

JURISDICTIONAL DELINEATION REPORT

PLNP 2011 - 0 0 1 5 6

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JAN 26 2012

Barrett Ranch East

PLANNING DEPT. County of Sacramento

Sacramento County, California

June 2011 REVISED January 2012

Prepared For:

GERALD ENTERPRISES, LP PO Box 60825 Sacramento, CA 95860 Prepared By:

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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.

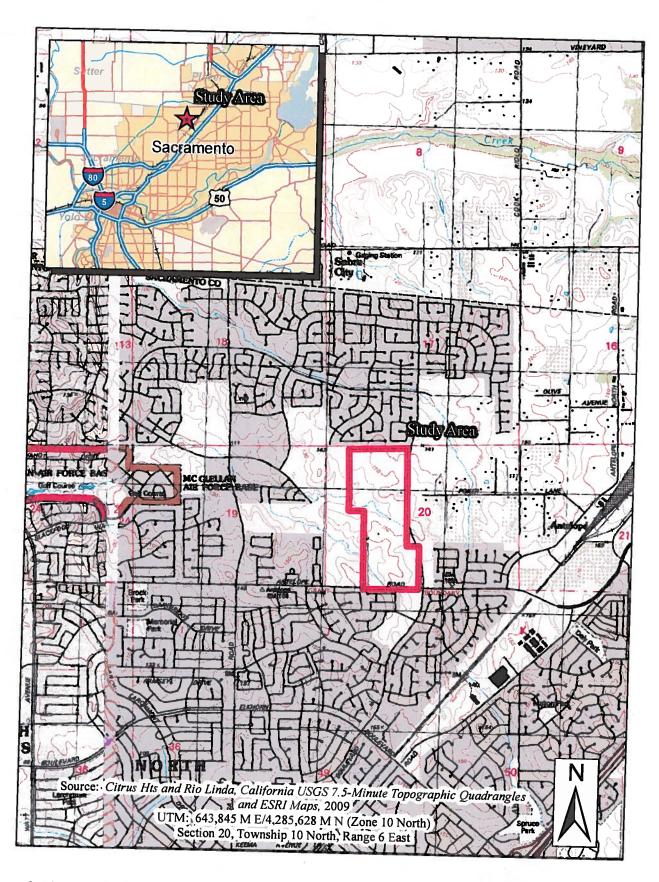
The study area is located on the remaining undeveloped section of Barrett Ranch at the northwest and northeast quadrants of the intersection of Don Julio Boulevard and Antelope Road. The site is west of Interstate Highway 80 and east of Walerga Road in northern Sacramento County.

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," 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.



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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)" 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 submeter 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.

<u>Soils</u>

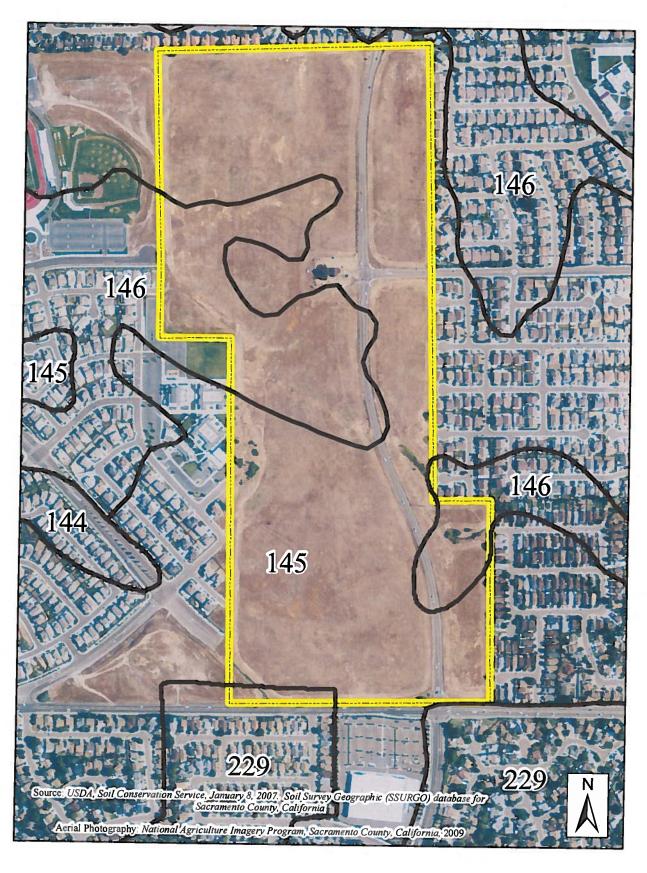
According to the April 1993, "Soil Survey of Sacramento County, California," three soil map units occur within the study area: Fiddyment fine sandy loam, 1 to 8% slopes (145), Fiddyment loam, 1 to 15% slopes (146), and Urban land-Xerarents-Fiddyment complex, 0-8% slopes (229).

The first is Fiddyment 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 Fiddyment 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-Fiddyment 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% Fiddyment 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 Fiddyment 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.



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Figure 2 Soils Map

Table 1: Study Area Soil Map Units

Map Symbol	Mapping Unit	Drainage Class
145	Fiddyment fine sandy loam, 1-8% slopes	Well drained
146	Fiddyment loam, 1-15% slopes	Well drained
229	Urban lands-Xerarents-, Fiddyment 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

	Barrett Ranch East			City/County	: Sacrame	nto_	Sampling Date:	June 1, 201
-	Gerald Enterprises					State: CA	Sampling Point:	
	Jim Gibson / Sam					o, Range: Section 20, To		East
Landform (hillslope	•	terrace				ve, convex, none): concav		(%):
-	Mediterranean Cali			38° 42' 40.9	8575"N			tum: <u>NAD 83</u>
Soil Map Unit Nam	ologic conditions or	oam, 1-15% slo		-f0			on: PEM - Persistant	
	ologic conditions of				Yes disturbed		(If no, explain in Rem	
	, Soil						ances" present? Yes / answers in Remarks.)	<u>x</u> No
_		_				cations, transects, in		_
Hydrophytic Veget			No	Jampini	y point to	cations, transects, in	nportant features, et	<u></u>
dydric Soil Presen			No	1	ampled Ar	YAR V	No	
Vetland Hydrology			No	within	a Wetland	? 163		
Remarks:	·			·				
	- Use scientific	names of p	ants.		-			
							<u> </u>	
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<u>rree Stratum</u> ((Plot size:)				Number of Dominant Spe That Are OBL, FACW, o	r EAC:	
						Total Number of Domina		(A)
·						Species Across All Strata		(B)
						Percent of Dominant Spe		— (B)
				=Total Cove	r	That Are OBL, FACW, or		(A/B)
								(,
Sapling/Shrub St	<u>tratum</u> (Plot size: _)				Prevalence Index Work	sheet:	
						Total % Cover of:	Multiply by:	
						OBL species 90	x1 =90	
						FACW species 10 FAC species 1	x2 =20	
				9		FACU species 0	x3 = 3 x4 = 0	
				=Total Cove		UPL species 1	x5 = 5	
	(Plot size: 10 ft 2)					Column Totals: 102	(A) 118	(B)
Ranunculus al			60	Yes	OBL	Prevalence Index = B/A		(=/
Plagiobothrys			30	Yes	OBL			
Polypogon mo			10	No_	FACW+	Hydrophytic Vegetation		
Hordeum hyst Hypochaeris g				No	FAC	X Dominance Tes	**	
		<u>.</u>		No_	UPL	X Prevalence Inde		
	0	-				Morphological A	daptationd1 (Provide supp	porting
	· · · · · ·	· · · · · ·					s or on a separate sheet) drophytic Vegetation ¹ (Exp	dain)
			102			Troblematic riye	nophytic vegetation (Exp	nam)
144	tum (Plot size:)				¹ Indicators of hydric soil a be present, unless disturb	and wetland hydrology must	st
vvoody vine Stra						Hydrophytic		
				Total Cover		Vegetation		
			=	TOTAL COVE				
% Bare Ground in	n Herb Stratum		Cover of B			Present?	Yes <u> </u>	
	n Herb Stratum					Present?	Yes X No	
% Bare Ground in	n Herb Stratum					Present?	Yes X No	
% Bare Ground in	n Herb Stratum					Present?	Yes X No	
% Bare Ground in	n Herb Stratum					Present?	Yes X No	

C-		. - -	
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_0-10	1011(3/2	<u> </u>	4/0 20	· - -	PL, M	sandy loam	PL = 15% / M	- 3%
				· ·				
								
				·				
			·					
¹Type: C=C	oncentration, D=Depletio	n, RM=Reduced f	Matrix, CS=Covered or	Coated San	d Grains.	² Location: PL=Po	ore Lining, M=Matrix.	
Hydric Soi	I Indicators: (Applica	able to all LRRs	s, unless otherwise	noted.)		Indicators for	Problematic Hydr	ic Soils³:
Histos	sol (A1)		_ Sandy Redox (S	5)		1 cm Muc	k (A9) (LRR C)	
Histic	Epipedon (A2)		Stripped Matrix	(S6)		2 cm Muc	k (A10) (LRR B)	
Black	Histic (A3)	_	Loamy Mucky M	ineral (F1)		Reduced	Vertic (F18)	
Hydro	gen Sulfide (A4)		Loamy Gleyed N	Matrix (F2)		Red Pare	nt Material (TF2)	
Stratif	fied Layers (A5) (LRR	C)	Depleted Matrix	(F3)		Other (Ex	plain in Remarks)	
1 cm l	Muck (A9) (LRR D)		Redox Dark Sur	face (F6)				
Deple	ted Below Dark Surfac	æ (A11)	Depleted Dark S	urface (F7)				
Thick	Dark Surface (A12)		Redox Depressi	ons (F8)		3Indic	ators of hydrophyti	c vegetation and
Sandy	/ Mucky Mineral (S1)		Vernal Pools (F9	9)			tland hydrology mu	
Sandy	Gleyed Matrix (S4)						nless disturbed or	
Restrictive	Layer (if present):							
Type:								
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Remarks:								
HYDROLOGY	Y							-
	ydrology Indicators:			** *				
	icators (minimum of or	ne required: che	ck all that apply)			Serr	andary Indicators (2 or more required)
	æ Water (A1)	,,,	Salt Crust (B11)				Water Marks (B1)	
	Vater Table (A2)		Biotic Crust (B12			_	Sediment Deposit	•
	ition (A3)		Aquatic Inverteb				Drift Deposits (B3	
	Marks (B1) (Nonriver	rine)	Hydrogen Sulfide	• •			Drainage Patterns	
	ent Deposits (B2) (No		Oxidized Rhizos			Roots (C3)	Dry-Season Water	- ·
	eposits (B3) (Nonrive	-	Presence of Red				Crayfish Burrows	, ,
	e Soil Cracks (B6)		Recent Iron Red			(C6)	-	on Aerial Imagery (C9)
	ation Visible on Aerial I	magery (B7)	Thin Muck Surfa				Shallow Aquitard	
	Stained Leaves (B9)		Other (Explain in	` '		x	FAC-Neutral Test	
vvater-								
	rvations:							
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C - 12

Project/Site: Barrett Ranch East		_City/Count	y: Sacrame	nto			Sampling	g Date:	June	1, 20
Applicant/Owner: Gerald Enterprises, LP					State: CA				1	
Investigator(s): Jim Gibson / Sam Garcia			on, Townshij							
	ope / swale		elief (conca	ve, convex,				Slope	e (%):	
Subregion (LRR): Mediterranean California (38° 42' 40.9	3675"N			1° 21' 04.6		[Datum: <u>NA</u>	D 83
Soil Map Unit Name: Fiddyment loam, 1				ا	NWI Classif	_				
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Are Vegetation, Soil, or I	lydrology <u>No</u>	_ naturally p	roblematic?	(If nee	ded, explair	n any ansv	vers in Re	marks.)		
SUMMARY OF FINDINGS - Attach	site map showing	g samplin	g point la	cations,	transect	s, impor	tant fea	tures, c	etc.	
Hydrophytic Vegetation Present? Yes	No x					-	<u> </u>			
Hydric Soil Present? Yes	No X		Sampled Ar		Yes	1	No	x		
Wetland Hydrology Present? Yes	No X	- Within	a Wetland	?					ı	
Remarks:		V			 -					
Nomarks.										
				-			-			
VEGETATION - Use scientific nam	es of plants.									
-	Absolute	Dominant	Indicator	Dominar	nce Test w	orksheet:				
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3. Vulpia myuros	5			I leader a set	41-14	41 1 11				
. Hypochaeris glabra	$\frac{3}{2}$	No No	FACU*		ytic Vegeta					
. Galium sp.		No No	_UPL_		Dominance					
. <u>Gallum sp.</u> . Raphanus sativus	$\frac{1}{1}$	No_No	LIDI		Prevalence					
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S Army Corps of Engineers	····							Arid W	est - Versio	n 2 (

