Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Draft Delineation of Waters of the U.S., Including Wetlands

Diamond Springs, El Dorado County, California

February 2009
(revised April 2009)

Prepared for:
El Dorado County
Department of Transportation
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Diamond Springs, El Dorado County, California

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Tables

Figures

Attachments

1 Summary

On behalf of the El Dorado County Department of Transportation (DOT), North State Resources, Inc. (NSR) has conducted a delineation of waters of the U.S., including wetlands, occurring at the intersection of State Route 49 (Pleasant Valley Road) and Patterson Drive in El Dorado County, California. The study area is located 1 mile northeast of the community of El Dorado, within the *Placerville, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Township 10 North, Range 10 East, Section 25 MDBM). A map of the study area is presented as Figure 1.

The study area is approximately 9.0 acres, consisting of approximately 1,775 feet of Pleasant Valley Road (960 feet east of the intersection and 815 feet west of the intersection), a short portion of Ryan Drive, the majority of Assessor's Parcel Number (APN) 331-310-09 as a potential staging area, approximately 680 feet of Patterson Drive, and the majority of the Tower Mart frontage. Based on information provided by DOT, portions of the study area were previously delineated for the Harrington/Quigly Property (Corps #199700775).

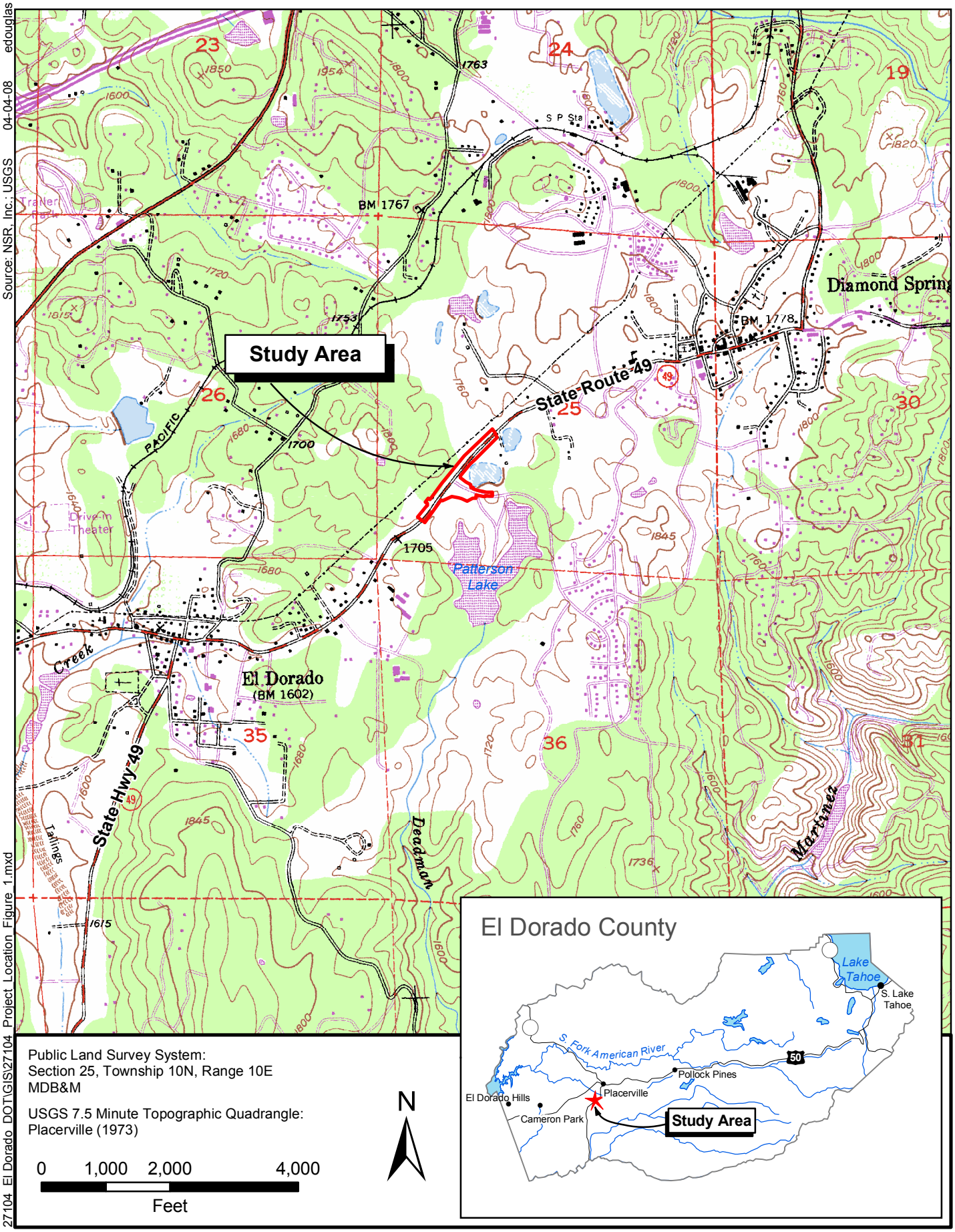
The study area was systematically delineated by an NSR biologist on June 26, 2008. Two seasonal wetland features (0.074 acre and 0.020 acre) occupying a total of 0.094 acre were delineated within the study area. Three roadside ditches, not subject to federal jurisdiction, were also delineated within the study area. The longest ditch is 0.005 acre, (209 linear feet) and the two smaller ditches measure 0.008 acre (68 linear feet) and 0.001 acre (12 linear feet).

This delineation of waters of the U.S., including wetlands, is subject to verification by the U.S. Army Corps of Engineers (Corps). NSR advises all parties to treat the information contained herein as preliminary until the Corps provides written verification of the boundaries of their jurisdiction.

2 Study Area Location

2.1 Study Area Location

The study area is located at the intersection of State Route 49 (Pleasant Valley Road) and Patterson Drive in El Dorado County, California. This location corresponds to Section 25 MDBM, Township 10 North, Ranch 10 East, within the Placerville, California USGS 7.5-minute topographic quadrangle (Figure 1).



Public Land Survey System:
Section 25, Township 10N, Range 10E
MDB&M

USGS 7.5 Minute Topographic Quadrangle:
Placerville (1973)

Source: NSR, Inc.; USGS 04-04-08 edouglas

27104 El Dorado DOTGIS\27104 Project Location Figure 1.mxd

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Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Figure 1
Location and Vicinity Map

2.2 Acreage of Delineation Study Area

The study area is 9.0± acres consisting of approximately 1,775 feet of State Route 49 (960 feet east of the intersection and 815 feet west of the intersection), a short portion of Ryan Drive, the majority of Assessor's Parcel Number (APN) 331-310-09 as a potential staging area, approximately 680 feet of Patterson Drive, and the majority of the Tower Mart frontage

2.3 Proximity to Major Highways and Streets

The study area is located along State Route 49 (Pleasant Valley Road) at the intersection with Patterson Drive in El Dorado County, California. U.S. Highway 50 is located approximately 1.6 miles northwest of the study area.

