
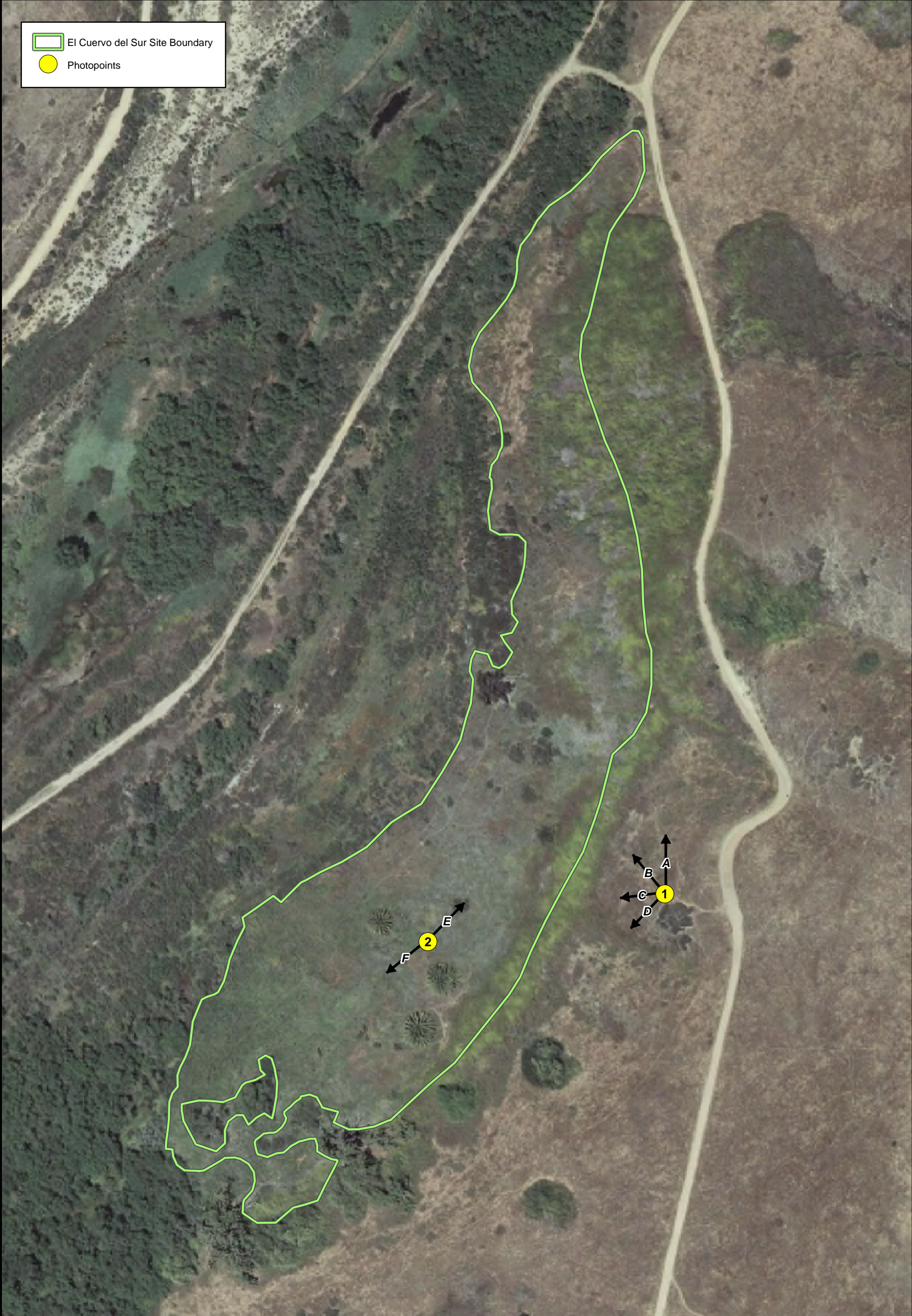


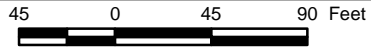




 El Cuervo del Sur Site Boundary  
 Photopoints



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	SOURCES: Site Boundary, Photopoints (URS, 2013). Aerial Imagery (SanGIS, 2012).		<b>PHOTOPOINT LOCATIONS</b> <b>EL CUERVO DEL SUR HMMP</b> <b>CITY OF SAN DIEGO</b>	
		 SCALE: 1" = 90' (1:1,080) SCALE CORRECT WHEN PRINTED AT 11X17	CREATED BY: LR PM: BE	DATE: 5/8/2013 PROJ. NO: 27679954.08300

	<p><b>Photograph A</b></p> <p>Date: 04-26-13</p> <p>Photopoint 1, photos A-D are sweeping overview shots moving from north to southwest across the Site. This photo is looking at the northern half of the mitigation site, bound by the dirt road to the right and existing riparian vegetation in the background. The yellow mustard will be restored or covered by soil.</p>
	<p><b>Photograph B</b></p> <p>Date: 04-26-13</p> <p>Photopoint 1, this photo is looking northwest over the Site. Not the few native shrubs and large non-native eucalyptus tree in the center of the picture. The shrubs will be saved and the eucalyptus tree removed.</p>

	<p><b>Photograph C</b></p> <p>Date: 04-26-13</p> <p>Photopoint 1, this photograph is looking west over the Site (flat area in center of picture). Two of the three Canary Island date palms in the mitigation site are visible here. All three of these palm trees will be removed during the mitigation effort.</p>
	<p><b>Photograph D</b></p> <p>Date: 04-26-13</p> <p>Photopoint 1, this is the final picture in the panorama of the Site and shows all three palm trees and the confluence of Lopez Canyon into Los Peñasquitos Creek in the background. The mitigation site extends to the riparian vegetation, but includes the willow just beyond the palm trees, this tree will be saved.</p>



**Photograph E**

Date: 04-10-13

Photopoint 2, looking northeast from the center of the Site. The eucalyptus to be removed is visible in the background, will a native shrub that will be avoided is the closer shrub. The dead vegetation is composed of non-native species.



**Photograph F**

Date: 04-10-13

Photopoint 2, looking southwest from the center of the Site. A palm tree and dead teasel are seen to the left and in the foreground of the picture. These species will be removed. Assorted non-native grasses are visible coming up in the rest of the picture.





# Memorandum

Date: April 29, 2013

To: Mark Tucker

From: Julie Stout and Sundeep Amin

Subject: Jurisdictional Delineations for Proposed Mitigation Sites within  
Los Peñasquitos Canyon Preserve

The purpose of this memo is to document the methods and results of the delineation and jurisdictional determination conducted at two potential mitigation sites within Los Peñasquitos Canyon Preserve (Figures 1 and 2). The purpose of the delineation was to identify and map the location and extent of the limits of local, state, and federal jurisdictional waters of including wetlands that would fall under the jurisdiction of the U.S. Army Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), California Coastal Commission (CCC), and the City of San Diego. The current Arid West Regional Supplement and Rapanos/Carabell guidance (Rapanos) were applied to the methods and results of this study when relevant. This wetland study also evaluated the extent of waters of the State that may fall under the jurisdiction of the California Department of Fish and Wildlife pursuant to Section 1602 of the Fish and Game Code of California (Streambed Alteration Agreements) or the Porter-Cologne Act regulating waste discharge into waters of the State. This report is for use in the verification process with Local, State and Federal regulators and is intended to be submitted to the regulatory agencies for review and verification.