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¹Type: C=0	Concentration, D=Depletion	on, RM=Re	duced Matrix, CS=C	overed or	Coated Sa	ınd Grair	ns. ² Location: PL=	Pore Lining, M=Matri	ix.		
Hydric Sc	oil Indicators: (Applic	able to al	LRRs unless o	therwise	noted)		Indicators for	or Problematic Hye	dric Soile ³ :	-	
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	rogen Sulfide (A4)			Gleyed M				ed Vertic (F18)			
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	ice Water (A1)			st (B11)				Water Marks (B		quiicu	
_	Water Table (A2)			rust (B12)	,			Sediment Depor	, ,	rino\	
	ration (A3)			Invertebr		1)		Drift Deposits (E		•	
	r Marks (B1) (Nonrive	rine)		n Sulfide	-	•		Drainage Patter			
	ment Deposits (B2) (No				-	•	ng Roots (C3)	Dry-Season Wa			
	Deposits (B3) (Nonrive			e of Redu		_	ig (00is (00)	Crayfish Burrow		,	
	ce Soil Cracks (B6)	,,,,,,		ron Redu		` '	.ile (C6)	Saturation Visib	• •	2000 (COV
	lation Visible on Aerial	Imagen/(I		ck Surfac		illed Oo		Shallow Aquitar		ragery (C 3)
	r-Stained Leaves (B9)	iiiageiy (i	-	xplain in		`		FAC-Neutral Te			
			Other (E	-xpiaiii iii	Remarks	<u>, </u>	_	_ FAC-Neutral Te	St (D5)		
Field Obs			N- 5 "	()I							
	ater Present? Yes			(inches):							
	le Present? Yes		No Depth	(inches):					.,		
Saturation			No Depth	(inches):	·		Wetland Hydi	rology Present?	Yes	_No	<u> </u>
	apillary fringe) corded Data (stream ga	auge mon	itoring well serial	photos r	revious i	nspectic	ns) if available:				
				p.,.0.03, þ	III	specill	,, ii avallabic.				
Remarks:	·					-					
	acent to Vernal Pool 1										
' No drainage	•										
' Slight slope ' Although re	· dox was found in the p	ore linings	water naccine th	rough this	e evetem	dose na	nt annear to catur	ata the substrate fo	or a disration la	00.000	iah ta
orm a wetlar	nd - likely a result of a h	neavy rain	, water passing the	a Jugii tili	o ayal c iii	4069 IIC	v ahhear in saini	are the substrate to	ı a uuranun 10	ng enou	igii to
S Army Cor	ps of Engineers								Arid We	st - Vers	ion 2

Project/Site: Barrett Ranch East		_City/County:	Sacramen	ito	Samp	ling Date:	June 1, 201
Applicant/Owner: Gerald Enterprises, LP				State: CA		ling Point:	
Investigator(s): Jim Gibson / Sam Garcia		Section	n, Township	, Range: Section 20, To	wnship 10 No	orth, Range 6	East
Landform (hillslope, terrace, etc.): swale / hill	slope	_ Local re	lief (concav	e, convex, none): none		Slope (9	%):
Subregion (LRR): Mediterranean California (LRR (38° 42' 42.36	968"N	Long: 121° 20)' 57.96210"V	V Dati	um: NAD 83
Soil Map Unit Name: Fiddyment loam, 1-15%				NWI Classificati	on: Upland		
Are climatic / hydrologic conditions on the site typic				x No	(If no, ex	plain in Rema	rks.)
Are Vegetation, Soil, or Hydrole	ogy <u>No</u>	significantly	disturbed?	Are "Normal Circumst	ances" prese	nt? Yes	x No
Are Vegetation, Soil, or Hydrole	ogy <u>No</u>	naturally pro	oblematic?	(If needed, explain any	answers in	Remarks.)	
SUMMARY OF FINDINGS - Attach site	map showing	a sampling	point lo	cations. transects. ir	nportant f	eatures, etc	.
Hydrophytic Vegetation Present? Yes	No x				•	,	
Hydric Soil Present? Yes	No X		ampled Are		No	x	
Wetland Hydrology Present? Yes	No X	- within a	a Wetland?				
Remarks:		•		····			·
Remarks.							
2							
VEGETATION - Use scientific names of	i mlamta	···					-
VEGETATION - Use scientific names of	-			- · · · · · · · · · · · · · · · · · · ·			<u> </u>
	Absolute	Dominant	Indicator	Dominance Test works			
Tree Stratum (Plot size:	% Cover	Species?	Status	Number of Dominant Sp			
1				That Are OBL, FACW, o	r FAC:	1	(A)
2		·		Total Number of Domina			
3				Species Across All Strat	a:	2	(B)
4	_			Percent of Dominant Sp			
		=Total Cover	r	That Are OBL, FACW, o	r FAC:	50%	(A/B)
0 11 101 1 01 1 101 1							
Sapling/Shrub Stratum (Plot size:	·		=	Prevalence Index Worl	sheet:	920	
1.				Total % Cover of:		Multiply by:	
2 3				OBL species 0	x1 =	0	
	-			FACW species 1	x2 =	2	
4 5.	_			FAC species 45	x3 =	135	
0	_			FACU species 46	×4 =	184	
Herb Stratum (Plot size: 10 ft ²)		=Total Cover		UPL species 17	x5 =	85	
1. Bromus mollis	45	Voc	EACH	Column Totals: 109	— ^(A) —	406	(B)
2. Lolium perenne	$-\frac{43}{30}$	Yes Yes	FACU- FAC*	Prevalence Index = B/A	4 = <u> </u>	3.7	
3. Hordeum hystrix	- 30	No	FAC	Hydronhydia Varatation	. Indiantana		
4. Taeniatherum caput-medusae	- 13	No	UPL	Hydrophytic Vegetation			
5. Centaurea solstitialis	- - 10 - 5	No	UPL	Dominance Tes			
6. Briza minor	- - 1	No	FACW-			(D	
7. Brodiaea elegans	- - i -	No	FACU	Morphological A data in Remark			orting
B. Hypochaeris glabra	- - i -	No	UPL		•		lain)
9. Vicia villosa	- - 	No	UPL	Problematic Hy	aropriyuc vej	yetati∪i: (EXPI	airt)
	109	=Total Cover		1 maliantana at hundra a all			
Woody Vine Stratum (Plot size:)	103	- TOLAT COVET		¹ Indicators of hydric soil be present, unless distur			it
1.			+	·	bed of proble	illatic.	
		=Total Cover		Hydrophytic			
% Bare Ground in Herb Stratum	% Cover of E			Vegetation Present?	Yes	No. 4	,
Remarks:	_ // 0040/ 0/ L			- IVaeiiti	169	Nox	<u> </u>
Tomana.							
JS Army Corps of Engineers		·				Arid West	t - Version 2.0

9-	mnl	ina	Da	-4-
Sa	lam	ma	20	nt:

	Matrix		Re	dox Feat						
nches)	Color (moist)		Color (moist)	%	_Type ¹	_Loc ² _	Texture		Remarks	_
- 8+	10YR 3/2	99	10YR 4/6	1	С	PL	loam			
								<u></u>		
vne. C=C	oncentration, D=Deplet	ion PM=Re	duced Matrix CS-C	overed or	Coated Sa	nd Croine	21 postion DI =D	ore Lining, M=Matri		
	- Depice			overed or	Coaled Sa	nu Grains.	LOCATION FL-F	ore ciriling, ivi-iviatii	Χ.	
	l Indicators: (Appli	cable to a			•		Indicators for	Problematic Hyd	dric Soils³:	
_	sol (A1)			Redox (S	-			k (A9) (LRR C)		
_	Epipedon (A2)			d Matrix (-			k (A10) (LRR B)		
-	Histic (A3)			_	ineral (F1)		Reduced	Vertic (F18)		
	gen Sulfide (A4)			•	latrix (F2)	1	_	nt Material (TF2)		
	ied Layers (A5) (LRI	(C)		d Matrix (Other (Ex	plain in Remarks))	
_	Muck (A9) (LRR D)	/8//		Dark Surfa						
-	ted Below Dark Surf	ace (A11)			urface (F7	')				
-	Dark Surface (A12)			Depression			³ Indic	ators of hydrophy	tic vegetation	and
_	/ Mucky Mineral (S1)		vernal i	Pools (F9)			lland hydrology m		r .
	Gleyed Matrix (S4)			 .		·	u	nless disturbed o	r problematic.	
Strictive	Layer (if present):									
pe:										
epth (inch narks: dox obse	rved in soil profile is	likely a res	ult of excessive an	nd late rai	n in 2011	Hy	dric Soil Presen	t? Ye	es	No
arks:		likely a res	ult of excessive an	nd late rai	n in 2011	Hy	dric Soil Presen	t? Yo	es	No
arks: dox obse	rved in soil profile is	likely a res	ult of excessive an	nd late rai	n in 2011	Hy	dric Soil Presen	t? Yo	es	No
arks: lox obse	rved in soil profile is		ult of excessive an	nd late rai	n in 2011	Hy	dric Soil Presen	t? Yo	es	No
arks: lox obse	rved in soil profile is	:			n in 2011	Hy		ondary Indicators		
arks: dox obse ROLOG\ tland Hy	rved in soil profile is	:		pply)	n in 2011	Hy			(2 or more req	
ROLOG ttland Hy mary Ind Surfac High V	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2)	:	ed; check all that a	pply)		Hy		ondary Indicators	(2 or more req 1) (Riverine)	uired)
ROLOGY tland Hymary Ind Surfac High V	rved in soil profile is f /drology Indicators icators (minimum of	:	ed; check all that a Salt Cru Biotic Cr Aquatic	pply) st (B11) rust (B12) Invertebra) ates (B13)		ondary Indicators Water Marks (B	(2 or more req 1) (Riverine) sits (B2) (River	uired)
ROLOGY tland Hy mary Ind Surface High V Satura Water	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive	: one require erine)	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge	pply) st (B11) rust (B12) Invertebr) ates (B13 Odor (C1)	Seca ————————————————————————————————————	ondary Indicators Water Marks (B Sediment Depos Drift Deposits (B Drainage Patter	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10)	uired)
ROLOGY tland Hy nary Ind Surfac High V Satura Water Sedim	rved in soil profile is // /drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (N	: one require erine) onriverine	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized	pply) st (B11) rust (B12) Invertebra en Sulfide I Rhizosp) ates (B13 Odor (C1 heres alo)) ng Living		ondary Indicators Water Marks (B Sediment Depos Drift Deposits (B	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10)	uired)
ROLOGY tland Hy mary Ind Surfac High V Satura Water Sedim Drift D	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (No	: one require erine) onriverine	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presence	pply) st (B11) rust (B12) Invertebra en Sulfide I Rhizosp e of Redu) ates (B13 Odor (C1 heres alo uced Iron)) ng Living (C4)	Seco	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows	(2 or more req 1) (Riverine) sits (B2) (River (3) (Riverine) ns (B10) ter Table (C2) s (C8)	uired)
ROLOGY Surface High V Satura Water Sedim Drift D Surface	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (N eposits (B3) (Nonrive e Soil Cracks (B6)	: one require erine) onriverine erine)	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu) ates (B13 Odor (C1 heres alo uced Iron uction in T)) ng Living	Seco	ondary Indicators Water Marks (B' Sediment Deposits (B) Drainage Pattern Dry-Season Wat	(2 or more req 1) (Riverine) sits (B2) (River (3) (Riverine) ns (B10) ter Table (C2) s (C8)	uired)
ROLOGY tland Hy mary Ind Surfac High V Satura Water Sedim Drift D Surfac Inunda	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (N eposits (B3) (Nonriv e Soil Cracks (B6) tion Visible on Aeria	: one require erine) onriverine erine)	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu ron Redu ck Surfac) ates (B13 Odor (C1 heres alo uced Iron uction in T æ (C7))) ng Living (C4) illed Soils	Seco	ondary Indicators Water Marks (B' Sediment Deposits (B' Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima	uired)
ROLOGY tland Hy mary Ind Surface High V Satura Water Sedim Drift D Surface Inunda	rved in soil profile is // /drology Indicators icators (minimum of ee Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (N eposits (B3) (Nonriv ee Soil Cracks (B6) tion Visible on Aeria Stained Leaves (B9)	: one require erine) onriverine erine)	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu ron Redu ck Surfac) ates (B13 Odor (C1 heres alo uced Iron uction in T)) ng Living (C4) illed Soils	Seco	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima	uired)
ROLOGY Stland Hy Mary Ind Surface High V Satura Water Sedim Drift D Surface Inunda Water- Ind Observations	rved in soil profile is // /drology Indicators icators (minimum of be Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (Neposits (B3) (Nonrive e Soil Cracks (B6) tion Visible on Aeria Stained Leaves (B9) rvations:	: one require erine) onriverine erine)	ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu	pply) st (B11) rust (B12) Invertebra en Sulfide I Rhizosp e of Redu ron Redu ck Surfac explain in	ates (B13 Odor (C1 heres alo uced Iron uction in T te (C7) Remarks))) ng Living (C4) illed Soils	Seco	ondary Indicators Water Marks (B' Sediment Deposits (B' Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima	uired)
ROLOGY etland Hymary Ind Surface Water Sedim Drift D Surface Inunda Water- Id Obser	rved in soil profile is // /drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) (Nonrive tent Deposits (B2) (Norrive tent Deposits (B3) (Nonrive tent Deposits (B6) tition Visible on Aeria Stained Leaves (B9) rvations: ter Present? Yes	erine) onriverine erine) I Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E	pply) st (B11) rust (B12) Invertebra n Sulfide I Rhizosp e of Redu ron Redu ck Surfac explain in (inches):) ates (B13 Odor (C1 pheres alo uced Iron uction in T be (C7) Remarks))) ng Living (C4) illed Soils	Seco	ondary Indicators Water Marks (B' Sediment Deposits (B' Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima	uired)
ROLOGY tland Hymary Ind Surface High V Satura Water Sedim Drift D Surface Inunda Water- Ind Observater Tables	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive tent Deposits (B2) (Nonrive tent Deposits (B3) (Nonrive tent Soil Cracks (B6) tion Visible on Aeria testained Leaves (B9) rvations: ter Present? Yes	erine) onriverine erine) Ilmagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E	pply) st (B11) rust (B12) Invertebra in Sulfide if Rhizosp e of Redu ron Redu ck Surfac explain in (inches):	ates (B13 Odor (C1 heres alo uced Iron action in T be (C7) Remarks))) ng Living (C4) illed Soils	Seconds (C3)	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima	uired)
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ROLOGY ROLOGY ROLOGY Patiand Hy Imary Ind Surface Water Sedim Drift D Surface Inunda Water- Inunda	rved in soil profile is // /drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (Neposits (B3) (Nonrive e Soil Cracks (B6) tion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Yes	erine) onriverine erine) Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I Thin Mu Other (E No Depth No Depth	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu ron Redu ck Surfac explain in (inches): (inches):	otes (B13 Odor (C1 cheres alo uced Iron uction in T ce (C7) Remarks)) ng Living (C4) illed Soils	Roots (C3) (C6)	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River (3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima d (D3) st (D5)	uired) ine)
ROLOGY ROLOGY ROLOGY Patiand Hy Imary Ind Surface Water Sedim Drift D Surface Inunda Water- Inunda	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tition (A3) Marks (B1) (Nonrive tent Deposits (B2) (Norrive tent Deposits (B3) (Nonrive tent Deposits (B6) tition Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Yes tresent? Yes	erine) onriverine erine) Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I Thin Mu Other (E No Depth No Depth	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu ron Redu ck Surfac explain in (inches): (inches):	otes (B13 Odor (C1 cheres alo uced Iron uction in T ce (C7) Remarks)) ng Living (C4) illed Soils	Roots (C3) (C6)	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River (3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima d (D3) st (D5)	uired) ine)
ROLOGY etland Hy imary Ind Surface High V Satura Vater Sedim Drift D Surface Inunda Water- Ind Observater Table turation P	rved in soil profile is // /drology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive ent Deposits (B2) (Neposits (B3) (Nonrive e Soil Cracks (B6) tion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Yes	erine) onriverine erine) Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I Thin Mu Other (E No Depth No Depth	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu ron Redu ck Surfac explain in (inches): (inches):	otes (B13 Odor (C1 cheres alo uced Iron uction in T ce (C7) Remarks)) ng Living (C4) illed Soils	Roots (C3) (C6)	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River (3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima d (D3) st (D5)	uired) ine)
ROLOGY etland Hy imary Ind Surface High V Satura Vater Sedim Drift D Surface Inunda Water- Ind Observater Table turation P cludes ca	rved in soil profile is rydrology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive tent Deposits (B2) (No tent Deposits (B3) (Nonrive tent Deposits (B6) tion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Present? Yes tersent? Yes tersent? Yes tersent? Yes tersent? Yes tersent? Yes tersent?	erine) onriverine erine) Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I Thin Mu Other (E No Depth No Depth	pply) st (B11) rust (B12) Invertebra en Sulfide d Rhizosp e of Redu ron Redu ck Surfac explain in (inches): (inches):	otes (B13 Odor (C1 cheres alo uced Iron uction in T ce (C7) Remarks)) ng Living (C4) illed Soils	Roots (C3) (C6)	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River (3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima d (D3) st (D5)	uired) ine)
ROLOGY etland Hy mary Ind Surface High V Satura Vater Sedim Drift D Surface Inunda Water- Ind Observater Tables turation P cludes ca ribe Reco	rved in soil profile is //drology Indicators icators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) (Nonrive ent Deposits (B2) (Nonrive e Soil Cracks (B6) Ition Visible on Aeria Stained Leaves (B9) rvations: ter Present? Yes e Present? Yes er Present? Yes pillary fringe) orded Data (stream getting	erine) onriverine erine) I Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E No Depth No Depth No Depth No Depth	pply) st (B11) rust (B12) Invertebra en Sulfide if Rhizosp e of Redu ck Surfact explain in (inches): (inches):	ates (B13 Odor (C1 theres alo uced Iron uction in T te (C7) Remarks)) ng Living (C4) illed Soils	Roots (C3) (C6) Wetland Hydrol	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima d (D3) st (D5)	uired) ine) agery (Cs
ROLOGY Potland Hymary Ind Surface High V Satura Water Sedim Drift D Surface Inunda Water- Id Observater Tables Face War Surface War Face Wa	rved in soil profile is rydrology Indicators icators (minimum of the Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrive tent Deposits (B2) (No tent Deposits (B3) (Nonrive tent Deposits (B6) tion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Present? Yes tersent? Yes tersent? Yes tersent? Yes tersent? Yes tersent? Yes tersent?	erine) onriverine erine) I Imagery (ed; check all that a Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E No Depth	pply) st (B11) rust (B12) Invertebra en Sulfide if Rhizosp e of Redu ck Surfact explain in (inches): (inches):	ates (B13 Odor (C1 theres alo uced Iron uction in T te (C7) Remarks)) ng Living (C4) illed Soils	Roots (C3) (C6) Wetland Hydrol	ondary Indicators Water Marks (B' Sediment Deposits (B Drainage Pattern Dry-Season Wat Crayfish Burrows Saturation Visibl Shallow Aquitard FAC-Neutral Tes	(2 or more req 1) (Riverine) sits (B2) (River 3) (Riverine) ns (B10) ter Table (C2) s (C8) e on Aerial Ima d (D3) st (D5)	uired) ine) agery (Cs