2.4 USGS Hydrologic Unit

The study area is located within the "South Fork American" USGS Hydrologic Map Unit [Map Unit Number 18020129].

3 Environmental Setting

3.1 Existing Land Uses

The majority of the study area is located along State Route 49 (Pleasant Valley Road) at the intersection with Patterson Drive. Tower Mart, a gas station/mini-market, is located at the southeastern corner of the intersection. An undeveloped lot is located at the southwest corner of the intersection. The surrounding area to the south and west of the study area consists primarily of single family homes. To the immediate north and east (beyond the Tower Mart) are undeveloped areas of grasslands and oak woodland.

3.2 Elevation/Topography

The elevation within the study area ranges from approximately 1,730 to 1,760 feet above mean sea level. The topography of the study area is nearly level to gently sloping as you move north or east away from the intersection.

3.3 Climate

Type

Warm, dry summers and mild, wet winters (Western Regional Climate Center 2008).

Precipitation

The average precipitation is 38.5 inches most of which falls between October and April with an average of 2.7 inches of precipitation being from snowfall (Western Regional Climate Center 2008).

Air temperature

Average maximum temperatures (92.6° F) occur in July and average minimum temperatures (32.4° F) occur in January (Western Regional Climate Center 2008).

Growing season

The average freeze-free period is approximately 10 to 200 days (U.S. Department of Agriculture 1997).

3.4 Hydrology

Hydrology in the study area is driven primarily by precipitation and roadway runoff. The majority of seasonal surface runoff in the northern portion of the Project Area is conveyed through roadside ditches and a wetland swale that passes under Pleasant Valley Road via a culvert. This drainage flows south through the swale-like feature to a ponded area behind the Tower Mart property. From this ponded area, the drainage flows south to Patterson Lake. Patterson Lake drains to Deadman Creek, which flows to Martinez Creek approximately 2 miles south of the Project Area. Martinez Creek eventually flows to the North Fork of the Cosumnes River about 5 miles south of the Project Area. Rain falling on the west and south sides of the Pleasant Valley Road/Patterson Drive intersection are diverted to street storm drains, via drainage ditches and street gutters, which flow west away from the intersection.

3.5 Soils

A map illustrating the distribution of soil map units within the study area is presented as Figure 2. The *Soil Survey of El Dorado County, California* (U.S. Department of Agriculture 1974) identifies three soil map units within the study area:

- Auburn silt loam, 2 to 30 percent slopes
- Diamond Springs very fine sandy loam, 9 to 15 percent slopes
- Mixed alluvial land

Auburn Silt Loam (AwD), 2 to 30 percent slopes

The Auburn series consists of well-drained soils that are underlain by hard metamorphic rocks at a depth of 12 to 26 inches. This particular soil has slopes that are primarily between 5 to 15 percent. This soil is well-drained with a depth of 14-18 inches to lithic unweathered bedrock (U.S. Department of Agriculture 2008). This soil is not listed on the Natural Resources Conservation Service (NRCS) hydric soils list for El Dorado County, nor does this unit have hydric inclusions (U.S. Department of Agriculture March 17, 1992).

Diamond Springs very fine sandy loam (DfC), 9 to 15 percent slopes

Formerly classified as Red-Yellow Podzolic, this well-drained soil has moderate to moderately slow permeability and is found at elevations of 1,000 to 4,000 feet above sea level. This soil was formed in residuum weathered from fine grained acid igneous and rhyolitic rocks. This soil is well-drained with

a depth of 40-44 inches to weathered bedrock and has a medium to rapid runoff (U.S. Department of Agriculture 2008). This soil is not listed on the NRCS hydric soils list for El Dorado County, nor does this unit have hydric inclusions (U.S. Department of Agriculture March 17, 1992).

Mixed Alluvial land (MpB)

This soil type is "somewhat poorly drained," with a depth of 36-40 inches to weathered bedrock (U.S. Department of Agriculture 2008). This soil is listed as a hydric soil in the NRCS hydric soils list for El Dorado County (U.S. Department of Agriculture March 17, 1992).

3.6 Plant Communities

The plant communities or habitats within the study area consist primarily of annual grassland and oak woodland (Figure 3, Habitat Map). Depending on the level of disturbance, moisture level, and other environmental factors, several species are considered dominants within the annual grassland including: ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), English ryegrass (*Lolium perenne*), medusahead grass (*Taeniatherum caput-medusae*), yellow star thistle (*Centaurea solstitialis*), and Mediterranean barley (*Hordeum murinum*). Other common plant species include prickly lettuce (*Lactuca serriola*), Foxtail barley (*Hordeum jubatum*), vetch (*Vicia sativa*), narrowleaf plantain (*Plantago lanceolata*), dovefoot geranium (*Geranium molle*), Fitch's tarweed (*Hemizonia fitchii*), willowweed (*Epilobium* sp.), and curly dock (*Rumex crispus*).