## Methods

Site visits were conducted by URS biologists Julie Stout and Catherine MacGregor on April 4, 2013 and Julie Stout and Sundeep Amin on April 19, 2013. The initial site visits included vegetation mapping of the mitigation areas plus a 150-foot buffer and compilation of a plant species list. Areas with hydrophytic plant species were examined more closely to determine the wetland boundary. Initial delineation was conducted visually based on vegetation indicators. A three parameter wetland delineation was conducted in accordance with the 1987 Corps Manual and 2006 Arid West Supplement. Wetland waters of the U.S. were sampled using the general methodology detailed in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (Corps Manual) for wetlands less than 5 acres in size. Sample points were chosen based on vegetation community mapping and considered visible transitions in vegetation composition and topographical changes. Additional soil pits were created to further document the wetland and upland conditions on site during the subsequent site visit and confirm wetland conditions in the southeastern corner of the site.

The definition of the growing season and the basis of determining and recording indicators for hydrophytic vegetation, hydric soils, and wetland hydrology was the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Arid West Supplement). Both the Corps Manual and Arid West Supplement were used for the determination and evaluation of any normal circumstances, atypical situations, and problem area wetlands. All Corps and CDFW jurisdictional areas were also assumed to be under the jurisdiction of the RWQCB and the CCC.

**Results**

*El Cuervo al Oeste*-The western mitigation area included both upland and wetland areas within the current mitigation site boundary (Figure 1). Freshwater marsh and disturbed wetland overlapped the southwestern and southeastern portions of the proposed mitigation area. The riparian vegetation associated with Los Peñasquitos Creek is considered to be to be jurisdictional wetlands for all agencies. A summary of the delineation results and determinations El Cuervo al Oeste is provided in Table 1 below.

**Table 1. Summary of Delineation Results and Jurisdictional Determinations for El Cuervo al Oeste**

JDSP No.	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Jurisdictional Wetland (Y/N)
1	-	-	-	N
2	x	x	x	Y
4	-			N
5	x	x	x	Y
6	x	x	x	Y
7	-	-	-	N

*El Cuervo del Sur*-The southern mitigation area included both upland and wetland areas (Figure 2). The site is surrounded to the North and West by riparian and wetland vegetation. A small patch of wetlands was mapped within the western boundary. This area meets the state definitions of wetlands and is assumed to be Corps jurisdictional under the PJD approach. A summary of the delineation results and determinations for the El Cuervo del Sur is provided in Table 2 below.

**Table 2. Summary of Delineation Results and Jurisdictional Determinations for El Cuervo del Sur**

JDSP No.	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Jurisdictional Wetland (Y/N)
3	-	-	-	N
8	x	-	-	Y
4	-	-	-	N

**Recommendations**

It is recommended that the downstream boundary of both mitigation areas be revised to avoid wetland impacts. Suggested boundary revisions are shown on Figures 1 and 2.



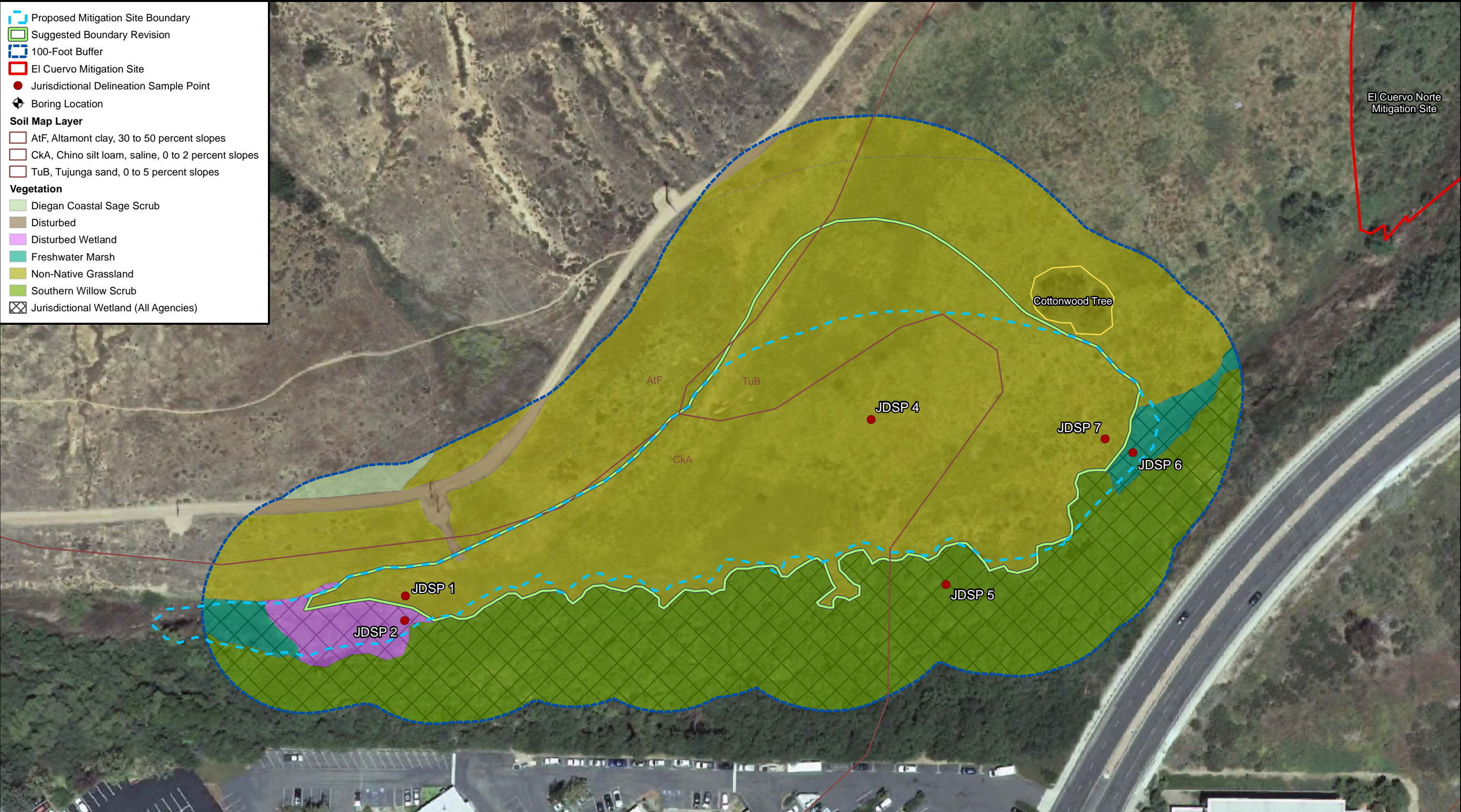
- Proposed Mitigation Site Boundary
- Suggested Boundary Revision
- 100-Foot Buffer
- El Cuervo Mitigation Site
- Jurisdictional Delineation Sample Point
- Boring Location

**Soil Map Layer**


- AtF, Altamont clay, 30 to 50 percent slopes
- CkA, Chino silt loam, saline, 0 to 2 percent slopes
- TuB, Tujunga sand, 0 to 5 percent slopes






**Vegetation**

- Diegan Coastal Sage Scrub
- Disturbed
- Disturbed Wetland
- Freshwater Marsh
- Non-Native Grassland
- Southern Willow Scrub
- Jurisdictional Wetland (All Agencies)







