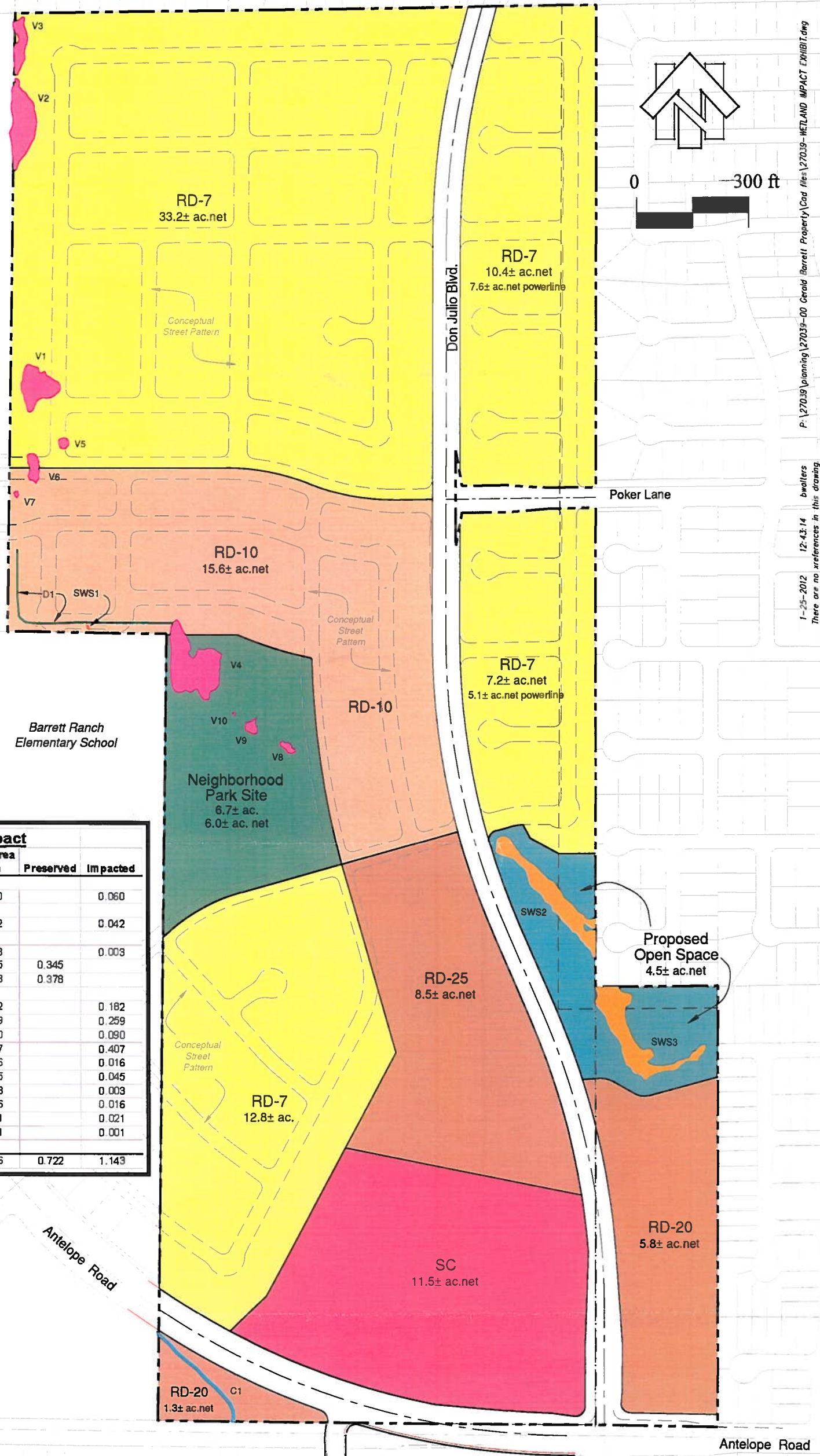
2277 Fair Oaks Blvd., Suite 106
Sacramento, CA 95822
www.gibsonandskordal.com
phone 916-508-1633

Gibson & Skordal, LLC
WETLAND CONSULTANTS

Prepared By: M. Hirkala
Prepared Date: June 1, 2011
Date Revised: July 21, 2011
Aerial Photo: July 2009

APPENDIX D

WETLAND PRESERVATION / IMPACT EXHIBIT



P:\27039\planning\27039-00\Barrett Property\Cad files\27039-WETLAND IMPACT EXHIBIT.dwg
 1-25-2012 12:43:14
 bwallers
 There are no references in this drawing

Wetland Preservation/Impact					
Type		Total Area (sq. ft.)	Total Area (ac.)	Preserved	Impacted
Channel	C1	2,608	0.060		0.060
Drainage Ditch	D1	1,810	0.042		0.042
Seasonal Swale	SWS1	125	0.003		0.003
	SWS2	15,017	0.345	0.345	
	SWS3	16,451	0.378	0.378	
Vernal Pool	V1	7,909	0.182		0.182
	V2	11,270	0.259		0.259
	V3	3,926	0.090		0.090
	V4	17,724	0.407		0.407
	V5	679	0.016		0.016
	V6	1,967	0.045		0.045
	V7	151	0.003		0.003
	V8	678	0.016		0.016
	V9	915	0.021		0.021
	V10	45	0.001		0.001
Totals		81,275	1.866	0.722	1.143

Wetland Preservation/ Impact Exhibit

Barrett Ranch East

Scale: 1"=300'
(when plotted 11 x 17)

1-19-12

27039.00