Project/Site: Barrett Ranch East Applicant/Owner: Gerald Enterprises, LP		City/County	: Sacramen	state: CA	Sampling Date:	
Investigator(s): Jim Gibson / Sam Garcia		Section	n. Township	, Range: Section 20, Towns		
Landform (hillslope, terrace, etc.): swale / hills	lone			re, convex, none): concave	Slope (%)	
Subregion (LRR): Mediterranean California (LRR C		38° 42' 34.97				n: NAD 83
	 -	30 42 34.97	489 N	Long: 121° 21' 02		II. NAD 63
Soil Map Unit Name: Fiddyment loam, 1-15%				NWI Classification:		
Are climatic / hydrologic conditions on the site typic		•	Yes_		(If no, explain in Remark	
Are Vegetation, Soil, or Hydrold					es" present? Yes <u>x</u>	No
Are Vegetation, Soil, or Hydrold	ogy <u>No</u>	naturally pr	oblematic?	(If needed, explain any ans	swers in Remarks.)	
SUMMARY OF FINDINGS – Attach site	map showing	sampling	point io	cations, transects, impo	ortant features, etc.	
Hydrophytic Vegetation Present? Yes x	No	l -				
Hydric Soil Present? Yes X			ampled Are	YAS V	No	
Wetland Hydrology Present? Yes X		within	a Wetland?			
Remarks:						-
VEGETATION – Use scientific names of	f plants.					
VEGETATION — Use scientific flames of	piants.					
	Absolute	Dominant	Indicator	Dominance Test workshee	et:	
<u>Tree Stratum</u> (Plot size:)	% Cover	Species?	Status	Number of Dominant Specie		
1.				That Are OBL, FACW, or FA	AC: 2	(A)
2.				Total Number of Dominant		_``
3.				Species Across All Strata:	2	(B)
4.					-	— ^(D)
<u> </u>		Tatal Caus		Percent of Dominant Specie		(4 (5)
		=Total Cove	er S	That Are OBL, FACW, or FA	AC: <u>100%</u>	_ (A/B)
01:/0:						
Sapling/Shrub Stratum (Plot size:))			Prevalence Index Workshe		
1				Total % Cover of:	Multiply by:	-
2				' 	x1 = 0	
3				FACW species90	x2 =180	_
4				FAC species5	x3 = 15	
5.	_			FACU species5	x4 = 20	
		=Total Cove	r	UPL species 0	x5 = 0	
Herb Stratum (Plot size: 10 ft 2)				Column Totals: 100	(A) 215	(B)
1. Polypogon monspeliensis	70	Yes	FACW+	Prevalence Index = B/A =	2.2	_``
2. Briza minor	20	Yes	FACW-			
3. Bromus mollis	5	No	FACU-	Hydrophytic Vegetation Inc	dicators:	
4. Picris echioides		No	FAC*	X Dominance Test is		
_				X Prevalence Index is		
					ptationd1 (Provide suppor	rting
7					on a separate sheet)	
8				Problematic Hydrop	phytic Vegetation ¹ (Expla	in)
	<u> 100</u> :	=Total Cove	vo.	*		
Woody Vine Stratum (Plot size:) 1				¹ Indicators of hydric soil and be present, unless disturbed		
2				Hydrophytic		
		Total Cove	r	Vegetation		
% Bare Ground in Herb Stratum	% Cover of B	iotic Crust			Yes X No	
Remarks:	···					
· · · · · · · · · · · · · · · · · · ·						

Camp	lina	Doint:	
Samo	III IU	Point:	

Profile De	scription: (Describe	to the depth	needed to do	cument t	he indica	ator or	confirm the absence	of indicators.)
Depth	Matrix		Re	dox Featu	ıres			
(inches)	Color (moist)		olor (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 8+	10YR 4/2	98 10	/R 4/6	2	C	M	clay loam	
	· · · · · · · · · · · · · · · · · · ·							
								· · · · · · · · · · · · · · · · · · ·
	•							
	·							
							-	3.
i ——							-	
¹Type: C=C	Concentration, D=Depletion	n, RM=Reduce	ed Matrix, CS=C	overed or	Coated Sa	ind Grain	ns. ² Location: PL=Pore	Lining, M=Matrix
Hydric So	il Indicators: (Applic	able to all I R	Rs unless of	herwise	noted)		Indicators for Pro	oblematic Hydric Soils³:
	sol (A1)			Redox (S				A9) (LRR C)
	Epipedon (A2)			Matrix (•			A10) (LRR B)
	Histic (A3)				neral (F1)	`	Reduced Ve	
_								
	ogen Sulfide (A4)	C)			atrix (F2)	,		Material (TF2)
	fied Layers (A5) (LRR	U)		d Matrix (Other (Expla	in in Remarks)
	Muck (A9) (LRR D)	- (844)		Dark Surfa		7 \		
	eted Below Dark Surface	œ (A11)			urface (F7	()		
_	Dark Surface (A12)			Depressio				ors of hydrophytic vegetation and
_	y Mucky Mineral (S1)		Vernal F	Pools (F9))			nd hydrology must be present,
	y Gleyed Matrix (S4)						unle	ess disturbed or problematic.
Restrictive	e Layer (if present):							
Type:			_					
Depth (inc	hes):		-				Hydric Soil Present?	Yes X No
Remarks:			<u> </u>				 	******
								
HYDROLOG	Υ =							
Wetland H	lydrology Indicators:			,				
Primary Inc	dicators (minimum of o	ne required; d	heck all that a	pply)			Second	dary Indicators (2 or more required)
x Surfa	ce Water (A1)		Salt Cru	st (B11)				Vater Marks (B1) (Riverine)
High '	Water Table (A2)			rust (B12))		s	ediment Deposits (B2) (Riverine)
	ation (A3)				ates (B13	3)		rift Deposits (B3) (Riverine)
	r Marks (B1) (Nonrive	rine)	 ·		Odor (C	•		rainage Patterns (B10)
	nent Deposits (B2) (No	-			•	1000000		ry-Season Water Table (C2)
	Deposits (B3) (Nonrive	•			uced Iron	-	· · · —	rayfish Burrows (C8)
	ce Soil Cracks (B6)	,	_		iction in T	` '	CA CONTRACTOR OF THE CONTRACTO	aturation Visible on Aerial Imagery (C9)
	ation Visible on Aerial	lmagen/ (R7)		ck Surfac		mea oc	• • —	hallow Aquitard (D3)
	r-Stained Leaves (B9)	inagery (D7)			Remarks	1		• • •
Field Obse			— Juliei (E			7	<u>x</u> F	AC-Neutral Test (D5)
		v M-	Donil	(inch-s):	4			
		_x No		(inches):				
Water Tabl				(inches):			144.41	B = 40
Saturation		x No	Depth	(inches):	6		Wetland Hydrolog	gy Present? Yes X No
	apillary fringe) corded Data (stream ga	uge, monitor	no well serial	photos r	revious i	nspectio	ons), if available	
				F	5 1,5 4 5	peou	oo/, ir arailebio.	
Remarks:								The state of the s
* 1" standing								
* Saturated s			a					
	m adjacent school yard eroded on the fill pad					1		
A SWAIC HAS	croded on the mi pad	101 tite 50100	1					
		=1						
US Army Cor	os of Engineers							Arid West - Version 2.0

Project/Site:	Barrett Ranch East			City/County:	Sacrament	to			Samp	ling Date:	June 1, 20
Applicant/Owner:	Gerald Enterprises,	LP					State:	CA	Samp	ling Point:	
Investigator(s):	Jim Gibson / Sam G			_ Section	n, Township,	, Range:	Section	20, Towns	ship 10 No	orth, Range	6 East
Landform (hillslop	e, terrace, etc.):	swale / hillslop			lief (concave			none		Slope	∍ (%):
	Mediterranean Califo			38* 42' 29.51	.986"N			121° 20' 5′		<u>v</u> D	oatum: NAD 83
Soil Map Unit Nan		am, 1-15% slop				N	WI Clas	ssification:	Upland		
	ologic conditions on			-	_		_		-	kplain in Rer	•
	, Soil									ent? Yes	
Are Vegetation	, Soil	_, or Hydrology	No	naturally pr	oblematic?	(If need	ded, exp	lain any ar	nswers in	Remarks.)	
SUMMARY OF	FINDINGS - At	tach site ma	p showing	sampling	point lo	cations, 1	transe	cts, imp	ortant f	eatures, e	etc.
Hydrophytic Veget	tation Present?	Yes I	No x								
Hydric Soil Preser	nt?		No x		ampled Are		Yes		No	x	
Wetland Hydrolog	y Present?		No x	Within	a Wetland?		-				
Remarks:	as taken down slope	of a concrete o	ulvert under	Don Julio Bly	/d draining	west towar	rd schoo				
* The swale appear	ars to receive minor h	nydrologic input	of nuisance	water from u	ıpstream de	velopment	SCHOOL	,,			