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 <b>URS</b>	SOURCES: Site Boundary, Buffer, Vegetation, Utility Right of Way, JDSP, Boring (URS, 2013). Aerial Imagery (SanGIS, 2012). Soil (SSURGO, USDA, 2007).		<b>JURISDICTIONAL DELINEATION          EL CUERVO AL OESTE          CITY OF SAN DIEGO</b>	
	45 0 45 90 Feet SCALE: 1" = 90' (1:1,080) SCALE CORRECT WHEN PRINTED AT 11X17	CREATED BY: LR PM: BE	DATE: 5/9/2013 PROJ. NO: 27679954.08300	FIG. NO: <b>1</b>

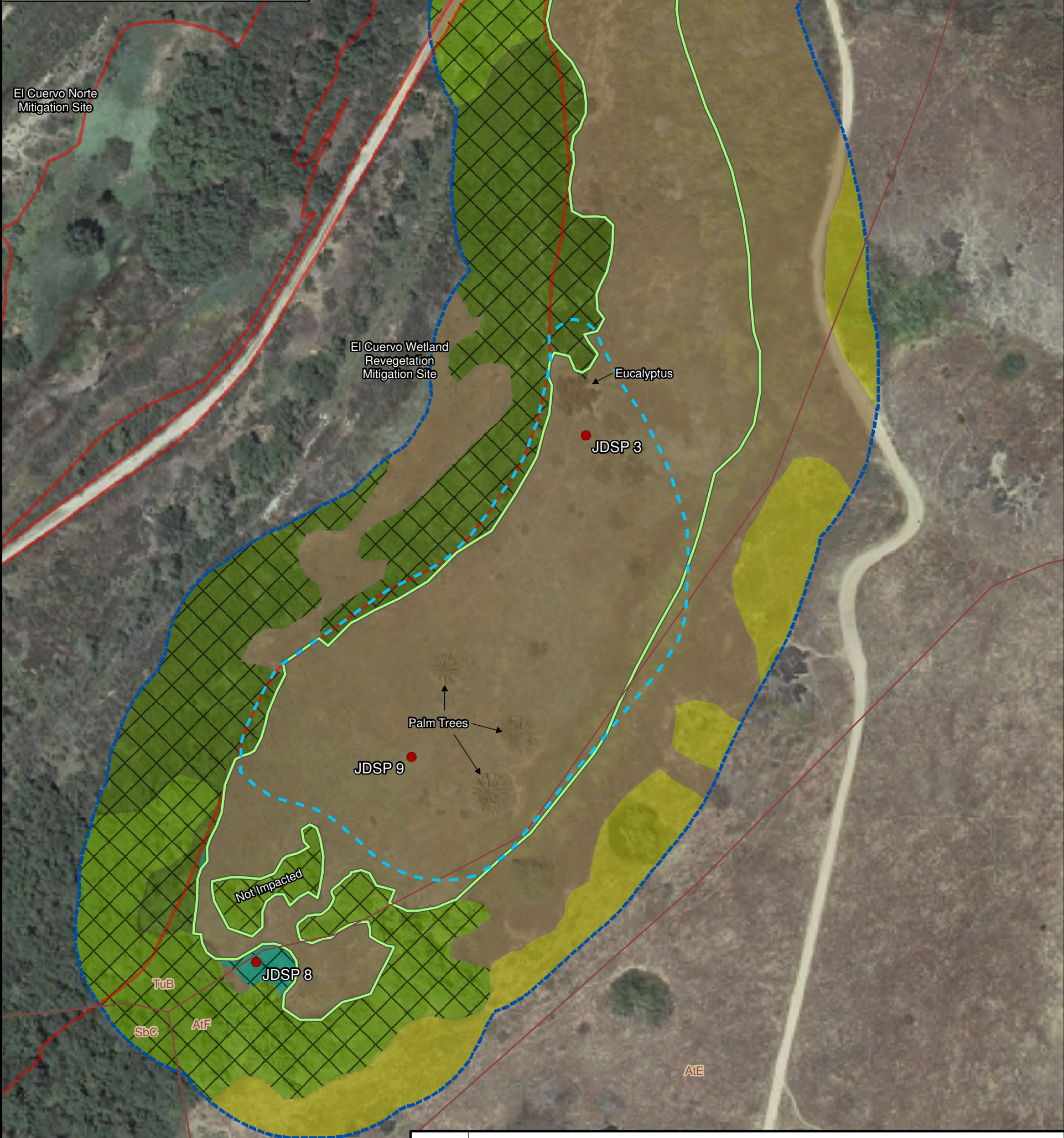
 Proposed Mitigation Site Boundary  
 Suggested Boundary Revision  
 100-Foot Buffer  
 El Cuervo Mitigation Site  
 Jurisdictional Delineation Sample Point

**Soil Map Layer**




 AtE, Altamont clay, 15 to 30 percent slopes  
 AtF, Altamont clay, 30 to 50 percent slopes  
 SbC, Salinas clay loam, 2 to 9 percent slopes  
 TuB, Tujunga sand, 0 to 5 percent slopes

**Vegetation**

 Disturbed  
 Freshwater Marsh  
 Mulefat Scrub  
 Non-Native Grassland  
 Southern Willow Scrub  
 Jurisdictional Wetland (All Agencies)



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 	SOURCES: Site Boundary, Buffer, Vegetation, Utility Right of Way, JDSP, Boring (URS, 2013). Aerial Imagery (SanGIS, 2012). Soil (SSURGO, USDA, 2007).		<b>JURISDICTIONAL DELINEATION EL CUERVO DEL SUR CITY OF SAN DIEGO</b>	
	45 0 45 90 Feet  SCALE: 1" = 90' (1:1,080) SCALE CORRECT WHEN PRINTED AT 11X17		CREATED BY: LR PM: BE	DATE: 10/24/2013 PROJ. NO: 27679954.08300

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: El Cuervo west City/County: San Diego Sampling Date: 4/4/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: Pit 1  
 Investigator(s): J. Stott, C. MacGregor Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): flood terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 2  
 Subregion (LRR): C20 Lat: 479794.71 Long: 3690892.01 Datum: NAD83  
 Soil Map Unit Name: CHINO silt loam NWI classification: freshwater emergent wetland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)	
4. _____	_____	_____	_____	= Total Cover	
Sampling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species <u>40</u> x 3 = <u>120</u>	
5. _____	_____	_____	_____	FACU species <u>70</u> x 4 = <u>280</u>	
Herb Stratum (Plot size: _____)				UPL species <u>5</u> x 5 = <u>25</u>	
1. <u>Cynodon dactylon</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	Column Totals: <u>115</u> (A)	<u>425</u> (B)
2. <u>Echinochloa diandra</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.69</u>	
3. <u>Distichlis spicata</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	___ Dominance Test is >50%	
5. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 <sup>1</sup>	
6. _____	_____	_____	_____	___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
7. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8. _____	_____	_____	_____	___ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____					

Remarks:

difficult to differentiate Cynodon & Distichlis - lacking flowerheads

**SOIL**

Sampling Point: Pit 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
1-7	7.5YR 3/2	80					silty clay	
	7.5YR 4/3	20					"	
7-12	7.5YR 3/2	98-99	7.5YR 5/6	1-2	C	M	"	prominent redox moist, no saturation

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: soils not hydric - not meeting F6 requirement of ≥ 5% redox with matrix value of 3 chrom 2