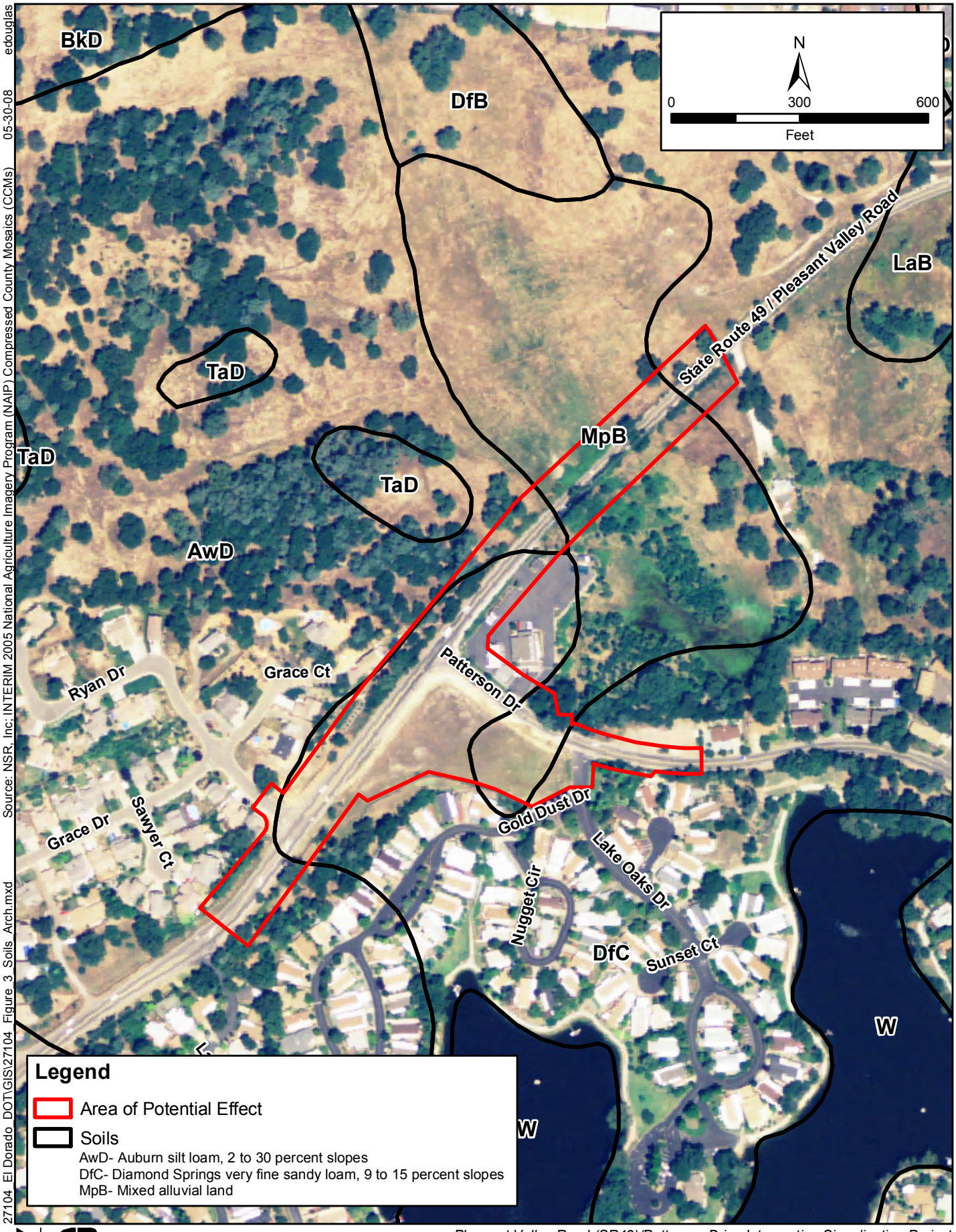
Two seasonal wetlands are present as inclusions in the annual grassland plant community. Common plants within the seasonal wetlands include common spikerush (*Eleocharis macrostachya*), cudweed (*Gnaphalium palustre*), curly dock, English ryegrass, and Himalayan blackberry (*Rubus discolor*).

The overstory of the oak woodland consists primarily interior live oak (*Quercus wislizeni*), and valley oak (*Quercus lobata*); with sparse blue oak (*Quercus douglasii*), California black oak (*Quercus kelloggii*), grey pine (*Pinus sabiniana*), ponderosa pine (*Pinus ponderosa*), and black walnut (*Juglans californica*). The understory vegetation is dominated by poison-oak (*Toxicodendron diversilobum*) with annual grasses and forbs growing in areas where canopy coverage allowed for moderate levels of sunlight to reach the woodland floor.

4 Methodology

4.1 Technical Method

The routine on-site determination was based on field observations of soil, vegetation, and hydrologic characteristics as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Delineation of "other waters" was based on the presence of an ordinary high water mark (OHWM) as defined in Corps regulations (33 CFR 328.3 and 33 CFR 328.4) and whether the feature qualified as tributary to waters of the U.S. Information for 5 data points was collected during the field delineation. The corresponding routine wetland determination data forms are presented in Attachment A.



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Source: NSR, Inc; INTERIM 2005 National Agriculture Imagery Program (NAIP) Compressed County Mosaics (CCMs)

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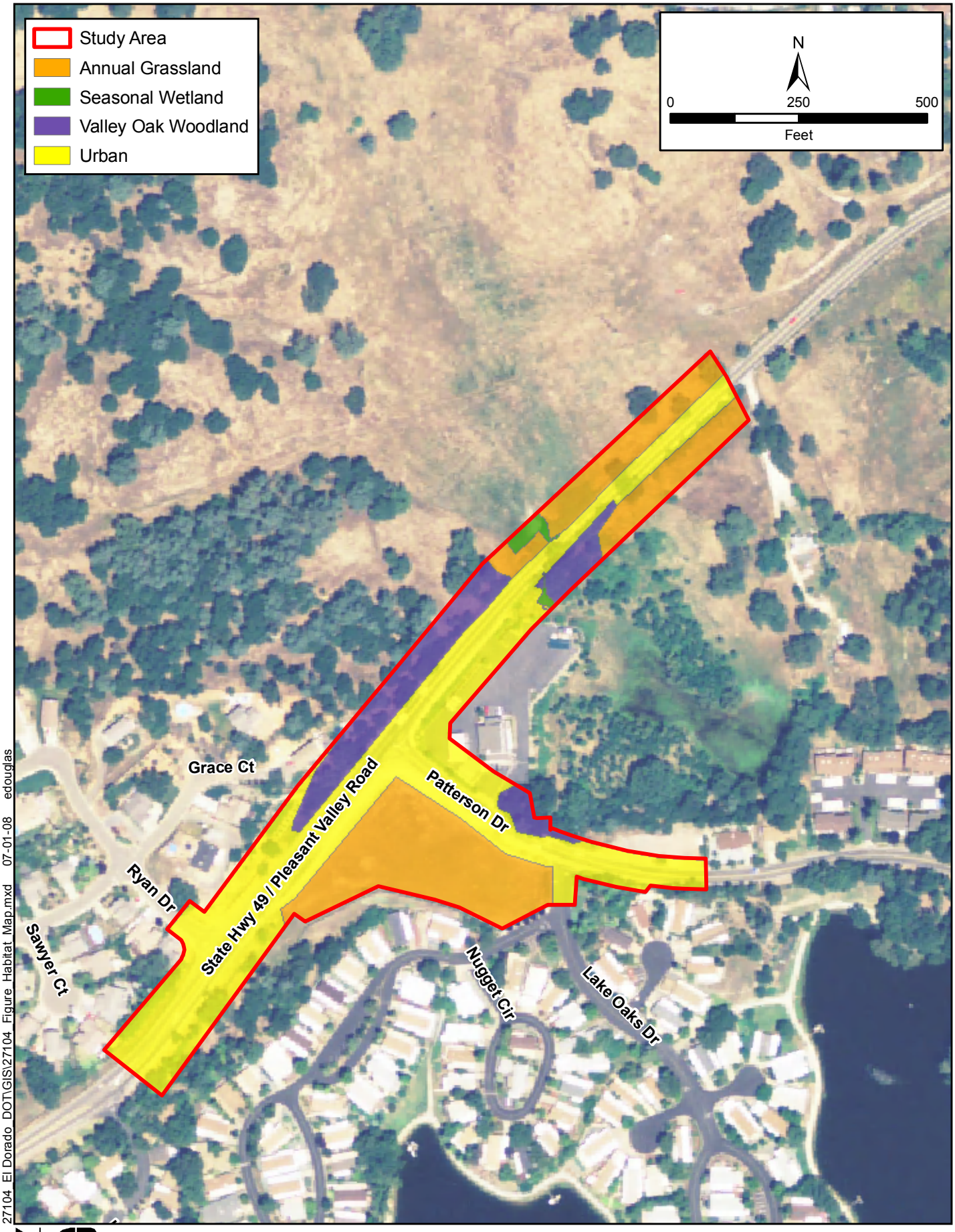
Pleasant Valley Road (SR49)/Patterson Drive Intersection Signalization Project

Figure 2
Soils Map



27104 El Dorado DOT\GIS\27104 Figure Habitat Map.mxd 07-01-08 edouglas

North State Resources, Inc.