VEGETATION -	 Use scientific 	names of pl	ants.								
			Absolute	Dominant	Indicator	Dominan	nce Test	workshe	et:		
Tree Stratum	(Plot size:	`	% Cover					nant Speci			
1.	(1 101 3126.	/						ACW, or F		1	(A)
2.						Total Nun	nber of l	Dominant		-	(^)
3.						Species A				2	(B)
4.	1					Percent of	of Domin	ant Specie			(-)
				=Total Cove	r			ACW, or F		50%	(A/B)
									4		
_	Stratum (Plot size: _)				Prevalen	ce Inde	x Worksh	eet:		
1							al % Cov	er of:	<u> </u>	Multiply by	<u>/:</u>
2						OBL spec	_	0	_x1 =	0	
3						FACW sp	_	0	_x2 =	0	
4. E						FAC spec	_	60	_x3 =	180	
J			-	=Total Cove		FACU spe	_		.x4 =	184	
Herh Stratum	(Plot size: 10 ft 2)			= I otal Cove	' <u> </u>	UPL spec	-	<u>1</u> 107	_x5 =	5 369	—
1. <i>Lolium pereni</i>	•		50	Yes	FAC*		_	ex = B/A =	(A)	3.4	(B)
2. Bromus mollis			45	Yes	FACU-	Tievale	ince ma	CX - 0/A -		<u> </u>	
3. Hordeum hys			10	No	FAC	Hydrophy	vtic Vec	etation in	dicators:		-
4. Phalaris para			1	No	UPL			nce Test is		'	
5. Vulpia myuros	s		1	No	FACU*			nce Index i			
6.							Morphol	ogical Ada	otationd ¹	(Provide su	pporting
7			iii							parate sheet	
3.							Problem	atic Hydro	phytic Ve	getation ¹ (E	xplain)
			107	=Total Cover	-						
Woody Vine Stra	atum (Plot size:									hydrology n	nust
ļ				9) =		be presen	nt, unles	s disturbed	d or proble	ematic.	
2						Hydrophy	ytic				
N D 01	Salla de Origina			=Total Cover		Vegetatio					
% Bare Ground i	n Herb Stratum		% Cover of B	liotic Crust _		Present?	· · · · · · · · · · · · · · · · · · ·		Yes	No_	
Remarks:											
JS Army Corps of E	Engineers		•	****	·			* 1		Arid W	Vest - Version 2

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)

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

Project/Site: Barrett Ranch East	st	City/County: Sacram	ento	Sampling Date:	June 1, 2011
Applicant/Owner: Gerald Enterprise			State: CA	Sampling Point:	
Investigator(s): Jim Gibson / Sam	Garcia	Section, Townsl	hip, Range: Section 20, Town	nship 10 North, Range 6	East
Landform (hillslope, terrace, etc.):	swale / hillslope		cave, convex, none): concave	Slope	(%):
Subregion (LRR): Mediterranean Ca		at: 38° 42' 28.45982"N	Long: 121° 20' 4	17.84282"W Da	itum: NAD 83
	t fine sandy loam, 1-8% slope		NWI Classification	: PEM - Persistant	1
Are climatic / hydrologic conditions of		e of year? Ye	esx No	_(If no, explain in Rem	arks.)
		significantly disturbe	d? Are "Normal Circumstan	ces" present? Yes _	x_No
Are Vegetation, Soil	, or Hydrology No	naturally problemation	? (If needed, explain any a	inswers in Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showi	ng sampling point l	locations, transects, imp	portant features, et	tc.
Hydrophytic Vegetation Present?	Yes X No				
Hydric Soil Present?	Yes X No	Is the Sampled A	YAC V	No	
Wetland Hydrology Present?	Yes X No	within a Wetlan	d?		
Remarks:					-
nomans.					
	2.00			· .	
VEGETATION - Use scientif	ic names of plants.				
	Absolute	Dominant Indicato	Dominance Test workshe	et:	
Tree Stratum (Plot size:			Number of Dominant Spec		
1.			That Are OBL, FACW, or F		(A)
2			Total Number of Dominant		(A)
3.			Species Across All Strata:	1	(B)
4.			Percent of Dominant Speci		(b)
		=Total Cover	That Are OBL, FACW, or F		(A/B)
				100%	(~b)
Sapling/Shrub Stratum (Plot size:)		Prevalence Index Worksh	neet:	
1			Total % Cover of:	Multiply by:	
2			OBL species 0	x1 = 0	-
3		5.1	FACW species 27	x2 = 54	_
4			FAC species 75	x3 = 225	
5		<u> </u>	FACU species 0	x4 = 0	-
		_=Total Cover	UPL species 0	x5 = 0	
Herb Stratum (Plot size: 10 ft ²)			Column Totals: 102	_(A) 279	(B)
1. <u>Lolium perenne</u>		Yes FAC*	Prevalence Index = B/A =	2.7	
2. Rumex crispus		No FACW			
3. Briza minor		No FACW	- '' '		
4. Picris echioides		No FAC*			
5. Cyperus eragrostis 6.		No FACW			
7				aptationd ¹ (Provide sup	porting
8.				or on a separate sheet)	
J	102	-Tatal Causes	Problematic Hydro	phytic Vegetation ¹ (Exp	iain)
Woody Vine Stratum (Plot size:		_=Total Cover	1		
1.			¹ Indicators of hydric soil and be present, unless disturbed		st
· 2.				o or problematic.	
		=Total Cover	_ Hydrophytic		
% Bare Ground in Herb Stratum	% Cover of	_= rotal Cover Biotic Crust	Vegetation Present?	Yes X No	
Remarks:			_ Tresentr	Yes X No	
Norman No.					
					I
					ļ
					İ

6

Depth	escription: (Describe Matrix			dox Feat				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
) - 8+	10YR 3/2	100			T		loam	
							-	
-								
							 	11
		·					· · · · · · · · · · · · · · · · · · ·	
								
Type: C=0	Concentration, D=Deplet	ion, RM=Re	duced Matrix, CS=C	overed or	Coated Sar	d Grains.	² Location: PL=Por	e Lining, M=Matrix.
lydric So	il Indicators: (Appli	cable to al	I LRRs, unless of	herwise	noted.)		Indicators for P	roblematic Hydric Soils ³ :
Histo	sol (A1)		Sandy F	Redox (S	5)		1 cm Muck	(A9) (LRR C)
Histic	Epipedon (A2)		Stripped	Matrix (S6)			(A10) (LRR B)
Black	(Histic (A3)		Loamy i	Mucky Mi	neral (F1)		Reduced V	
Hydr	ogen Sulfide (A4)				atrix (F2)			Material (TF2)
Strati	fied Layers (A5) (LRF	R C)		d Matrix (lain in Remarks)
	Muck (A9) (LRR D)	•		Dark Surf				
	eted Below Dark Surfa	ce (A11)			urface (F7)			
	Dark Surface (A12)	/		Depression			a	
_	y Mucky Mineral (S1)			ools (F9				tors of hydrophytic vegetation and
_	y Gleyed Matrix (S4)		vernari	0013 (1 3	,			and hydrology must be present, less disturbed or problematic.
	E Layer (if present):	_		·			un	less disturbed of problematic.
	c Layer (it present).							
уре:	(0)		-					
marks:		ed due to lo	ng term saturation	of the su	ubstrate re		dric Soil Present? om nuisance water	Yes X No
marks: quic mois	ture regime is assume	ed due to lo	ing term saturation	of the su	ubstrate re			
narks: quic mois	ture regime is assume		ng term saturatior	of the su	ubstrate re			
marks: quic mois DROLOG fetland H	ture regime is assume Y ydrology Indicators				ubstrate re		om nuisance water	from adjacent residential development
marks: quic mois DROLOG /etland H	ture regime is assume Y ydrology Indicators		d; check all that a	oply)	ubstrate re		om nuisance water	from adjacent residential development
DROLOG /etland H mary Ind	Y ydrology Indicators dicators (minimum of oce Water (A1)		d; check all that a	oply) st (B11)			om nuisance water	r from adjacent residential development adary Indicators (2 or more required) Water Marks (B1) (Riverine)
DROLOG fetland H mmary Ind Surfa High	Y ydrology Indicators dicators (minimum of oce Water (A1) Water Table (A2)		d; check all that a Salt Cru	oply) st (B11) ust (B12)			om nuisance water	rfrom adjacent residential development adary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
OROLOG Vetland H mary Inc Surfa High	Y ydrology Indicators: dicators (minimum of oce Water (A1) Water Table (A2) ation (A3)	one require	d; check all that a Salt Cru Biotic Cr Aquatic	oply) st (B11) ust (B12) nvertebra	ates (B13)	sulting fr	om nuisance water Secon	rfrom adjacent residential development adary Indicators (2 or more required) Nater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
DROLOG /etland H rimary Inc Surfa High ' < Satur Water	Y ydrology Indicators: dicators (minimum of occ Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive	one require	d; check all that a Salt Crue Biotic Cr Aquatic Hydroge	oply) st (B11) ust (B12) nvertebra	ates (B13) Odor (C1)	sulting fr	Secon	rfrom adjacent residential development adary Indicators (2 or more required) Nater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
DROLOG /etland H rimary Inc Surfa High Satur Wate Sedin	y ydrology Indicators: dicators (minimum of oce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive	one require erine) onriverine	d; check all that a Salt Cruster Biotic Cruster Aquatic language Hydroge Oxidized	oply) st (B11) ust (B12) nvertebra n Sulfide Rhizosp	ates (B13) Odor (C1) heres alon	sulting from	Secon	rfrom adjacent residential development adary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2)
DROLOG /etland H rimary Inc Surfa High ' k Satur Wate Sedin Drift E	y y ydrology Indicators: dicators (minimum of oce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrivenent Deposits (B2) (Nonrivenent Deposits (B3)	one require erine) onriverine	d; check all that a Salt Cruster Biotic Cruster Aquatic to the Hydroge of the Hy	oply) st (B11) ust (B12) nvertebra n Sulfide Rhizosp e of Redu	ates (B13) Odor (C1) heres alon iced Iron (g Living	Secon	rfrom adjacent residential development adary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8)
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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 X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Within a Wetland? Femarks: VEGETATION – Use scientific names of plants. VEGETATION – Use scientific names of plants. Absolute Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 3 (B) Percent of Dominant Species	Project/Site: Barrett Ranch East		_City/County	: Sacramer	nto		_ Samp	oling Date: _	June 1, 201
Landsmort pillelope. terrace, etc.): Sweller / Illistope							_		
Subregion (LRR). Mediteranean California (LRR C)							ship 10 No	orth, Range 6	6 East
Sol Map Unit Name: Filidyment fine sandy loam, 1-89's slopes (145)			_						
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 Thormal Circumstances' present? Yes x No Are Vegetation Soil or Hydrology No naturally problematic? Are Thormal Circumstances' present? Yes x No X (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 X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X No X Hydric Soil Present? Yes No X No				9370"N				V Da	atum: NAD 83
Are Vegetation Soil or Hydrology No significantly disturbed? Are Normal Circumstances' present? Yes No									
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VEGETATION - Use scientific names of plants.	SUMMARY OF FINDINGS - Atta	ach site map showing	g sampling	g point lo	cations, tran	sects, imp	ortant fo	eatures, e	tc.
Within a Wetland Hydrotoly Present? Yes No X	Hydrophytic Vegetation Present?	Yes No X	1.4			<u> </u>			
VEGETATION - Use scientific names of plants. Dominant Indicator Species Status Number of Dominant Species Number of Domina	Hydric Soil Present?	Yes No X		•	VΔ	s	No	x	
Note	Wetland Hydrology Present?	Yes No X	_ William	a welland:	r		- —		
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Absolute Yeover Species Status Indicator Species Status Status Indicator Species Status		 -		· .					
Number of Dominant Species	VEGETATION - Use scientific n	names of plants.							
That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 3 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Sapling/Shrub Stratum (Plot size:) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Provalence Index Worksheet: Total % Cover of Species 0 x1 = 0 FACW species 0 x1 = 0 FACW species 0 x2 = 0 FACW species 17 x3 = 51 FACW species 21 x5 = 105 Column Totals: 108 (A) 436 (B) Prevalence Index = B/A = 4.0 Prevalence Index = B/A = 4.0 Prevalence Index is 530.° Hydrophytic Vegetation Indicators: Dominant Species That Are OBL, FACW and the proving data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) **Moody Vine Stratum** (Plot size:) **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. **Woody Vine Stratum** (Plot size:) **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. **Woody Vine Stratum** (Plot size:) **Prevalence Index Worksheet: Total Cover of Biotic Crust		Absolute		Indicator	Dominance T	est workshe	et:		
Total Number of Dominant Species Across All Strata: Total Number of Dominant Species Across All Strata: 3	Tree Stratum (Plot size:) % Cover	Species?	Status	Number of Do	minant Speci	es		
Total Number of Dominant Species Across All Strata: 3 (B)	1				That Are OBL,	, FACW, or F	AC:	0	(A)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0%	2	(1)			Total Number	of Dominant			``
Prevalence Index Worksheet: Total % Cover of: Multiply by:					Species Acros	s All Strata:		3	(B)
Prevalence Index Worksheet: Total % Cover of:	4								
Total % Cover of: Multiply by: OBL species			=Total Cove	r	That Are OBL,	FACW, or F	AC:	0%	(A/B)
Total % Cover of: Multiply by: OBL species	Continue (Charles Charles and					-			<u> </u>
OBL species O x1 = O	f						eet:	64.10.1	
FACW species 0 x2 = 0)								
FAC species 17 x3 = 51 FACU species 70 x4 = 280 ——Total Cover Herb Stratum (Plot size: 10 ft ²) Vulpia myuros 40 Yes FACU* Bromus mollis 30 Yes FACU- Convolvulus arvensis 20 Yes UPL Hydrophytic Vegetation Indicators: Dominance Test is >50% Lolium perenne 2 No FAC* Bromus diandrus 1 No UPL Morphological Adaptationd¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ Problematic Hydrophytic Vegetation¹ Problematic Hydrophytic Vegetation¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Woody Vine Stratum (Plot size: "Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No x									
FACU species TO X4 = 280							- —		
Herb Stratum (Plot size: 10 ft ²) Yes FACU* Prevalence Index = B/A = 4.0 A36 (B)	5.						- —		
Herb Stratum (Plot size: 10 ft ²) Yes FACU* Prevalence Index = B/A = 4.0 A			=Total Cove	r					
Vulpia myuros 40 Yes FACU* Prevalence Index = B/A = 4.0	Herb Stratum (Plot size: 10 ft 2)	-	- 5	ļ					(B)
Convolvulus arvensis 20 Yes UPL Hydrophytic Vegetation Indicators:	Vulpia myuros	40	Yes	FACU*	Prevalence I	ndex = B/A =	- '		 \
Hordeum hystrix 15 No FAC Dominance Test is >50%		30	Yes	FACU-					
Lolium perenne 2 No FAC* Prevalence Index is ≤3.0¹ Bromus diandrus 1 No UPL Morphological Adaptationd¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum (Plot size:) 108 = Total Cover be present, unless disturbed or problematic. =Total Cover be Biotic Crust Hydrophytic Vegetation Present? Yes No X			Yes		Hydrophytic V	egetation In	dicators:		
Bromus diandrus 1 No UPL Morphological Adaptationd¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 108 =Total Cover Woody Vine Stratum (Plot size: ———————————————————————————————————									
Morphological Adaptationd (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 108					Preva	llence Index i	s ≤3.0 ¹		
Problematic Hydrophytic Vegetation¹ (Explain) 108 =Total Cover Voody Vine Stratum (Plot size:) 1ndicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Total Cover Bare Ground in Herb Stratum Cover of Biotic Crust Problematic Hydrophytic vegetation Present? Yes No x			No	UPL_					porting
Moody Vine Stratum (Plot size:) 108 = Total Cover 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Total Cover Wegetation Present? Yes No X							•		
Woody Vine Stratum (Plot size:)	•	400			Proble	ematic Hydro	phytic Veg	jetation¹ (Ex	plain)
be present, unless disturbed or problematic. Hydrophytic =Total Cover Bare Ground in Herb Stratum Cover of Biotic Crust Be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No X	Mandy Vine Statum (Diet sine)		=Total Cover	. [
### Hydrophytic =Total Cover We Bare Ground in Herb Stratum **Cover of Biotic Crust** Hydrophytic Vegetation Present? Yes No X					'Indicators of h	ydric soil and	wetland h	ydrology mu	ıst
## Total Cover Vegetation Present? Yes No x						ess disturbed	or proble	matic.	
% Bare Ground in Herb Stratum	•		=Total Cover	- 1					
	% Bare Ground in Herb Stratum						Yos	No	v
S Army Corps of Engineers Arid West - Version									