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: El Cervo West City/County: San Diego Sampling Date: 4/4/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: Pit 2  
 Investigator(s): J. Stout, C. Macgregor Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): flood terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1  
 Subregion (LRR): C20 Lat: 479798.70 Long: 3640886.16 Datum: WGS 84  
 Soil Map Unit Name: chno silt loam NWI classification: Freshwater Forested/Sh wetland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>320</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.9</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>80</u>	x 3 = <u>240</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species _____	x 5 = _____	Column Totals: <u>110</u> (A)	<u>320</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>80</u>	x 3 = <u>240</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>110</u> (A)	<u>320</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
<b>Herb Stratum (Plot size: _____)</b> 1. <u>Salicornia pacifica</u> <u>10</u> <u>N</u> <u>OBL</u> 2. <u>Distichlis spicata</u> <u>80</u> <u>Y</u> <u>FAC</u> 3. <u>Frankenia salina</u> <u>5</u> <u>N</u> <u>FACW</u> 4. <u>Cynodon dactylon</u> <u>15</u> <u>N</u> <u>FACU</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover																		
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover																		
<b>% Bare Ground in Herb Stratum</b> <u>10</u> <b>% Cover of Biotic Crust</b> <u>3</u> _____ = Total Cover																		

Hydrophytic Vegetation Present? Yes  No \_\_\_\_\_

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SOIL

Sampling Point: Pit 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	7.5YR 3/2	60					silty clay	
	7.5YR 4/3	10					"	
	G 2.5/N	30					"	
7-12	7.5YR 3/2	90	10YR 5/6	10	C	M	"	prominent

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

HYDROLOGY

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

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

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

Remarks:  
 water table probably high, ponded water nearby

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: PCA 1, Pit 3 City/County: San Diego Sampling Date: 4/4/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: Pit 3  
 Investigator(s): Julie Stout & Catherine MacGregor Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): flat Slope (%): 0  
 Subregion (LRR): C20 Lat: 400743.02 Long: 3641347.02 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: Freshwater emergent wetland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				<b>Prevalence Index worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species <u>85</u> x 4 = <u>340</u>
_____ = Total Cover				UPL species <u>10</u> x 5 = <u>50</u>
Herb Stratum (Plot size: _____)				Column Totals: <u>95</u> (A) <u>390</u> (B)
1. <u>Helminthothena echioides</u>	<u>85</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = <u>4.1</u>
2. <u>Synapis arvensis</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
3. <u>K</u>	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>
1. _____	_____	_____	_____	___ Dominance Test is >50%
2. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 <sup>1</sup>
_____ = Total Cover				___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
% Bare Ground in Herb Stratum <u>5</u> % Cover of Biotic Crust <u>0</u>				___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Remarks: <u>ant colony in soil at pit location</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>

**SOIL**

Sampling Point: P.13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	7.5YR 3/2	100					Sandy clay loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks:



WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Cuervo West City/County: \_\_\_\_\_ Sampling Date: 4/19/13  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: Pit 4  
 Investigator(s): S. Amth, J. Stout Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): fluvial terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1  
 Subregion (LRR): C20 ~~X~~: 4799 33.38 Long: 3640 945.52 Datum: WGS 84  
 Soil Map Unit Name: chico silt loam NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				<b>Prevalence Index worksheet:</b>
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species <u>10</u> x 1 = <u>10</u>
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species <u>40</u> x 3 = <u>120</u>
5. _____				FACU species _____ x 4 = _____
= Total Cover				UPL species <u>20</u> x 5 = <u>100</u>
				Column Totals: <u>60</u> (A) <u>220</u> (B)
				Prevalence Index = B/A = <u>3.6</u>
Herb Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>
1. <u>Bromus diandrus</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Lolium perenne</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
3. <u>Hordeum sp.</u>	<u>10</u>	<u>N</u>	<u>UNK</u>	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>70</u> = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks: ~~leaf litter~~  
 dead grass - 30% , unknown hordeum - prevalence index would still be >3 even if this turned out to be an obligate species

**SOIL**

Sampling Point: Pit 4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-20</u>	<u>7.5YR 3/2</u>	<u>100</u>					<u>Sandy loam</u>	
<u>0-1</u>	<u>10.5YR 3/2</u>	<u>100</u>					<u>clay loam</u>	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks:

DWS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: El Cuervo West City/County: Sampling Date: 4/19/13
Applicant/Owner: State: Sampling Point: PITS
Investigator(s): Section, Township, Range:
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: 479955.83 Long: 36408 Datum:
Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes [X] No
Are Vegetation, Soil, or Hydrology 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 [X] No
Hydric Soil Present? Yes [X] No
Wetland Hydrology Present? Yes [X] No
Is the Sampled Area within a Wetland? Yes [X] No
Remarks:

VEGETATION – Use scientific names of plants.

Table with columns for Tree Stratum, Sapling/Shrub Stratum, Herb Stratum, Woody Vine Stratum, and Dominance Test worksheet. Includes species names like Salix lasiotepestis, Anemopsis californica, Bromus sp. and various cover percentages.

Remarks: leaf litter 78%
Hydrophytic Vegetation Present? Yes [X] No

**SOIL**

Sampling Point: Pit 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR 3/2	100					clay loam	
2-20	10YR 3/2	100					sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 4

Wetland Hydrology Present? Yes  No

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: El Cerevo West City/County: \_\_\_\_\_ Sampling Date: 4/19/13  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: P76  
 Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ X 480008A5 Long: Y 3640937.03 Datum: N6584  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____)				<b>Dominance Test worksheet:</b> 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: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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) Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Scirpus americanus</u>	<u>10</u>			
2. <u>Apium graveolens</u>	<u>5</u>			
3. <u>Arenopsis californica</u>	<u>90-80</u>		<u>OBL</u>	
4. <u>Bristly Ox-tongue</u>	<u>5</u>			
5. <u>Eleocharis macrostachya</u>	<u>15</u>			
6. <u>Juncus acutus</u>	<u>2</u>		<u>FACW</u>	
7. <u>Helminthotheca echioides</u>	<u>5</u>		<u>FACU</u>	
8. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks: _____				

**SOIL**

Sampling Point: Pit 6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	7.5YR5/2	60	5YR 4/6	40	CS, C, M, PL		Sand	
4-14	7.5YR2.5/1	100					Mucky Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, 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 (A5) (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<sup>3</sup>:**
- 1 cm Muck (A9) (LRR C)
  - 2 cm Muck (A10) (LRR B)
  - Reduced Vertic (F18)
  - Red Parent Material (TF2)
  - Other (Explain in Remarks)
- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

- Wetland Hydrology Indicators:**
- Primary Indicators (minimum of one required; check all that apply)**
- Surface Water (A1)
  - High Water Table (A2)
  - Saturation (A3)
  - Water Marks (B1) (Nonriverine)
  - Sediment Deposits (B2) (Nonriverine)
  - Drift Deposits (B3) (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 along Living Roots (C3)
  - Presence of Reduced Iron (C4)
  - Recent Iron Reduction in Tilled Soils (C6)
  - Thin Muck Surface (C7)
  - 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)
  - Crayfish Burrows (C8)
  - Saturation Visible on Aerial Imagery (C9)
  - Shallow Aquitard (D3)
  - FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 10 2

Wetland Hydrology Present? Yes  No

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

Remarks:

NING

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: El Corno West City/County: \_\_\_\_\_ Sampling Date: 4/19/13  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: Pit 7  
 Investigator(s): \_\_\_\_\_ Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: 36 40 40.29 N Long: 364 09 40.29 W Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ 48 000 2, SS NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

#### VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species <u>1</u> x 1 = <u>1</u>	
3. _____	_____	_____	_____	FACW species <u>0</u> x 2 = _____	
4. _____	_____	_____	_____	FAC species <u>1</u> x 3 = <u>3</u>	
5. _____	_____	_____	_____	FACU species <u>1</u> x 4 = <u>4</u>	
= Total Cover				UPL species <u>1</u> x 5 = <u>5</u>	
Herb Stratum (Plot size: _____)				Column Totals: <u>4</u> (A) <u>13</u> (B)	
1. <u>Bromus diandrus</u>	<u>30</u>		<u>UPL</u>	Prevalence Index = B/A = <u>3.25</u>	
2. <u>Foeniculum vulgare</u>	<u>2</u>		<u>-</u>	Hydrophytic Vegetation Indicators:	
3. <u>Rumex crispus</u>	<u>5</u>		<u>FAC</u>	___ Dominance Test is >50%	
4. <u>Bromus carinatus</u>	<u>70</u>		<u>FACU</u>	___ Prevalence Index is ≤3.0 <sup>1</sup>	
5. <u>Bromus hordeaceus</u>	<u>10</u>		<u>OBL</u>	___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
6. <u>Anemopsis californica</u>	<u>3</u>		<u>OBL</u>	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____	_____	_____	_____	___ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					
Remarks:					

**SOIL**

Sampling Point: Pit 7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 3/1	90					loamy clay	
7-20	10YR 3/2	100					Sandy clay loam	1" worm
0-7	10YR 5/4	10					silt/sand	

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

- Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**
- |                                                            |                                                     |                                                             |
|------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |                                                             |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |                                                             |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |                                                             |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |                                                             |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |                                                             |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |                                                             |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |                                                             |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |                                                             |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |                                                     |                                                             |
|                                                            |                                                     |                                                             |

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks: \_\_\_\_\_

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No X

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

Remarks: \_\_\_\_\_



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: El Cuervo del Sur City/County: San Diego Sampling Date: 4/26/13  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: Pit 8  
 Investigator(s): S. Amin, R. Randall Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace etc.): \_\_\_\_\_ Local relief (concave, convex, none): Plot Slope (%): 0  
 Subregion (LRR): C20 Lat: 480658 Long: 3641211 Datum: NAD83  
 Soil Map Unit Name: TuB-Tujunga Sand, 0 to 5% slopes NWI classification: Freshwater emergent wetland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>Vegetation present, but no soils or hydrology, pit location in depression that may pond water longer than normal</u>	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
				_____ = Total Cover
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
				_____ = Total Cover
Herb Stratum (Plot size: <u>5x5'</u> )				
1. <u>Juncus kaphiodus</u>	<u>100</u>	<u>Y</u>	<u>00L</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
				<u>100</u> = Total Cover
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
				_____ = Total Cover
% Bare Ground in Herb Stratum <u>0</u>	% Cover of Biotic Crust <u>0</u>			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 1 x 1 = 1  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: 1 (A) 1 (B)  
 Prevalence Index = B/A = 1

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: P.1-8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2						Silty Clay loam	
3-13	7.5YR 3/2						silty clay loam	small particles of nitrogen?

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes 4 No \_\_\_\_\_ Depth (inches): 8"

(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks: Soil damp throughout profile, more moist after 8" or so, but not wet/glistening

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: El Cuervo del Sur City/County: San Diego Sampling Date: 4/26/13

Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: P19

Investigator(s): S. Amin, R. Randall Section, Township, Range: \_\_\_\_\_

Landform (hillslope, terrace, etc.): Plat Local relief (concave, convex, none): Plat Slope (%): 0

Subregion (LRR): C20 Lat: 480698 Long: 3641264 Datum: WGS84

Soil Map Unit Name: TUB-Tujunga Sand, 0 to 5% slopes NWI classification: Freshwater emergent wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> Remarks: _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
= Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species <u>1</u></td> <td>x 4 = <u>4</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>1</u> (A)</td> <td><u>4</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species <u>1</u>	x 4 = <u>4</u>	UPL species _____	x 5 = _____	Column Totals: <u>1</u> (A)	<u>4</u> (B)	Prevalence Index = B/A = <u>4</u>	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species <u>1</u>	x 4 = <u>4</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>1</u> (A)	<u>4</u> (B)																			
Prevalence Index = B/A = <u>4</u>																				
<b>Sapling/Shrub Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																				
<b>Herb Stratum (Plot size: <u>5x5'</u>)</b> 1. <u>Bromus diandrus</u> <u>5</u> <u>N</u> <u>-</u> 2. <u>Cynodon dactylon</u> <u>90</u> <u>Y</u> <u>FACU</u> 3. <u>Dipsacus sativus</u> <u>5</u> <u>N</u> <u>-</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover																				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover																				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>																				
Remarks: _____																				

**Hydrophytic Vegetation Indicators:**

\_\_\_ Dominance Test is >50%

\_\_\_ Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No

SOIL

Sampling Point: P.19

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/2						clay loam	
4-14	10YR 3/2						sandy loam	

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: Soil damp, but no moisture.

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks: No signs of hydrology present





# Memorandum

Date: April 19, 2013  
To: Sundeep Amin  
From: Thomas Grace  
Subject: Los Penasquitos Field Survey Progress Report

Matt Moore, Jerry Pitt and Tom Grace spent approximately 1.5 days conducting an in-house survey for Los Penasquitos Creek at the El Cuervo al Oeste and El Cuervo del Sur sites. The survey was taken with three cross-section alignments for each site. The El Cuervo al Oeste site survey was taken on April 17<sup>th</sup>, 2013 and the El Cuervo del Sur site was taken on April 18<sup>th</sup>, 2013. The field survey cross-sections were taken with the objective to closely align with the HEC-RAS cross-section and boring locations. Other than getting the general topography of the land, we also noted edge-of-water locations and depth of water.

The El Cuervo al Oeste site survey was conducted within the creek area. The area was heavily vegetated with thick brush and trees. The creek had running water and in some instances small pools of standing water were observed.

The El Cuervo del Sur site survey was conducted mainly within the project site area. The site area is mainly dry with tall grass, shrubs and trees. The creek area was very dense with tall vegetation. The vegetation was too dense to complete the survey along the alignments and the water appeared to be deep. We couldn't traverse through the creek due to safety. The third cross-section, the most downstream section, was very densely vegetated. Survey points were gathered until accessibility was limited.

The cross-section alignments were hard to establish based on the overview map. However, we oriented our alignments with visible landmarks, such as houses, trees and boring locations, to give us direction.