Pleasant Valley Road (SR49)/Patterson Drive Intersection Signalization Project

Figure 3
Habitat Map

4.2 Date of Field Delineation

The field delineation was conducted by NSR biologist Brandon Amrhein on June 26, 2008.

4.3 Wetland Vegetation Indicator Status Reference

National List of Plant Species That Occur in Wetlands, California Region 0 (Reed 1988). Taxonomic nomenclature for plant species is in accordance with The Jepson Manual (Hickman 1993).

4.4 Hydric Soil Method of Determination

Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) A standard Munsell® soil color chart (Munsell Color 2000) was used to determine soil matrix and mottle colors.

4.5 Wetland Hydrology Method of Determination

Indicators of depth and duration of soil saturation, drainage patterns, and the ordinary high water mark were observed in the field.

4.6 Determination of Corps Jurisdiction

Guidance provided by the Environmental Protection Agency (EPA) and the Corps in regards to the Rapanos decision (June 19, 2006 Rapanos et ux., et al. v. U.S. Army Corps of Engineers) (Grumbles and John Paul Woodley 2007) was used to determine Corps jurisdiction.

According to the Rapanos guidance, the Corps will assert jurisdiction over:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters; and
- Relatively permanent (i.e., continuous flow for a minimum of three months) non-navigable tributaries of traditional navigable waters, and the wetlands that directly abut relatively permanent tributaries.

The Corps will assert jurisdiction over the following waters if, based on a fact-specific analysis, it is determined they have a significant nexus with traditional navigable waters. The significant nexus analysis includes the assessment of flow characteristics, tributary function, and the function of wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of the downstream navigable waters.

- Non-navigable tributaries that are not relatively permanent and any wetlands adjacent to these tributaries
- Wetlands adjacent to, but that do not directly abut, a relatively permanent non-navigable tributary.

The Corps will generally not assert jurisdiction over the following features:

- Swales or erosional features; and

- Ditches (including roadside ditches) excavated wholly to drain uplands and that do not carry a relatively permanent flow of water.

4.7 Mapping Technique

Mapping the boundaries of each wetland feature involved the combination of aerial photograph/topographic map interpretation and the use of a Trimble Geo XT Global Positioning System (GPS) capable of sub-meter accuracy (NAD 27 projection). Using a recent color aerial photograph of the study area, the entire study area was traversed on foot and all areas were viewed to the degree necessary to determine the presence/absence of waters of the United States. Each identified feature , two seasonal wetlands and three roadside ditch were mapped and photographed and data points were collected to document status determinations. All GPS data were then overlaid onto a U.S. Department of Agriculture (USDA) National Agricultural Imagery Program (NAIP) digital orthorectified color aerial photograph using ARCGIS software.

5 Results

5.1 Features Delineated

A delineation map depicting the size and location of each delineated feature within the study area is presented as Figure 4. One waters of the U.S. type was delineated within the study area – seasonal wetland. Two seasonal wetlands occupy a total of 0.094 acre of the study area.

One feature type, not subject to federal jurisdiction, was also delineated within the study area – roadside ditch. Three roadside ditches occupy a total of 0.014 acre (289 linear feet) of the study area.

Table 1 below provides an acreage summary for waters of the U.S. and non-federally jurisdictional features within the study area; see the attached *Waters of the U.S. Delineation Map* (Figure 3) for location and acreage detail.

Table 1. Acreage Summary

WATERS OF THE UNITED STATES			
LABEL	**WATERS TYPE**		**ACREAGE**
SW1	Seasonal Wetland		0.074
SW2	Seasonal Wetland		0.020
TOTAL			**0.094**
NON-JURISDICTIONAL FEATURES			
LABEL	**WATERS TYPE**	**ACREAGE**	**LENGTH (FT)**
RD1	Roadside Ditch	0.005	209
RD2	Roadside Ditch	0.008	68
RD3	Roadside Ditch	0.001	12
TOTAL		**0.014**	**289**

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Legend

- Study Area (8.993 Acres)
- Data Point
- Culvert
- Contour (1 ft. Intervals)

Non-Jurisdictional Features

- Roadside Ditch (0.014 Acre)

Waters of the U.S.