Sam	nlina	Point:
Jaili	рши	FUIIIL.

epth	Ma	ILLIX	Re	<u>dox</u> Feat	ures					
nches)	Color (mo	ist) %	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
) - 8+	10YR 3/3	98	10YR 3/6	2	C	M	loam		Romano	
	· ———									
	·									
	·									
ype: C=C	oncentration, D=I	Depletion, RM=F	teduced Matrix, CS=C	overed or	Coated Sa	nd Grains.	² Location: PL=Po	re Lining, M=Matrix	<u>. </u>	
ydric Soi	il Indicators: (Applicable to	all LRRs, unless ot	herwise	noted.)	·	Indicators for I	Problematic Hyd	ric Soile ³ .	
	sol (A1)			Redox (S				(A9) (LRR C)		
Histic	Epipedon (A2)			Matrix (•			(A10) (LRR B)		
Black	Histic (A3)			-	neral (F1))		/ertic (F18)		
_ Hydro	gen Sulfide (A4)	Loamy (Sleyed M	atrix (F2))		t Material (TF2)		
	fied Layers (A5)			d Matrix (lain in Remarks)		
	Muck (A9) (LRF			ark Surfa	ace (F6)					
	ted Below Dark		Depleted	d Dark Su	urface (F7	')				
	Dark Surface (/		Redox D)epressio	ns (F8)		3Indics	tors of hydrophy	lic vegetation	and
	Mucky Mineral		Vernal F	ools (F9))		weti	and hydrology m	ust be present	anu t,
	Gleyed Matrix						ur	less disturbed or	problematic.	-,
estrictive	Layer (if pres	nt):				l'				
pe:						<u> </u>				
epth (inch	es):					Нус	dric Soil Present	? Y€	es	No
epth (inch	es):					Нус	dric Soil Present	? Ye	98	No
epth (inch narks:	,					Нус	dric Soil Present	? Ye	98	No
ROLOGY	/ /drology Indica					Нус				
ROLOGY mary Indi	/ /drology Indica icators (minimu		red; check all that ap			Нус	Seco	ndary Indicators	(2 or more req	
ROLOGY etland Hy mary Indi Surface	/ /drology Indica icators (minimu e Water (A1)	n of one requi	Salt Crus	st (B11)		Hyd	Seco	ndary Indicators (Water Marks (B1	(2 or more req) (Riverine)	uired)
ROLOGY etland Hy mary Indi Surfac High V	/ /drology Indica icators (minimul e Water (A1) Vater Table (A2	n of one requi	Salt Crus Biotic Cr	st (B11) ust (B12)			Seco	ndary Indicators Water Marks (B1 Sediment Depos	(2 or more req) (Riverine) its (B2) (River	uired)
ROLOGY etland Hy mary Indi Surfac High V Satura	/ /drology Indica icators (minimula e Water (A1) Vater Table (A2 tion (A3)	n of one requi	Salt Crus Biotic Crus Aquatic I	st (B11) ust (B12) nvertebra	ates (B13))	Seco	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B:	(2 or more req) (Riverine) its (B2) (River 3) (Riverine)	uired)
ROLOGN etland Hy mary Indi Surfac High V Satura Water	/ /drology Indica icators (minimul e Water (A1) Vater Table (A2 tion (A3) Marks (B1) (No	n of one requii nriverine)	Salt Crus Biotic Crus Aquatic I Hydroge	st (B11) ust (B12) nvertebra n Sulfide	ates (B13) Odor (C1)	Seco	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10)	uired)
ROLOGY etland Hy mary Indi Surfac High V Satura Water Sedime	/ /drology Indica icators (minimur e Water (A1) Vater Table (A2 tion (A3) Marks (B1) (No ent Deposits (B	n of one requi nriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydrogei Oxidized	st (B11) ust (B12) nvertebra n Sulfide Rhizospl	ates (B13) Odor (C1 heres alor)) ng Living I	Seco	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Wate	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2)	uired)
ROLOGY etland Hy mary Indi Surfac High V Satura Water Sedime	/ /drology Indicators (minimume Water (A1) Vater Table (A2) tion (A3) Marks (B1) (No	n of one requi nriverine) 2) (Nonriverine) enriverine)	Salt Crus Biotic Crus Aquatic I Hydrogei Oxidized Presence	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu	ates (B13) Odor (C1 heres alor iced Iron)) ng Living I	Seco	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2) (C8)	uired)
ROLOGY etland Hy mary Indi Surface High V Satura Water Sedime	/ /drology Indicators (minimume Water (A1) Vater Table (A2) tion (A3) Marks (B1) (No ent Deposits (B: eposits (B3) (No esoil Cracks (B))	n of one requi nriverine) 2) (Nonriverine) enriverine) 6)	Salt Crus Biotic Crus Aquatic I Hydrogei Oxidized Presence Recent Ir	st (B11) ust (B12) nvertebra n Sulfide Rhizospi e of Redu	ates (B13) Odor (C1 heres alor iced Iron (ction in Ti)) ng Living I	Secon	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Ima	uired)
ROLOGY Stland Hymary Indi Surface High V Satura Water Sedime Drift De Surface Inunda	//drology Indica icators (minimume e Water (A1) Vater Table (A2 tion (A3) Marks (B1) (No ent Deposits (B) eposits (B3) (No e Soil Cracks (B	n of one requi nriverine) 2) (Nonriverine) enriverine) 6) verial Imagery	Salt Crus Biotic Crus Aquatic I Hydroges Oxidized Presences Recent Ir (B7) Thin Muc	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ck Surface	ates (B13) Odor (C1) heres alor iced fron (ction in Ti e (C7))) ng Living I (C4) lled Soils	Secon	ndary Indicators (Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Water Crayfish Burrows Saturation Visible Shallow Aquitard	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Ima (D3)	uired)
ROLOGY Ptland Hy mary Indi Surface High V Satura Water Sedime Drift De Surface Inunda	rdrology Indicators (minimulate Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Notent Deposits (B3) (Notent Deposits (B3)) e Soil Cracks (Etion Visible on A	n of one requi nriverine) 2) (Nonriverine) enriverine) 6) verial Imagery	Salt Crus Biotic Crus Aquatic I Hydroges Oxidized Presences Recent Ir (B7) Thin Muc	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ck Surface	ates (B13) Odor (C1 heres alor iced Iron (ction in Ti)) ng Living I (C4) lled Soils	Secon	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Ima (D3)	uired)
ROLOGY etland Hy mary Indi Surface High V Satura Water Sedime Drift De Surface Inunda Water- Id Obser	rdrology Indicators (minimum e Water (A1) Vater Table (A2 tion (A3) Marks (B1) (No ent Deposits (B3) eposits (B3) (No e Soil Cracks (E tion Visible on A Stained Leaves	n of one required in representation of one required in representation of the representat	Salt Crus Biotic Crus Aquatic I Hydroges Oxidized Presences Recent Ir (B7) Thin Muc	st (B11) ust (B12) nvertebra n Sulfide Rhizospi e of Redu ron Redu ck Surface	otes (B13) Odor (C1) heres alor iced Iron ction in Ti e (C7) Remarks))) ng Living I (C4) lled Soils	Secon	ndary Indicators (Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Water Crayfish Burrows Saturation Visible Shallow Aquitard	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Ima (D3)	uired)
ROLOGN etland Hy mary Indi Surface High V Satura Vater Sedime Drift De Surface Inunda Water- Id Obser	//drology Indicators (minimum e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (No ent Deposits (B) eposits (B3) (No e Soil Cracks (E tion Visible on / Stained Leaves vations:	n of one required in representation of one required in representation of the requirement of the representation of the representation of the requirement of the require	Salt Crus Biotic Crus Aquatic I Hydrogei Oxidized Presence Recent Ir (B7) Thin Muc	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ck Surface kplain in f	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living f (C4) illed Soils	Secon	ndary Indicators (Water Marks (B1 Sediment Depos Drift Deposits (B3 Drainage Pattern Dry-Season Water Crayfish Burrows Saturation Visible Shallow Aquitard	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Ima (D3)	uired)
ROLOGY etland Hy mary Indi Surface High V Satura Vater Sedime Drift De Surface Inunda Water- Idd Obser	//drology Indicators (minimum e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (No ent Deposits (B) eposits (B3) (No e Soil Cracks (E tion Visible on / Stained Leaves vations: ter Present?	n of one required in representation of one required in representation of the representat	Salt Crus Biotic Crus Aquatic I Hydrogei Oxidized Presence Recent Ir Thin Muc Other (Ex	st (B11) ust (B12) nvertebra n Sulfide Rhizospi e of Redu on Redu ck Surface kplain in f	otes (B13) Odor (C1) heres alor iced Iron ction in Ti e (C7) Remarks))) ng Living f (C4) illed Soils	Seco	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired) ine)
ROLOGY etland Hy imary Indi Surface High W Satura Water Sedime Drift De Surface Inunda Water- Indi Obser Index Water Table Surface Water Under Common Peludes cap	/ /drology Indicators (minimule Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Notent Deposits (B3) (Notent Deposits (B3)) Stained Leaves Vations: ter Present? Present? pillary fringe)	nriverine) (Nonriverine) (Nonriverine) (S) (Nonriverine) (S) (Nonriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydroge Oxidized Presence Recent Ir (B7) Thin Muc Other (Ex No Depth (No Depth (st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ck Surface kplain in F inches): inches):	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living I (C4) illed Soils	Second Se	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired)
PROLOGY etland Hy imary Indi Surface High W Satura Vater Sedime Drift De Surface Inunda Water- Hid Obser rface Wat ater Table turation P	/ /drology Indicators (minimule Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Notent Deposits (B3) (Notent Deposits (B3)) Stained Leaves Vations: ter Present? Present? present?	nriverine) (Nonriverine) (Nonriverine) (S) (Nonriverine) (S) (Nonriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydrogei Oxidized Presence Recent Ir Thin Muc Other (Ex	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ck Surface kplain in F inches): inches):	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living I (C4) illed Soils	Second Se	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired) ine)
PROLOGY etland Hy imary Indi Surface High V Satura Vater Sedime Drift De Surface Inunda Under Water- Hidh Obser Face Water Trace Water Under Cater Table Surface Water Sedime Trace Water Trace Water Sedime Trace Water	/ /drology Indicators (minimule Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Notent Deposits (B3) (Notent Deposits (B3)) Stained Leaves Vations: ter Present? Present? present?	nriverine) (Nonriverine) (Nonriverine) (S) (Nonriverine) (S) (Nonriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydroge Oxidized Presence Recent Ir (B7) Thin Muc Other (Ex No Depth (No Depth (st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ck Surface kplain in F inches): inches):	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living I (C4) illed Soils	Second Se	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired) ine)
PROLOGY etland Hy imary Indi _ Surfac _ High V _ Satura _ Water _ Sedime _ Drift Do _ Surface _ Inunda _ Water- eld Obser rface Water turation P	rdrology Indicators (minimulate Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Note the Proposits (B3) (Note the Proposits (B3)) Stained Leaves (Note Present? Present? Present? Indicators (B1) Indicators	nriverine) (Nonriverine) (Nonriverine) (S) (Nonriverine) (S) (Nonriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydroge Oxidized Presence Recent Ir (B7) Thin Muc Other (Ex	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ch Surface kplain in F inches): inches):	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living I (C4) illed Soils	Second Se	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired) ine)
epth (incher property) PROLOGY etland Hy imary Indi Surface High W Satura Water Sedime Drift De Surface Inunda Water- Flace Water frace Water turation P cludes cap ribe Reco	rdrology Indicators (minimulate Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Note the posits (B3) (Note the posits (B3)) (Note the p	nriverine) (Nonriverine) (Nonriverine) (S) (Nonriverine) (S) (Nonriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydroge Oxidized Presence Recent Ir (B7) Thin Muc Other (Ex	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ch Surface kplain in F inches): inches):	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living I (C4) illed Soils	Second Se	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired) ine)
epth (inches arks: PROLOGY etland Hy imary Indi Surface High W Satura Water Sedime Drift De Surface Inunda Water- face Wat ater Table turation P cludes cap ribe Reco	rdrology Indicators (minimulate Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Note the posits (B3) (Note the posits (B3)) (Note the p	nriverine) (Nonriverine) (Nonriverine) (S) (Nonriverine) (S) (Nonriverine) (Nonriverin	Salt Crus Biotic Crus Aquatic I Hydroge Oxidized Presence Recent Ir (B7) Thin Muc Other (Ex	st (B11) ust (B12) nvertebra n Sulfide Rhizospl e of Redu on Redu ch Surface kplain in F inches): inches):	otes (B13) Odor (C1) heres alor iced from ction in Ti e (C7) Remarks))) ng Living I (C4) illed Soils	Second Se	ndary Indicators Water Marks (B1 Sediment Depos Drift Deposits (B: Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Tes	(2 or more req) (Riverine) its (B2) (River 3) (Riverine) is (B10) er Table (C2) (C8) e on Aerial Ima (D3) t (D5)	uired) ine)