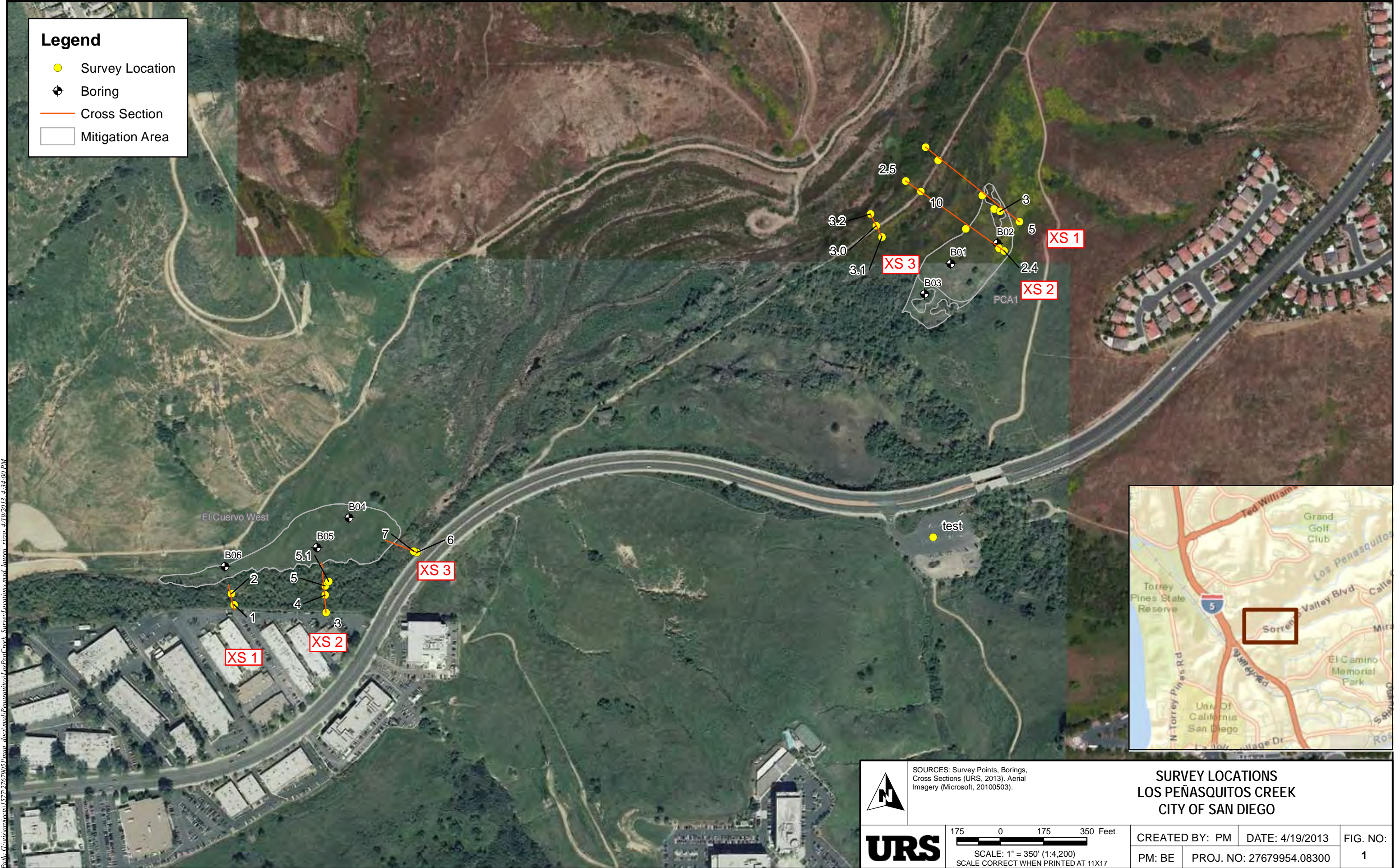
Attached is a map illustrating our general cross-section alignments that were established by taking waypoints with the GPS unit on the field survey. Refer to **Figure 1**.



The field survey points were then transposed onto the cross-sections generated with the existing topography, 2-ft contour intervals, to generate a more defined section. Refer to **Figure 2 and Figure 3** for El Cuervo del Oeste and El Cuervo del Sur, respectively. The City topography is not detailed enough to capture the ground points beneath the dense canopy of the trees and brush therefore a field survey was conducted to supplement those points.

The cross-sections generated from the City topography and the field surveys were used as ground point data for an HEC-RAS analysis. The results from the analysis determined the preliminary water surface elevations and flood widths for both project sites. For each site, the 2-, 5-, 10-, and 25-year floodplains were delineated. Refer to **Figure 4 and Figure 5** for El Cuervo del Oeste and El Cuervo del Sur, respectively. The flow rates were based on the FEMA Flood Insurance Study (FIS) for Los Penasquitos Creek.

**Legend**

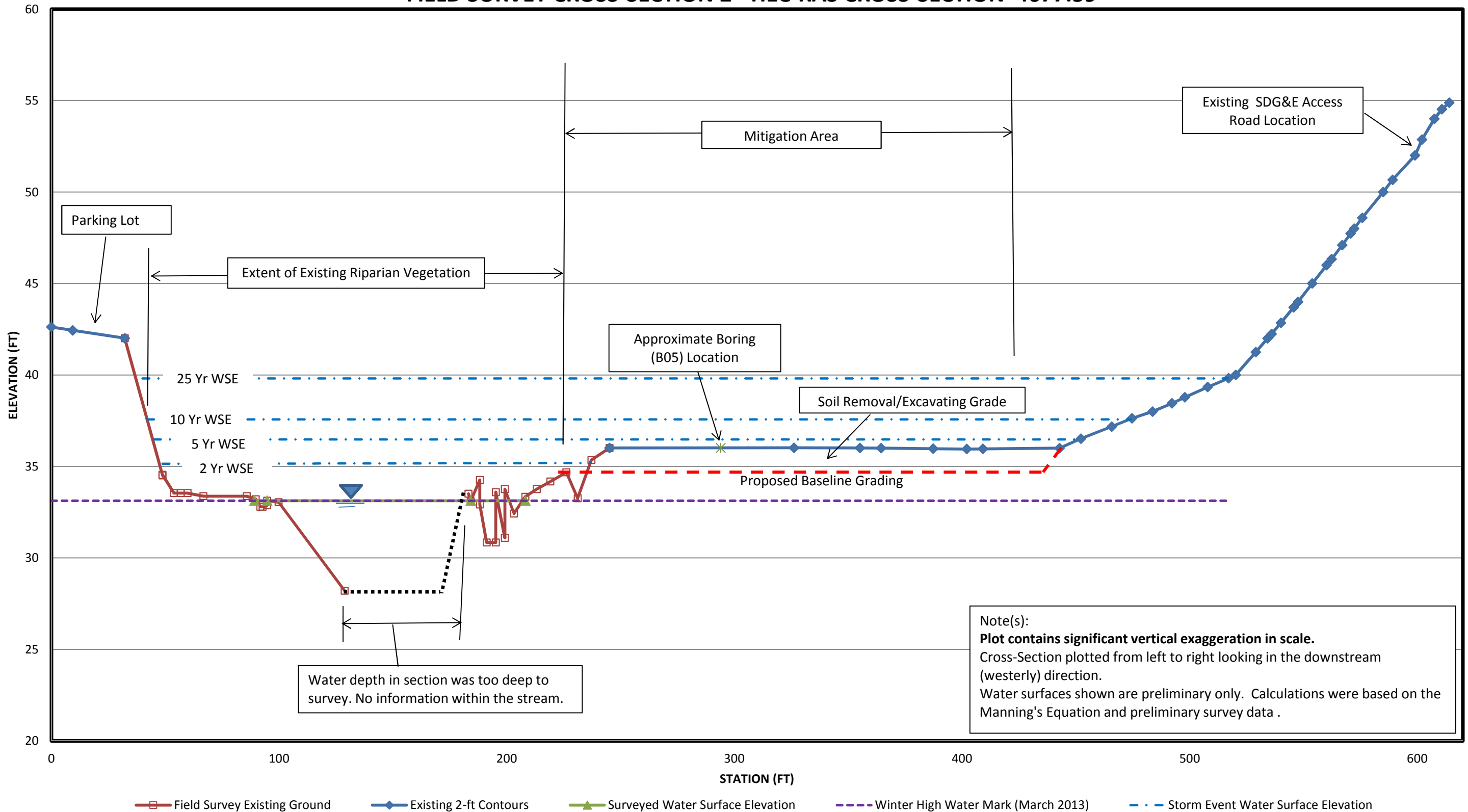
- Survey Location
- ⊕ Boring
- Cross Section
- Mitigation Area