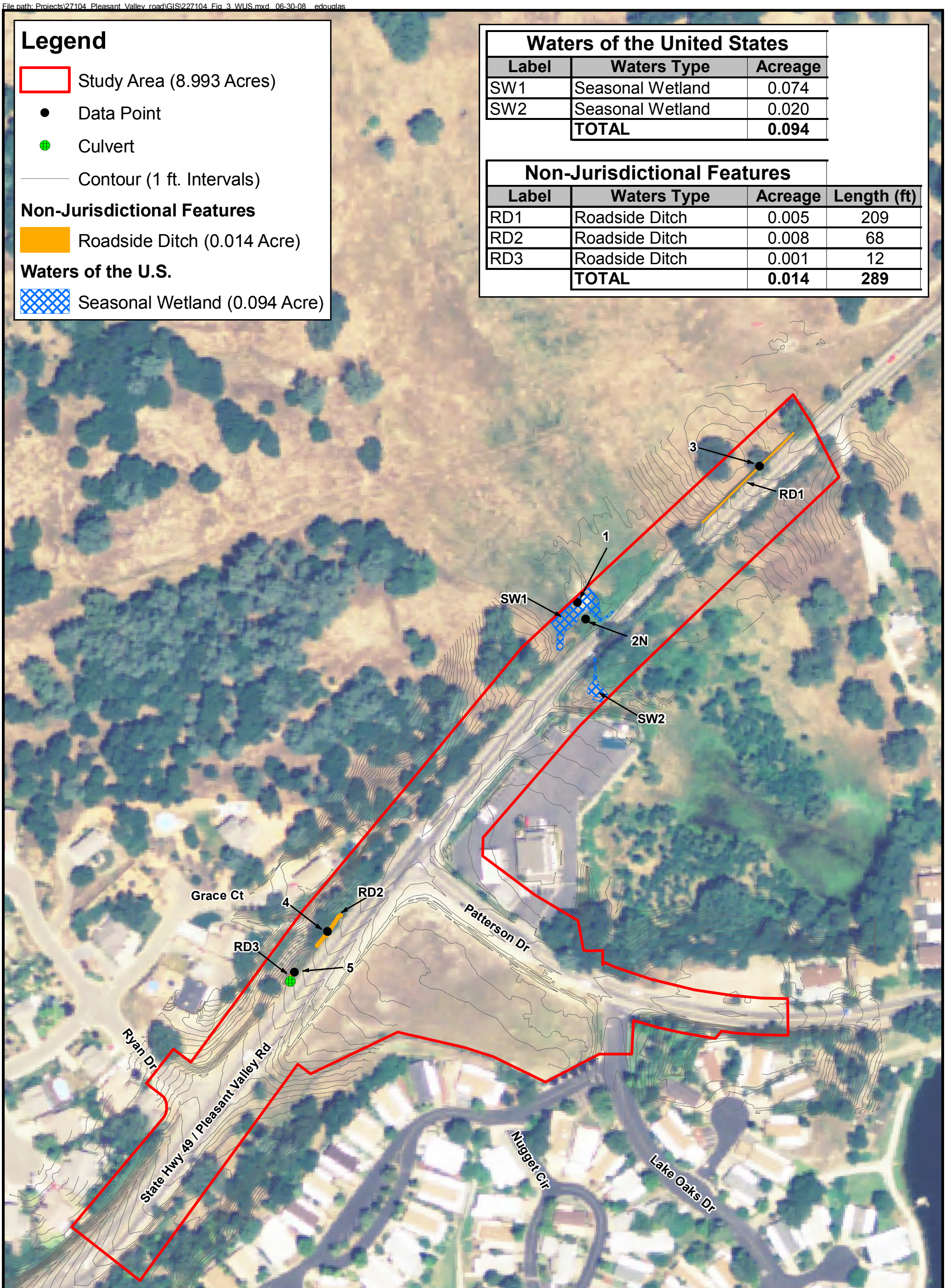
- Seasonal Wetland (0.094 Acre)

Waters of the United States

Label	Waters Type	Acreage
SW1	Seasonal Wetland	0.074
SW2	Seasonal Wetland	0.020
	TOTAL	**0.094**

Non-Jurisdictional Features

Label	Waters Type	Acreage	Length (ft)
RD1	Roadside Ditch	0.005	209
RD2	Roadside Ditch	0.008	68
RD3	Roadside Ditch	0.001	12
	TOTAL	**0.014**	**289**



This delineation of waters of the U.S., including wetlands, is subject to verification by the U.S. Army Corps of Engineers (ACOE). NSR advises all parties to treat the information contained herein as preliminary until the ACOE provides written verification of the boundaries of their jurisdiction.

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Prepared for:
El Dorado County
Department of Transportation
2850 Fairlane Court
Placerville, CA 95667

Notes:
Delineator: Mr. Brandon Amrhein
Date: June 26, 2008

Imagery Source: USDA
2005 NAIP Imagery

N
0 75 150
Feet

Figure 4
Waters of the U.S., Including Wetlands
June 30, 2008
Pleasant Valley Road (SR 49)/Patterson Drive
Intersection Signalization Project

5.2 Characteristics of Delineated Features

Federally Jurisdictional Features

Seasonal Wetland

Two seasonal wetlands (SW1 and SW2) totaling 0.094 acre were delineated within the study area. These features are located on either side of Highway 49 just east of the Tower Mart parking lot and are connected by a culvert that passes under the highway. SW1 and SW2 are characterized as localized, topographic depressions that pond water during the winter months and seasonally support a growth of obligate and facultative wetland plants. At the time of the delineation theses features were dry, however signs of recent inundation were apparent in the form of surface soil cracks and horse track imprints, formed in wet soil, still held their shape.

When water is present these seasonal wetlands drain south through a swale-like feature to a ponded area behind the Tower Mart property. From this ponded area, the drainage flows south to Patterson Lake. Patterson Lake eventually drains to the North Fork of the Cosumnes River about 5 miles south of the Project Area though a series of smaller creeks. Because these wetlands are hydrologically connected to Patterson Lake and eventually the North Fork of the Cosumnes River they qualify as waters of the U.S. Representative photographs of the seasonal wetlands are presented in Attachment B, Photographs 1 and 2.

Non-Federally Jurisdictional Features

Roadside Ditch

Three non-vegetated ditches are located on the northern edge of Pleasant Valley Road (RD1, RD2, and RD3 on Figure 3). These features are characterized as excavated, roadside ditches that contain little to no vegetation. RD1 is approximately 1-2 feet wide, 1-2 feet deep, and is approximately 0.005 acre (209 linear feet) in size. RD2 is a wide, shallow ditch that is approximately 4-5 feet wide, no more than 2 feet deep, and is approximately 0.008 acre (68 linear feet) in size. RD3 is a very short, concrete-lined, 2-3 feet wide, 2 feet deep, and is approximately 0.001 acre (12 linear feet) in size. It appears that RD2 may overflow and drain to RD3 during high rain events, however there is no defined swale or ditch that clearly connects these two features. RD3 drains to a culvert under Pleasant Valley Road. Given that these ditches were constructed in uplands to drain upland areas, these ditches do not qualify as waters of the U.S. Representative photograph of these ditches are presented in Attachment B, Photographs 3 through 5.

5.3 Discussion of Results

Waters of the U.S. delineated within the study area include 0.094 acre of seasonal wetlands (2 seasonal wetland features). No discharge of dredged or fill material into waters of the U.S. is permitted unless authorized under a Department of the Army Permit from the Corps.

The delineation also identified three (3) roadside ditches not subject to federal jurisdiction. These features occupy a total of 0.014 acre (289 linear feet) of the study area and do not qualify as waters of the U.S.

This delineation of waters of the U.S., including wetlands, is subject to verification by the Corps. NSR advises all parties to treat the information contained herein as preliminary until the Corps provides written verification of the boundaries of their jurisdiction.

6 References

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

Grumbles, Benjamin H., and John Paul Woodley, Jr. 2007. Clean Water Act Jurisdiction Following the U. S. Supreme Court's Decision in Rapanos v. United States & Clarabell v. United States, June 5, 2007.

Hickman, J. C. (Ed.). 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Munsell Color. 2000. *Munsell Soil Color Charts. Revised 2000 Edition*. GretagMacbeth. New Windsor, New York.

Reed, P. B., Jr. 1988. National List of Plant Species That Occur in Wetlands: California (Region 0). U.S. Fish and Wildlife Service Biological Report 88(26.10). U.S. Fish and Wildlife Service.