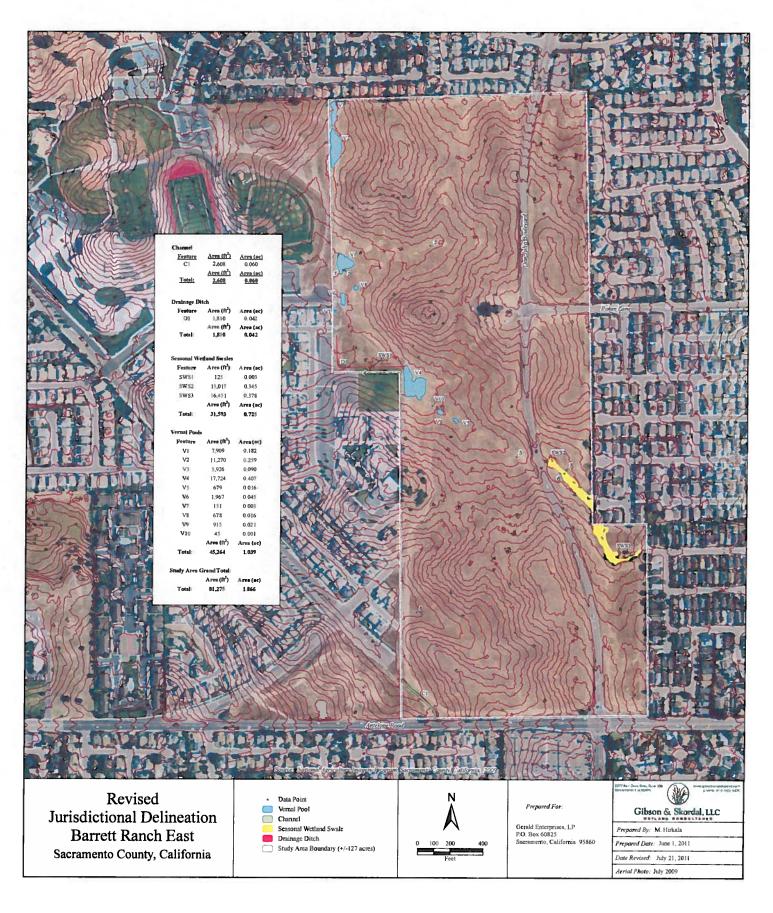
Project/Site: Barrett Ranch East		_City/County	: Sacramer	nto		Samp	ling Date:	June 1, 201
Applicant/Owner: Gerald Enterprises, L	<u>-P</u>			;	State: CA		ling Point:	
Investigator(s): Jim Gibson / Sam Ga		Sectio	n, Township	o, Range: 3	Section 20, To	ownship 10 No	orth, Range	6 East
	swale / hillslope			ve, convex,	none): none		Slope	(%):
Subregion (LRR): Mediterranean Califo		38° 42' 20.1	7577"N		Long: 121° 2	0' 59.34920"V	V Da	atum: NAD 83
Soil Map Unit Name: Fiddyment fin				N	WI Classifica	tion: <u>Upland</u>		
Are climatic / hydrologic conditions on t					No		oplain in Ren	
Are Vegetation, Soil	, or Hydrology No	_ significantly	y disturbed?	? Are "No		tances" prese	_	_x_ No
Are Vegetation, Soil	, or Hydrology No	_ naturally pi	oblematic?	(If need	ed, explain ar	ny answers in l	Remarks.)	
SUMMARY OF FINDINGS - Att	ach site map showing	g sampling	g point lo	cations, t	ransects, i	mportant fo	eatures, e	tc.
Hydrophytic Vegetation Present?	YesNox	le the S	ampled Ar					
1 · ·	Yes Nox		ampieu Ari a Wetlandî		Yes	No	X	
Wetland Hydrology Present?	Yes No	_	a modulina	•				
Remarks:			·					
			·					<u> </u>
VEGETATION - Use scientific	names of plants.							
	Absolute	Dominant	Indicator	Dominan	ce Test work	sheet:		
Tree Stratum (Plot size:)	Species?	Status		f Dominant S			
1	- K			That Are (DBL, FACW,	or FAC:	1	(A)
2.				1	ber of Domin			
3				Species A	cross All Stra	ıta:	3	(B)
4				Percent of	f Dominant Sp	pecies		_
		_=Total Cove	r	That Are 0	DBL, FACW,	or FAC:	33%	(A/B)
Sanling/Chruh Stratum (Diet sing)	,			<u> </u>		· · · · · · · · · · · · · · · · · · ·	-	
Sapling/Shrub Stratum (Plot size:					e Index Wor	ksheet:		
1 2 .					% Cover of:	— ₄ _—	Multiply by:	<u>: </u>
3.		• — —		OBL speci			0	
4.				FAC speci			90	
5.		· 		FACU spe			160	
		=Total Cove		UPL speci	-		300	
Herb Stratum (Plot size: 10 ft 2)			-	Column To			550	(B)
1. Hypochaeris glabra	60	Yes	UPL		nce Index = B		4.2	(2)
2. <i>Vulpia myuros</i>	30	Yes	FACU*					
3. Lolium perenne	20	Yes	FAC*	Hydrophy	tic Vegetatio	n Indicators:		
1. Hordeum hystrix	10	No_	_FAC_	<u> </u>	ominance Te	st is >50%		
5. Bromus mollis		<u>No</u>	FACU-	P	revalence inc	dex is ≤3.0 ¹		
5						Adaptationd ¹		
·						ks or on a sep		
3.				P	roblematic H	ydrophytic Veg	getation¹ (Ex	xplain)
Woody Vine Stratum (Plot size:		=Total Cover						
. Plot size.						and wetland h		ust
·				· · · · · · · · · · · · · · · · · · ·		rbed or proble	matic.	
		=Total Cover		Hydrophyl				
% Bare Ground in Herb Stratum	% Cover of B			Vegetation Present?	n	Voc	No	v
Remarks:				. 1036111.5		Yes	No	
tomaris.								
IS Army Corps of Engineers				*			Arid We	est - Version 2.0

Sam	nolina	Point:

	Matrix Calar (maint)			dox Feat						
nches)	Color (moist)		Color (moist)	%	Type ¹	_Loc ²	Texture		Remark	s
- 8+	10YR 3/3	<u>99 10</u>	0YR 5/6	1	<u>c</u>	<u>PL</u>	loam			
									2	
										
		- — -					-			
ype: C=C	oncentration, D=Deplet	ion, RM=Redu	ced Matrix, CS=C	overed or	Coated Sa	nd Grains.	² Location: PL=	Pore Lining, M=Mat	rix.	
dric Soi	I Indicators: (Appli	cable to all L	RRs, unless ot	herwise	noted.)	-	Indicators for	or Problematic Hy	dric Soils ³ :	
_	sol (A1)		Sandy F	ledox (S	5)		1 cm M	uck (A9) (LRR C)		
_	Epipedon (A2)		Stripped	Matrix (S6)		2 cm M	uck (A10) (LRR B)	
_	Histic (A3)		Loamy N	∕lucky Mi	neral (F1)		Reduce	ed Vertic (F18)		
_	gen Sulfide (A4)			-	atrix (F2)		Red Pa	rent Material (TF2)	
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APPENDIX B

DELINEATION MAP



APPENDIX C

VERIFICATION LETTER



DEPARTMENT OF THE ARMY

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

REPLY TO

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,

OHIGINAL SIGNED

Lisa M. Gibson Senior Project Manager California Delta Branch

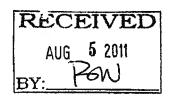
Enclosure

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



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



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).

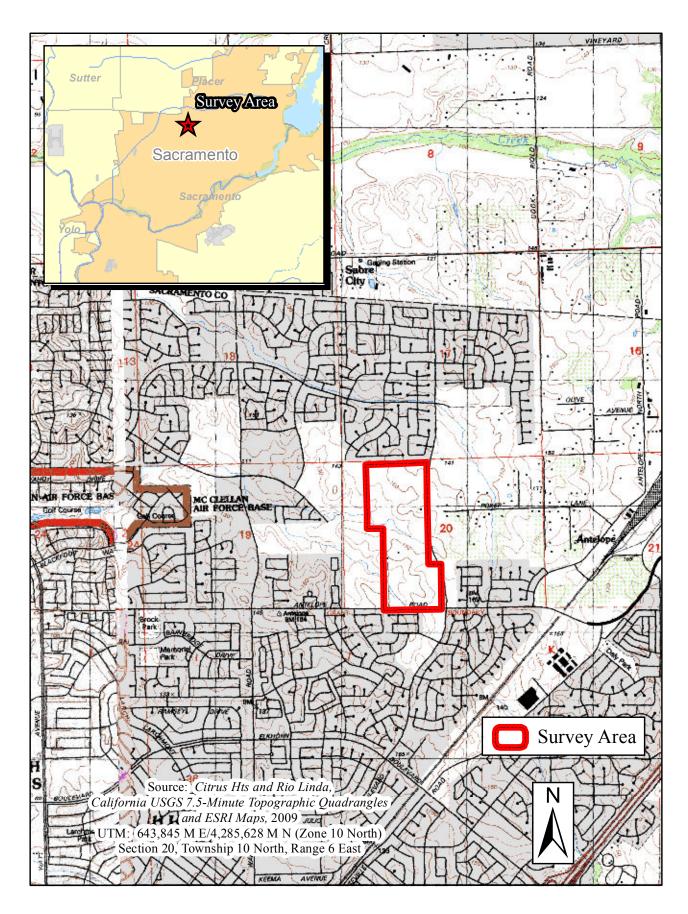
LOCATION

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



Barrett Ranch East Listed Wet-Season Branchiopod Survey 90-Day Report April 2013

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 form 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.

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APPENDIX A

DATA SHEETS



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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 BRMI	LIOC	LEPA	Estimated # of Listed Branchiopods	Notes/Reproductive Status	Habitat Condition	Land Use of Habitat	Lat/Long in degrees (NAD 83)	Voucher Specimens Collector 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

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		Matt Hirkala	
V2	1/24/13	cloudy	15	15	14	100	11,270							Fallow	Agricultural Field		Matt Hirkala	

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	

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	BRC	CO 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	-	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	

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 BRM	E 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			Т				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		Matt Hirkala	

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 BRM	E 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	

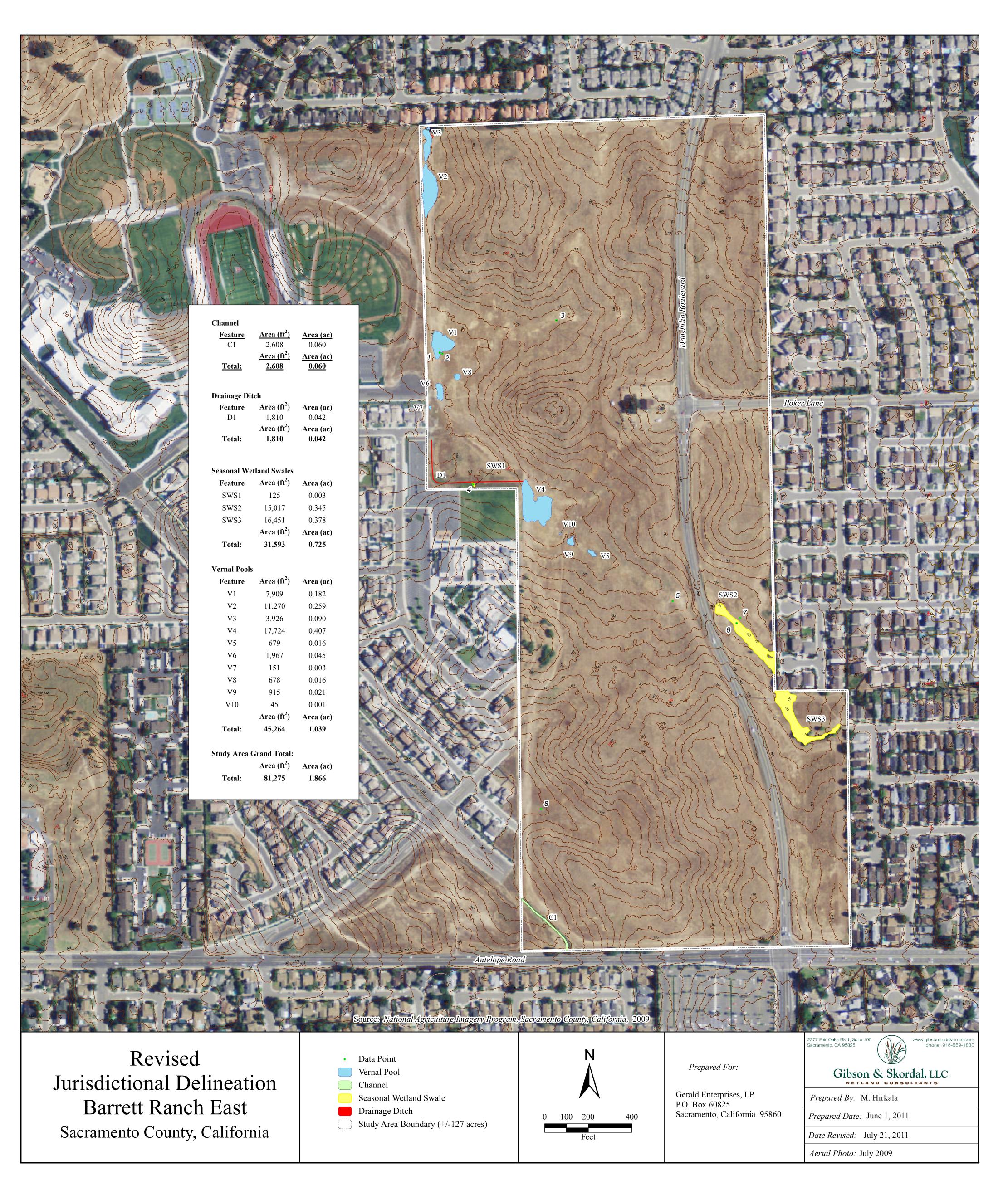
Per. #: TE-195306 Citrus Hts, CA USGS 7.5 Min. Quad. Sec. 20; T. 10 N.; R. 6 E.