 	SOURCES: Survey Points, Borings, Cross Sections (URS, 2013). Aerial Imagery (Microsoft, 20100503).		<b>SURVEY LOCATIONS</b> <b>LOS PEÑASQUITOS CREEK</b> <b>CITY OF SAN DIEGO</b>	
	175 0 175 350 Feet SCALE: 1" = 350' (1:4,200) SCALE CORRECT WHEN PRINTED AT 11X17		CREATED BY: PM PM: BE	DATE: 4/19/2013 PROJ. NO: 27679954.08300

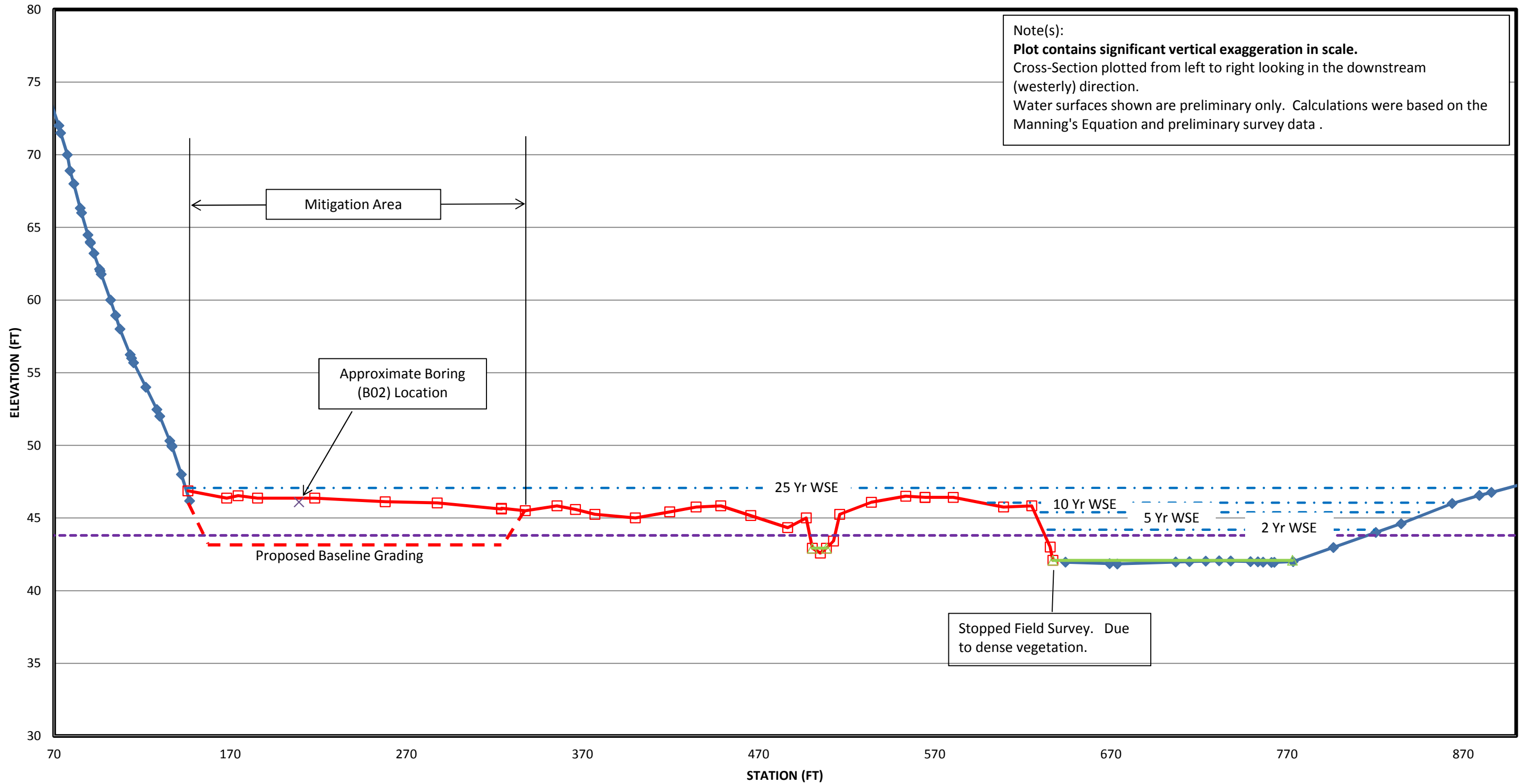
Path: G:\s\ra\ra\ra\157727679954\map\_documents\PenasquitosLosPeñasquitosCreek\_SurveyLocations.mxd; Layer: rizo; 4/19/2013 4:34:00 PM

**FIGURE 2. LOS PENASQUITOS CREEK  
EL CUERVO AL OESTE - SECTION A-A  
FIELD SURVEY CROSS-SECTION 2 - HEC-RAS CROSS-SECTION 4677.59**



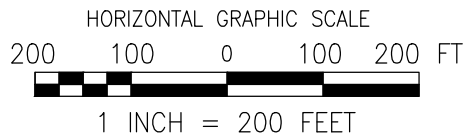
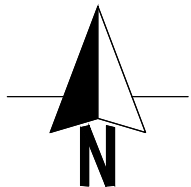
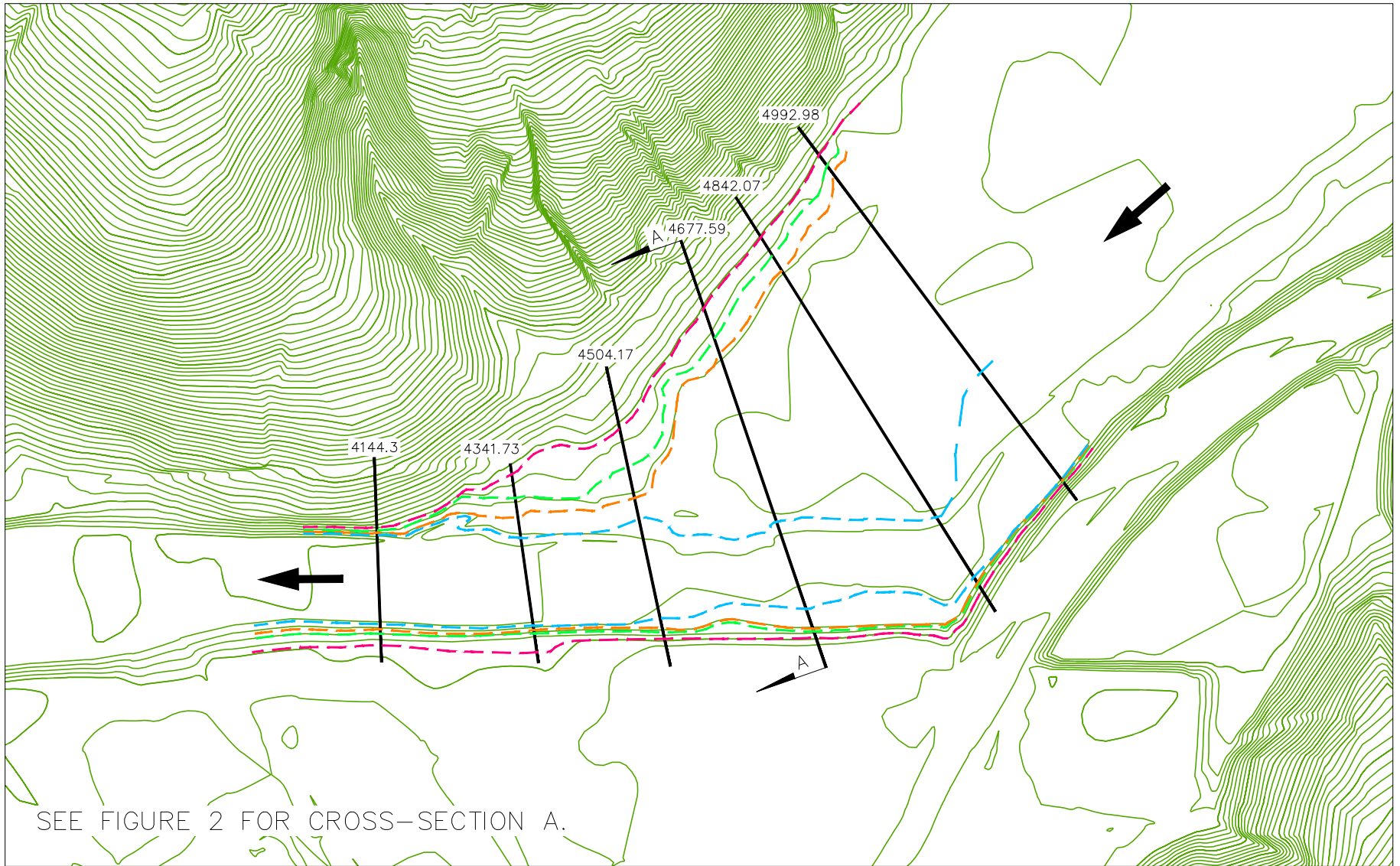