U.S. Department of Agriculture. 1992. Field Office Official List of Hydric Soil Map Units for El Dorado Area, California. March 17, 1992.

U.S. Department of Agriculture. 1974. Soil Survey of El Dorado County, California: Natural Resources Service.

U.S. Department of Agriculture. 1997. Ecological Subregions of California. Prepared by the U.S. Forest Service, Pacific Southwest Region. Available at: http://www.fs.fed.us/r5/projects/ecoregions/toc.htm

U.S. Department of Agriculture. 2008. Natural Resources Conservation Service: Web Soil Survey. Available on the Internet at: http://websoilsurvey.nrcs.usda.gov/ [accessed June 18, 2008]

Western Regional Climate Center. 2008. Period of Record Monthly Climate Summary. Available on the Internet at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6960 [accessed June 18, 2008]

ATTACHMENT A

Routine Wetland Determination Forms

North State Resources

Wetland Determination Data Form - Arid West Region

Habitat Type: ANNUAL GRASSLAND
Wetland Type: SEASONAL WETLAND

Project/Site: PLEASANT VALLEY RD/PATTERSON DR City/County: EL DORADO COUNTY Sampling Date: 6/26/08
Applicant/Owner: EL DORADO COUNTY DOT State: CA Sampling Point: 1
Investigator(s): BRANDON AMRHEIN
Landform (hillslope, terrace, etc.): WETLAND DEPRESSION Local relief (concave, convex, none): CONCAVE Slope %: <5
Subregion (LRR): C/ MLRA 22A Soil Map Unit Name: MpB - MIXED ALLUVIAL LAND
Are climatic/hydrologic conditions on the site typical for this time of year? Y (*If no, explain in remarks.*)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are normal circumstances present? Y
Are vegetation N, soil N, or hydrology N 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? X Hydric soil? X Wetland hydrology? X Is sampled area a wetland? Y Other waters? N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters X Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____
Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank ____ Scour ____ Ordinary High Water Mark Mapped ____
Feature Designation: Perennial ____ Intermittent ____ Ephemeral ____ Blue-line on USGS Quad ____
Natural Drainage ____ Artificial Drainage ____ Navigable Water ____

Remarks

SEASONAL WETLAND EXHIBITS POSITIVE INDICATORS FOR ALL THREE WETLAND CRITERIA. THIS FEATURE DRAINS INTO A LARGE POND SOUTH OF THE STUDY AREA.

PICTURES #561-4565

Vegetation

Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Sapling/Shrub Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Herb Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1. ELEOCHARIS MACROSTACHYA	25	YES	OBL
2. GNAPHALIUM PALUSTRE	25	YES	FACW
3. RUMEX CRISPUS	20	YES	FACW-
4. LOLEUM PERENNE	15	NO	FAC*
5. POLYPOGON MONSPELIENSIS	5	NO	FACW+
6.			
7.			
8.			
50%=45 20%=18 Total Cover:	90		
Woody/Vine Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum ____ **% Cover of Biotic Crust** ____

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 3 (A)
Total number of dominant species across all strata: 3 (B)
Percent of dominant species that are OBL, FACW, or FAC: 100 (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species		x 1 =	
FACW Species		x 2 =	
FAC Species		x 3 =	
FACU Species		x 4 =	
UPL Species		x 5 =	
Column Totals	(A)		(B)

Prevalance Index = B/A = ____

Hydrophytic Vegetation Indicators
✓ Dominance Text is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]*Indicators of hydric soil and wetland hydrology must be present.*

Hydrophytic Vegetation? Y

Sampling Point 1

Soils

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR4/2	60	5YR4/6	40	C (IRON CONCENTRATION)	PC;M	CLAY LOAM	REDOX CONCENTRATED IN ROOT CHANNES

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining RC = Root Channel M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (AG) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF2)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: ____ Depth (Inches) ____ Hydric Soil? Y

Remarks

CLAY LOAM WITH IRON CONCENTRATIONS DETECTED THROUGHOUT. MEETS HYDRIC SOIL CRITERIA.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- X Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- ✓ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No ✓ Depth (inches) N/A

Water Table Present? Yes ____ No ✓ Depth (inches) N/A

Saturation Present? Yes ____ No ✓ Depth (inches) N/A *(includes capillary fringe)*

Wetland Hydrology? Yes ✓ No ____

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

Remarks HEAVILY GRAZED BY HORSES/CATTLE. HORSE/CATTLE FOOTPRINTS FORMED IN MUD SHOW EVIDENCE OF HYDROLOGY. MULTIPLE WETLAND HYDROLOGY INDICATORS. THIS FEATURE DRAINS UNDER PLEASANT VALLEY ROAD AND THEN TO A POND FEATURE IN THE SOUTH WEST BEYOND THE STUDY AREA.

North State Resources

Wetland Determination Data Form - Arid West Region

Habitat Type: ANNUAL GRASSLAND
Wetland Type: UPLAND

Project/Site: PLEASANT VALLEY RD/PATTERSON DR City/County: EL DORADO COUNTY Sampling Date: 6/26/08
Applicant/Owner: EL DORADO COUNTY DOT State: CA Sampling Point: 2
Investigator(s): BRANDON AMRHEIN
Landform (hillslope, terrace, etc.): PLAIN Local relief (concave, convex, none): NONE Slope %: 1
Subregion (LRR): C/MLRA 22A Soil Map Unit Name: MpB - MIXED ALLUVIAL LAND
Are climatic/hydrologic conditions on the site typical for this time of year? Y *(If no, explain in remarks.)*
Are vegetation N, soil N, or hydrology N significantly disturbed? Are normal circumstances present? Y
Are vegetation N, soil N, or hydrology N 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? N Hydric soil? N Wetland hydrology? N Is sampled area a wetland? N Other waters? N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters ____ Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____
Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank ____ Scour ____ Ordinary High Water Mark Mapped ____
Feature Designation: Perennial ____ Intermittent ____ Ephemeral ____ Blue-line on USGS Quad ____
Natural Drainage ____ Artificial Drainage ____ Navigable Water ____

Remarks

UPLAND POINT PAIRED TO SEASONAL WETLAND (DATA POINT 1).