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	

APPENDIX B

DELINEATION MAP





APPENDIX C

DIGITAL PHOTOGRAPHS





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).



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:

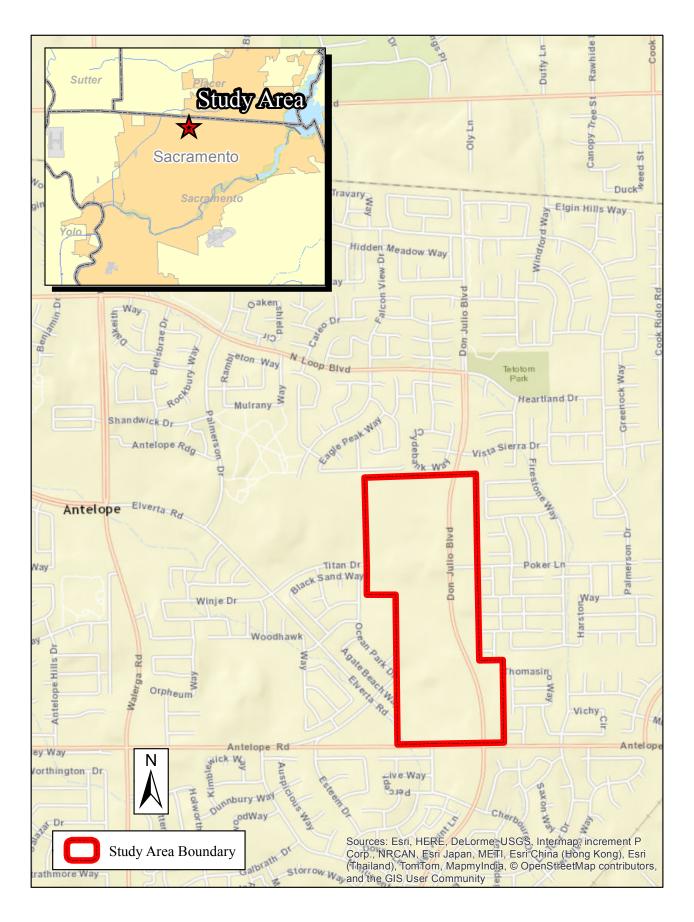
This report summarizes the results of a special-status plant survey conducted within the Barrett Ranch survey area.

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.



Special-Status Plant Surveys Barrett Ranch July 2014

Figure 1 Vicinity Map



Special-Status Plant Surveys Barrett Ranch July 2014

Figure 2 Study Area

Mr. George Carpenter July 22, 2014 Page 2 of 4

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), ripgut 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 (CNDDB) was conducted to list all documented sightings of special-status plants within ten miles of the site. Special-

Mr. George Carpenter July 22, 2014 Page 3 of 4

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 CNDDB special-status plant query including their listing status and habitat associations. **Figure 3** is an exhibit displaying CNDDB 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.

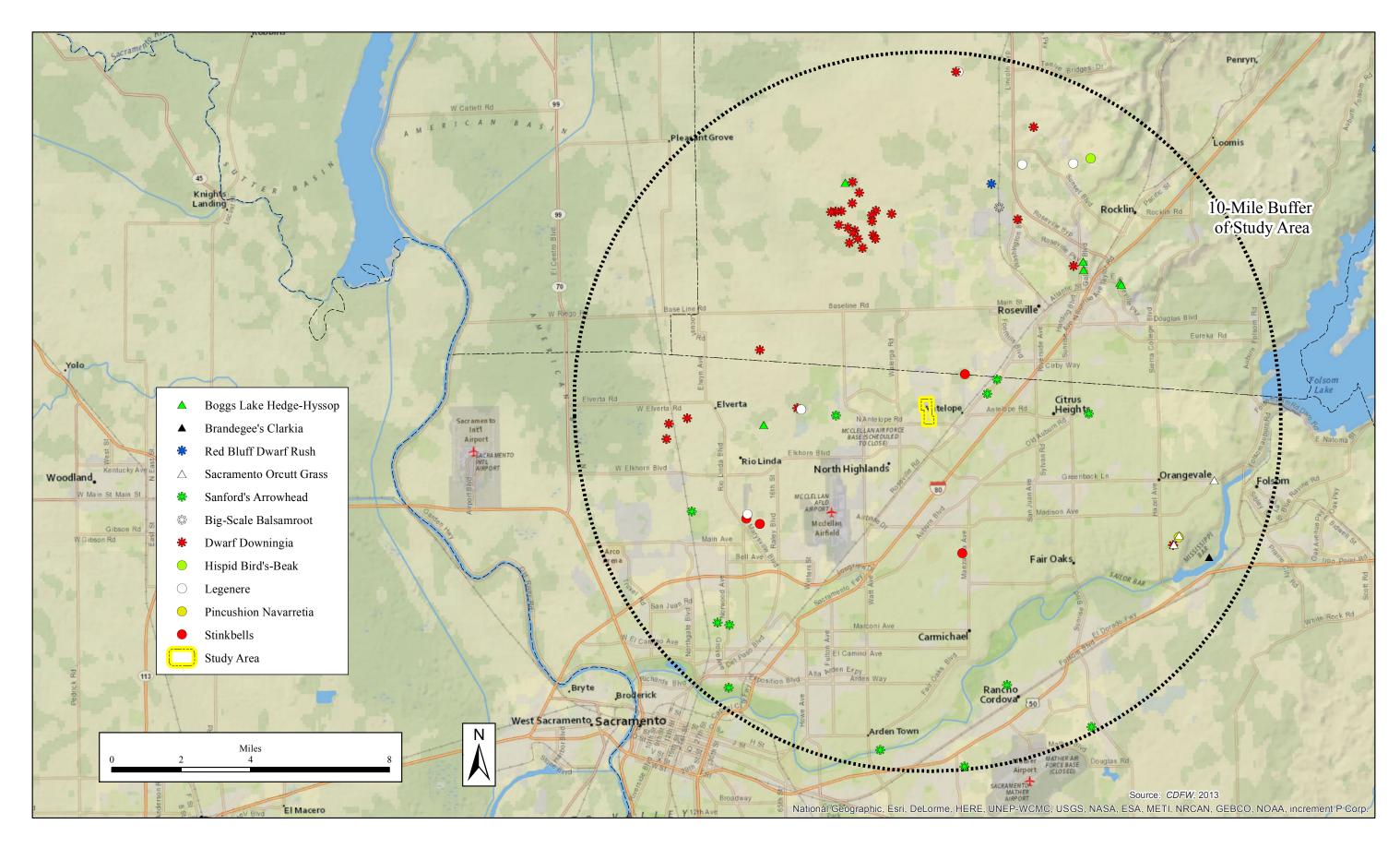
RESULTS AND DISCUSSION

Plants Associated with Vernal Pools and Other Wet Habitats

Special-status plant species associated with wet habitats identified by the CNDDB 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
Balsamorhiza macrolepis (big-scale balsamroot)	None	None	CNPS-1B.2	Prefers chaparral, cismontane woodland, and valley and foothill grasslands.	March to June
Chloropyron molle ssp. hispidum (hispid bird's-beak)	None	None	CNPS-1B.1	Meadows, playas, foothill and valley grasslands with damp alkaline soils.	June to September
Clarkia biloba ssp. brandegeeae (Brandegee's clarkia)	None	None	CNPS-4.2	Chaparral and cismontane woodland, but may occur in foothill oak woodland and grassland.	May to July
Downingia pusilla (dwarf downingia)	None	None	CNPS-2B.2	Vernal pools and other seasonal wetlands.	March to May
Fritillaria agrestis (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
Gratiola heterosepala (Bogg's Lake hedge-hyssop)	None	Endangered	CNPS-1B.2	Vernal pools and margins of lakes/ponds	April to August
Juncus leiospermus var. leiospermus (Red Bluff dwarf rush)	None	None	CNPS-1B.1	Prefers meadows and seeps, vernal pools or other vernally mesic areas within cismontane woodland, and valley and foothill grasslands.	March to May
Legenere limosa (legenere)	None	None	CNPS-1B.1	Vernal pools and other seasonal wetlands.	April to June
Navarretia myersii ssp. myersii (pin cushion navarretia)	None	None	CNPS-1B.1	Vernal pools and other seasonal wetlands.	May
Orcuttia viscida (Sacramento orcutt grass)	Endangered	Endangered	CNPS-1B.1	Vernal pools and other seasonal wetlands.	April to July
Sagittaria sanfordii (Sanford's arrowhead)	None	None	CNPS-1B.2	Emergent freshwater marsh habitats including ponds, drainages, canals, or irrigation ditches.	Late May to August



Special-Status Plant Surveys Barrett Ranch July 2014

Figure 3
CNDDB Exhibit

Mr. George Carpenter July 22, 2014 Page 4 of 4

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.

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. *brandegeeae*) 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,

Watt Hirkala

Biologist/GIS Specialist



SPECIAL STATUS SPECIES HABITAT ASSESSMENT

PLNP 2011 - 0 0 1 5 6

RECEIVED

JAN 26 2012

PLANNING DEPT. County of Sacramento

BARRETT RANCH EAST



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



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.

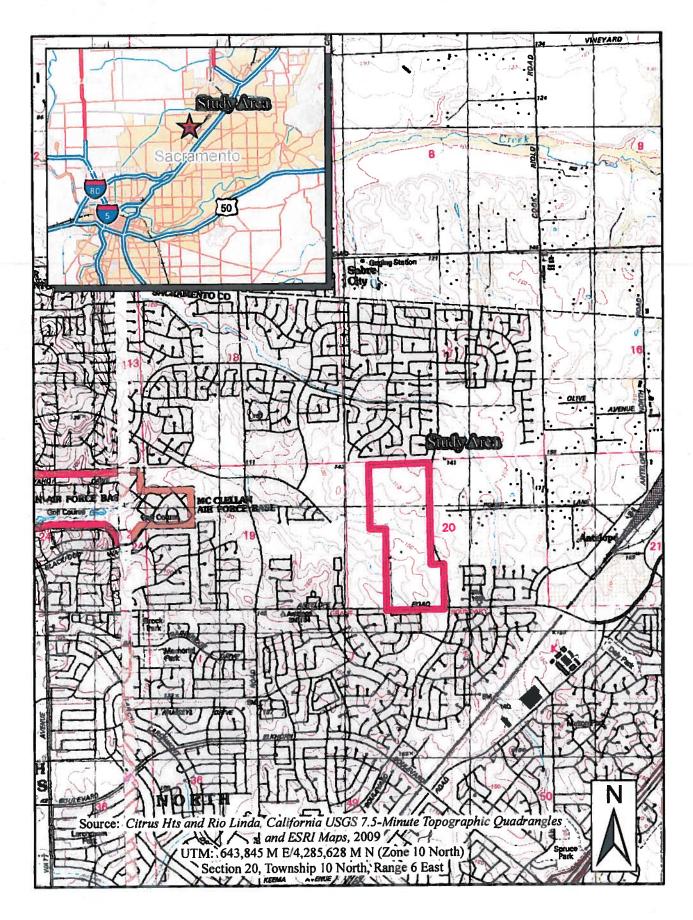
GENERAL SITE CONDITIONS AND HABITAT

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).



Special Status Species Habitat Assessment Barrett Ranch East October 2011

Figure 1 Vicinity Map

TABLE 1: EVALUATION OF SPECIAL STATUS SPECIES HABITATS

	Federal Status	State Status	CNPS	Habitat Association	Potential Habitat In Study Area
Antrozous pallidus (pallid bat)	None	Species of Special Concern		Roosts in rock outcrops, hollow trees, abandoned mines, barns, and attics.	Foraging habitat present
Lasionycteris noctivagans (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
Accipiter cooperi (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
Agelaius tricolor (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
Ardea alba (great egret)	None	CDFG-Special Animals	ļ	Rivers, streams, lakes, marsh and other aquatic habitats.	Foraging habitat present
Ardea herodias (great blue heron)	None	CDFG-Special Animals		Rivers, streams, lakes, marsh and other aquatic habitats.	Foraging habitat present
Athene cunicularia (burrowing owl)	None	Species of Special Concern		Nests in abandoned ground squirrel burrows associated with open grassland habitats.	Nesting and foraging habitat present
Buteo Swainsoni (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
Elanus leucurus (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
Falco columbarius (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
Phalacrocorax auritus (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
Progne subis (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

ciated with Habitat not present	ditches with Habitat not present	ociated swales. Habitat present	other aquatic ent vegetation. Habitat present		t is known to ter and eggs, asslands. Habitat present	ds. Habitat present	ds. Habitat present	ds. Habitat present	No 6	Habitat present	her freshwater Habitat present	ds. Habitat present	
Colonial nester in vertical cliffs and banks associated with riparian zones along streams, rivers, and lakes.	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	Breeds in vernal pools, seasonal wetlands and associated swales. Forages and hibernates in adjacent grasslands.	Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.		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.	Vernal pools or other seasonal wetlands.	Vernal pools or other seasonal wetlands.	Vernal pools or other seasonal wetlands.	Dependent upon elderberry plant (Sambucus mexicana) as primary host species	Vernal pools.	Ponds, lakes, streams, rivers, vernal pools, and other freshwater features.	Vernal pools or other seasonal wetlands.	
				-									
Threatened	Species of Special Concern	Species of Special Concern	Threatened		None	None	None	None	None	None	None	None	
None	None	None	Threatened		None	Endangered	Threatened	None	Threatened	None	None	Endangered	
Riparia riparia (bank swallow)	Emys marmorata (western pond turtle)	Spea hammondii (western spadefoot toad)	Thamnophis gigas (giant garter snake)		Andrena subapasta (No common name)	Branchinecta conservatio (Conservancy fairy shrimp)	Branchinecta lynchi (vernal pool fairy shrimp)	Branchinecta mesovallensis (midvalley fairy shrimp)	Desmocerus californicus dimorphus (valley elderberry longhom beetle)	Dumontia oregonensis (hairy water flea)	Hydrochara rickseckeri (Ricksecker's water scavenger beetle)	Lepidurus packardi (vernal pool tadpole shrimp)	Linderiella occidentalis

TABLE 1: EVALUATION OF SPECIAL STATUS SPECIES HABITATS

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

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 CNDDB 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 is 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 American 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 predactious 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 CNDDB 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. *brandegeeae*) 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, legenere, 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

CNDDB OCCURRENCES MAP





WETLAND PRESERVATION / COMPENSATION PLAN

RECEIVED

JAN 26 2012

PLANNING DEPT. County of Sacramento



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.