**FIGURE 3. LOS PENASQUITOS CREEK  
EL CUERVO DEL SUR - SECTION B-B  
FIELD SURVEY CROSS-SECTION 2 - HEC-RAS CROSS-SECTION 7566.95**



Note(s):  
**Plot contains significant vertical exaggeration in scale.**  
 Cross-Section plotted from left to right looking in the downstream (westerly) direction.  
 Water surfaces shown are preliminary only. Calculations were based on the Manning's Equation and preliminary survey data .

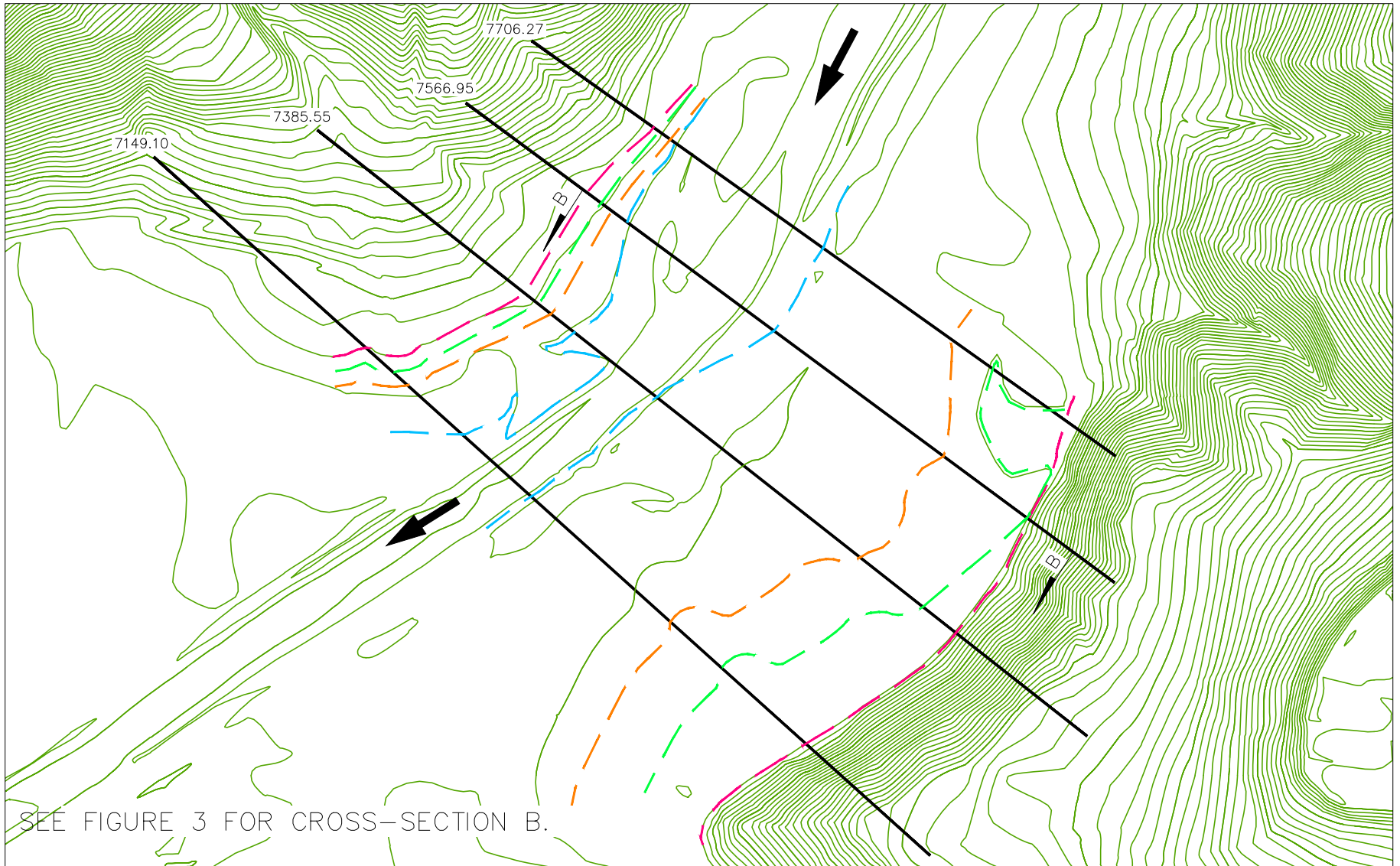
- ◆ Existing 2-Ft Contour
- Field Survey Existing Ground
- ▲ Surveyed Water Surface Elevation
- - - Winter High Water Mark (March 2013)
- Storm Event Water Surface Elevation



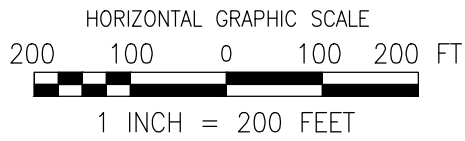
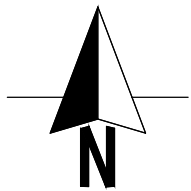
LEGEND

2-Year Floodplain	
5-Year Floodplain	
10-Year Floodplain	
25-Year Floodplain	
HEC-RAS Cross-Section Label	
Flow Direction	

FIGURE 4.  
LOS PENASQUITOS CREEK  
EL CUERVO AL OESTE  
FLOODPLAIN MAP



SEE FIGURE 3 FOR CROSS-SECTION B.



LEGEND

- 2-Year Floodplain
- 5-Year Floodplain
- 10-Year Floodplain
- 25-Year Floodplain
- HEC-RAS Cross-Section Label 4504.17
- Flow Direction

FIGURE 5.  
LOS PENASQUITOS CREEK  
EL CUERVO DEL SUR  
FLOODPLAIN MAP