PICTURES 4566 - 4571

Vegetation

Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. JUGLANS HINDSII	25	YES	FAC
2.			
3.			
4.			
50%= 12.5 20%= 5 Total Cover:	25		
Sapling/Shrub Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%= 20%= Total Cover:			
Herb Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1. BROMUS DIANDRUS	30	YES	NL
2. BROMUS TECTORUM	25	YES	NL
3. TORILIS ARVENSIS	15	NO	NL
4. TARAXACUM OFFICINALE	15	NO	FACW
5. LOLEUM PARENNE	15	NO	FAC*
6. RUBUS DIS COLOR	5	NO	FACW*
7. ERODIUM CICUTARIUM	5	NO	UPL
8. ELOCHARIS MACROSTACHYA	5	NO	OBL
50%= 20%= Total Cover:			
HERB ~~Woody/Vine~~ Stratum (use scientific names)	% Cover	Species?	Status
9. CYNOSURUS ECHINATUS	5	NO	NL
2.			
50%= 60 20%= 24 Total Cover: 120			

% Bare Ground in Herb Stratum ____ **% Cover of Biotic Crust** ____

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1 (A)

Total number of dominant species across all strata: 3 (B)

Percent of dominant species that are OBL, FACW, or FAC: 33 (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species		x 1 =	
FACW Species		x 2 =	
FAC Species		x 3 =	
FACU Species		x 4 =	
UPL Species		x 5 =	
Column Totals	(A)		(B)

Prevalance Index = B/A = ____

Hydrophytic Vegetation Indicators

____ Dominance Text is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation? N

Sampling Point 2

Soils

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5 YR 4/4	100					LOAMY CLAY	

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining RC = Root Channel M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (AG) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF2)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? ND

Remarks

LOAMY CLAY WITH CHROMA OF 4. NO REDOX FEATURES OBSERVED. DOES NOT MEET HYDRIC SOILS CRITERIA.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No ✓ Depth (inches) N/A

Water Table Present? Yes ____ No ✓ Depth (inches) N/A

Saturation Present? Yes ____ No ✓ Depth (inches) NA *(includes capillary fringe)*

Wetland Hydrology? Yes ____ No ✓

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

Remarks

NO WETLAND HYDROLOGY INDICATORS. DATA POINT TAKEN ON UPLAND AREA ADJACENT TO SEASONAL WETLAND

North State Resources

Wetland Determination Data Form - Arid West Region

Habitat Type ROADSIDE DITCH
Wetland Type _____

Project/Site: PLEASANT VALLEY RD/PATTERSON DR City/County: EL DORADO COUNTY Sampling Date: 6/26/08
Applicant/Owner: EL DORADO COUNTY DOT State: CA Sampling Point: 3
Investigator(s): BRANDON AMRHEIN
Landform (hillslope, terrace, etc.) ROADSIDE DEPRESSION Local relief (concave, convex, none) CONCAVE Slope % 5
Subregion (LRR) C / MLRA 22A Soil Map Unit Name: 0f C- DIAMOND SPRINGS VERY FINE SANDY LOAM, 9-15% SLOPE
Are climatic/hydrologic conditions on the site typical for this time of year? Y *(If no, explain in remarks.)*
Are vegetation N, soil N, or hydrology N significantly disturbed? Are normal circumstances present? Y
Are vegetation N, soil N, or hydrology N 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? N Hydric soil? N Wetland hydrology? N Is sampled area a wetland? N Other waters? N

USACE Jurisdiction

Adjacent to Waters _____ Tributary to Waters _____ Isolated (with interstate commerce) _____ Isolated (non jurisdictional) _____
Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank _____ Scour _____ Ordinary High Water Mark Mapped _____
Feature Designation: Perennial _____ Intermittent _____ Ephemeral _____ Blue-line on USGS Quad _____
Natural Drainage _____ Artificial Drainage _____ Navigable Water _____

Remarks ROADSIDE DITCH. FEATURE IS APPROXIMATELY 2 FEET WIDE AND 1 FOOT DEEP AND CONTAINS NO VEGETATION. DITCH APPEARS TO DRAIN EAST TO A STORMDRAIN NEAR EASTERN EDGE OF STUDY AREA.

Vegetation

Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. QUERCUS WISLIZENI	100	YES	NL
2.			
3.			
4.			
50%=_____ 20%=_____ Total Cover:	100		
Sapling/Shrub Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%=_____ 20%=_____ Total Cover:			
Herb Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%=_____ 20%=_____ Total Cover:			
Woody/Vine Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
50%=_____ 20%=_____ Total Cover:			

% Bare Ground in Herb Stratum _____ **% Cover of Biotic Crust** _____

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 0 (A)
Total number of dominant species across all strata: 1 (B)
Percent of dominant species that are OBL, FACW, or FAC: 0 (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	_____	x 1 =	_____
FACW Species	_____	x 2 =	_____
FAC Species	_____	x 3 =	_____
FACU Species	_____	x 4 =	_____
UPL Species	_____	x 5 =	_____
Column Totals	_____ (A)		_____ (B)

Prevalance Index = B/A = _____

Hydrophytic Vegetation Indicators
_____ Dominance Text is >50%
_____ Prevalence Index is ≤ 3.0[1]
_____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation? N

Sampling Point 3

Soils

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining RC = Root Channel M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (AG) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF2)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? ____

Remarks NO SOIL DATA TAKEN. MAN MADE ROADSIDE DITCH. SOME GRAVEL IN DITCH.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- ✓ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No ____ Depth (inches) _____ Wetland Hydrology? Yes ____ No ____

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, and previous inspections), if available:

Remarks FEATURE IS A ROADSIDE DRAINAGE CREATED IN URBAN TO CARRY WATER DURING RAIN EVENT. FEATURE IS APPROXIMATELY 2 FEET WIDE - DOES NOT QUALIFY AS A WATERS OF THE U.S.

North State Resources

Wetland Determination Data Form - Arid West Region

Habitat Type ROADSIDE DITCH
Wetland Type _____

Project/Site: PLEASANT VALLEY RD/PATTERSON DR City/County: EL DORADO COUNTY Sampling Date: 6/26/08
Applicant/Owner: EL DORADO DOT State: CA Sampling Point: 4
Investigator(s): BRANDON AMRHEIN
Landform (hillslope, terrace, etc.) ROADSIDE DEPRESSION Local relief (concave, convex, none) CONCAVE Slope % 5
Subregion (LRR) C/ MLRA 22A Soil Map Unit Name: DfC - DIAMOND SPRINGS VERY FINE SANDY LOAM, 9-15% SLOPES
Are climatic/hydrologic conditions on the site typical for this time of year? Y (If no, explain in remarks.)
Are vegetation N, soil N, or hydrology N significantly disturbed? Are normal circumstances present? Y
Are vegetation N, soil N, or hydrology N 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? N Hydric soil? N Wetland hydrology? N Is sampled area a wetland? N Other waters? N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters ____ Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____
Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank ____ Scour ____ Ordinary High Water Mark Mapped ____
Feature Designation: Perennial ____ Intermittent ____ Ephemeral ____ Blue-line on USGS Quad ____
Natural Drainage ____ Artificial Drainage ____ Navigable Water ____

Remarks

ROADSIDE DITCH. THIS FEATURE IS A SHALLOW WIDE DITCH APPROXIMATELY 4-5 FEET WIDE AND APPROXIMATELY 1 FOOT DEEP. THE DITCH HAS NO VEGETATION GROWING IN IT, BUT IS FULL OF LEAF LITTER FROM DENSE TREE OVERSTORY.