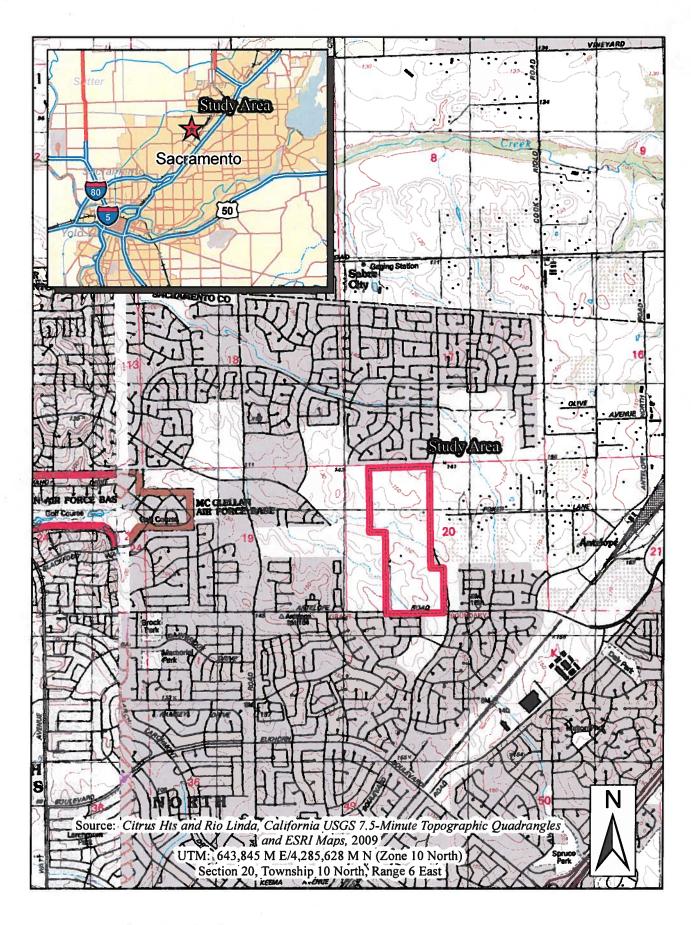
PROJECT LOCATION

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.



Wetland Preservation/Compensation Plan Barrett Ranch East January 2012

Figure 1 Vicinity Map

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.

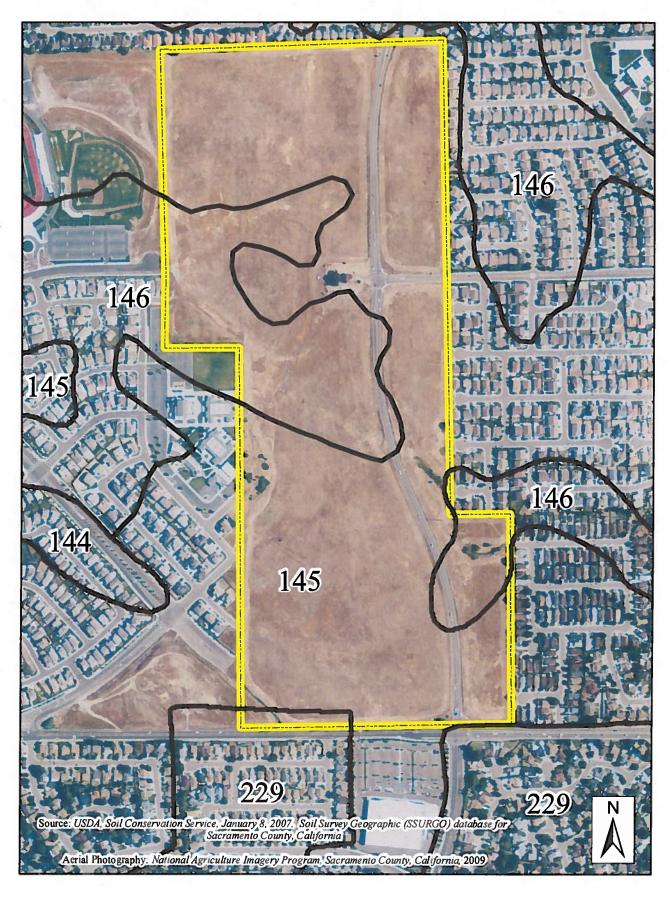
Soils

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



Wetland Preservation/Compensation Plan Barrett Ranch East January 2012

Figure 2 Soils Map

Table 1: Study Area Soil Map Units

Map Symbol	Mapping Unit	Drainage Class
145	Fiddyment fine sandy loam, 1-8% slopes	Well drained
146	Fiddyment loam, 1-15% slopes	Well drained
229	Urban lands-Xerarents-, Fiddyment 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.

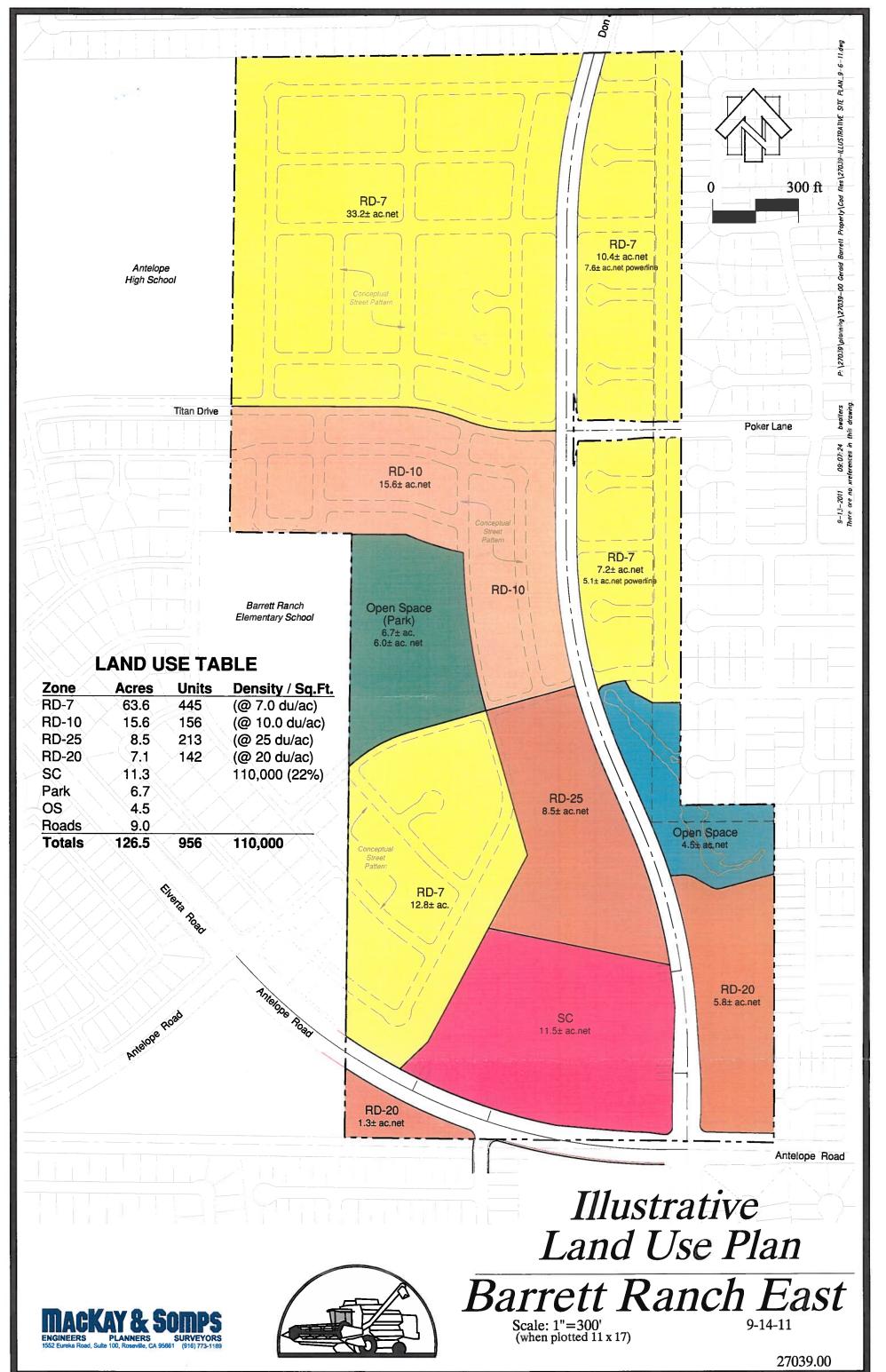
LONG TERM MAINTENANCE AND MANAGEMENT

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



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,

OPIGINAL SIGNED

Lisa M. Gibson Senior Project Manager California Delta Branch

Enclosure

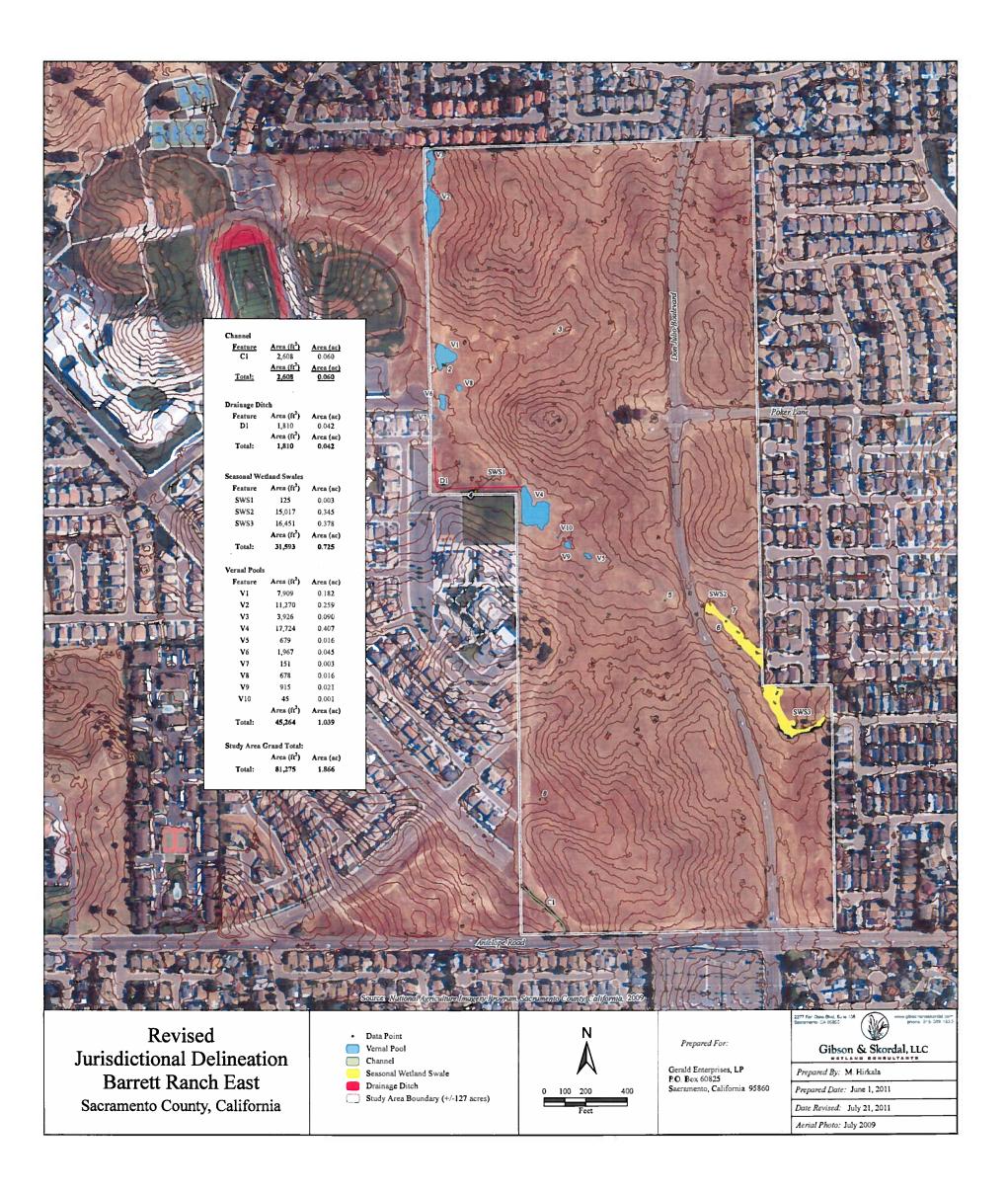
Copies Furnished without enclosures:

- 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

AUG 5 2011 BY: PSW

APPENDIX C

DELINEATION MAP



APPENDIX D

WETLAND PRESERVATION / IMPACT EXHIBIT