Vegetation

Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1. QUERCUS WISLIZENII	100	YES	NL
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:	100		
Sapling/Shrub Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Herb Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%=____ 20%=____ Total Cover:			
Woody/Vine Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum ____ **% Cover of Biotic Crust** ____

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0 (A)

Total number of dominant species across all strata: 1 (B)

Percent of dominant species that are OBL, FACW, or FAC: 0 (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	____	x 1 =	____
FACW Species	____	x 2 =	____
FAC Species	____	x 3 =	____
FACU Species	____	x 4 =	____
UPL Species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalance Index = B/A = ____

Hydrophytic Vegetation Indicators

____ Dominance Text is >50%
____ Prevalence Index is ≤ 3.0[1]
____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]*Indicators of hydric soil and wetland hydrology must be present.*

Hydrophytic Vegetation? N

Sampling Point 4

Soils

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining RC = Root Channel M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (AG) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF2)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? _____

Remarks NO SOIL DATA TAKEN - DITCH FILLED WITH LEAF LITTER.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- ✓ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No ____ Depth (inches) _____ Wetland Hydrology? Yes ____ No ____

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, and previous inspections), if available:

Remarks FEATURE IS A ROADSIDE DRAINAGE ≈ 4-5 FEET WIDE. APPEARS TO CARRY WATER DURING RAIN EVENTS. FEATURE DRAINS ROADWAY AND SURROUNDING UPLANDS. FEATURE DRAINS WEST WHEN FULL BY SHEET FLOW TO RD3. NO DEFINED WATER PATH TO RD3. DOES NOT QUALIFY AS A WATERS OF U.S.

North State Resources

Wetland Determination Data Form - Arid West Region

Habitat Type ROADSIDE DRAINAGE
Wetland Type _____

Project/Site: PLEASANT VALLEY RD/PATTERSON DR City/County: EL DORADO COUNTY Sampling Date: 6/26/08
Applicant/Owner: EL DORADO DOT State: CA Sampling Point: 5
Investigator(s): BRANDON AMRHEIN
Landform (hillslope, terrace, etc.) ROADSIDE DEPRESSION Local relief (concave, convex, none) CONCAVE Slope % 5
Subregion (LRR) C/ MLRA 22A Soil Map Unit Name: DfC - DIAMOND SPRINGS VERY FINE SANDY LOAM, 9-15% SLOP
Are climatic/hydrologic conditions on the site typical for this time of year? Y *(If no, explain in remarks.)*
Are vegetation N, soil N, or hydrology N significantly disturbed? Are normal circumstances present? Y
Are vegetation N, soil N, or hydrology N 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? N Hydric soil? N Wetland hydrology? N Is sampled area a wetland? N Other waters? N

USACE Jurisdiction

Adjacent to Waters _____ Tributary to Waters _____ Isolated (with interstate commerce) _____ Isolated (non jurisdictional) _____
Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank _____ Scour _____ Ordinary High Water Mark Mapped _____
Feature Designation: Perennial _____ Intermittent _____ Ephemeral _____ Blue-line on USGS Quad _____
Natural Drainage _____ Artificial Drainage _____ Navigable Water _____

Remarks

ROADSIDE DITCH. THIS FEATURE IS APPROXIMATELY 2-3 FEET WIDE AND 2 FEET DEEP, ≤ 12 FEET LONG, AND IS MOSTLY CONCRETE LINED. A CULVERT AT THE WEST END OF FEATURE DRAINS WATER TO AN UNKNOWN LOCATION. NO VEGETATION IN DITCH. UPLAND GRASSES SURROUND FEATURE.

Vegetation

Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%=_____ 20%=_____ Total Cover:			
Sapling/Shrub Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
50%=_____ 20%=_____ Total Cover:			
Herb Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%=_____ 20%=_____ Total Cover:			
Woody/Vine Stratum (use scientific names)	**% Cover**	**Species?**	**Status**
1.			
2.			
50%=_____ 20%=_____ Total Cover:			

% Bare Ground in Herb Stratum _____ **% Cover of Biotic Crust** _____

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: _____ (A)
Total number of dominant species across all strata: _____ (B)
Percent of dominant species that are OBL, FACW, or FAC: _____ (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	_____	x 1 =	_____
FACW Species	_____	x 2 =	_____
FAC Species	_____	x 3 =	_____
FACU Species	_____	x 4 =	_____
UPL Species	_____	x 5 =	_____
Column Totals	_____ (A)		_____ (B)

Prevalance Index = B/A = _____

Hydrophytic Vegetation Indicators
_____ Dominance Text is >50%
_____ Prevalence Index is ≤ 3.0[1]
_____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation? N

Soils

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining RC = Root Channel M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (AG) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF2)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? ____

Remarks NO SOIL DATA TAKEN. FEATURE IS MOSTLY CONCRETE LINED, SOME SEDIMENT DEPOSITS AT BOTTOM OF FEATURE.

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- ____ Sediment Deposits (B2) (Riverine)
- ____ Drift Deposits (B3) (Riverine)
- ✓ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No ____ Depth (inches) _____ Wetland Hydrology? Yes ____ No ____

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, and previous inspections), if available:

Remarks FEATURE IS A ROADSIDE DITCH AND IS ≈ 2-3 FEET WIDE, 2 FEET DEEP. FEATURE CARRIES WATER DURING RAIN EVENT AND DRAINS TO CULVERT UNDER PLEASANT VALLY ROAD. FEATURE RECIEVES OVERFLOW WATER FROM RD2 WHEN IT IS FULL VIA SHEET FLOW. NO DEFINED WATER PATH BTWN THESE FEATURES. DOES NOT QUALIFY AS WATERS OF U.S.

ATTACHMENT B

Representative Photographs

Representative Photographs Taken June 26, 2008

Photograph 1. Photograph showing seasonal wetland (SW1) located on the north side of Pleasant Valley Road. Photograph taken from the edge of the study area looking east across SW1.

Photograph 2. Photograph showing seasonal wetland (SW2) located on the south side of Pleasant Valley Road. Photograph taken from the edge of Pleasant Valley Road looking east. The light post in the background is located at the northeastern corner of the Tower Mart parking lot.

Photograph 3. Photograph of roadside ditch (RD1) located on the north side of Pleasant Valley Road near the northern end of the study area. Photograph taken from the eastern end of the ditch looking southwest along Pleasant Valley Road.

Photograph 4. Photograph of roadside ditch (RD2) located in the north side of Pleasant Valley Road between Ryan Drive and Patterson Drive. Photograph taken from middle of RD2 looking the northeast.

Photograph 5. Photograph of roadside ditch (RD3) and culvert located on the north side of Pleasant Valley Road near Ryan Drive. Photograph taken just east of the feature looking southwest along Pleasant Valley Road.