

August 12, 2013

Cameron Johnson
South Branch Chief
U. S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, CA 94103-1398

Subject: Request for Verification of Jurisdictional Delineation
D Street Project Site, unincorporated Alameda County, California

Dear Mr. Johnson:

On behalf of The Shaw Group; LSA Associates, Inc. (LSA) is requesting verification of the extent of U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act for the above-referenced project site. This letter presents the results of a delineation performed by LSA of the potential extent of waters of the United States, including wetlands, on the project site.

SITE DESCRIPTION

The approximately 3.66-acre project site is located on the north side of D Street at addresses 2492 and 2512, approximately 1.5 miles east of its intersection with Foothill Boulevard in Hayward (Alameda County Assessor's Parcel Number 416-200-22-6 and 416-200-19-9). The site is situated within an unsectioned portion of Township 3 South, Range 2 West on the Hayward, California 7.5-minute USGS quadrangle, and is centered at 37.6808° North Latitude and 122.0567° West Longitude. Figure 1 (attached) depicts the regional location and project site location.

The project site slopes generally to the west and has elevations ranging from approximately 280 to 350 feet above sea level. The project site contains two homes, one occupied and one abandoned. Most of the site is surrounded by a perimeter fence. Much of the site has been graded for road access and to span two drainages which cross the site.

Vegetation on the site is dominated by ruderal grassland. The site contains several blue gum (*Eucalyptus globulus*), ash (*Fraxinus* sp.), and wild plum (*Prunus* sp.) trees in the drainages along the western edge of the site and a single redwood (*Sequoia sempervirens*). Shrubs include coyote brush (*Baccharis pilularis*) and Himalayan blackberry (*Rubus armeniacus*). Grass species observed consist of wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum*), hare barley (*H. murinum*), velvet grass (*Holcus lanatus*), and tall fescue (*Festuca arundinacea*). Forb species observed consist of mustard (*Brassica* sp.), wild radish (*Raphanus sativus*), buckhorn plantain (*Plantago coronopus*), bristly ox-tongue (*Helminthotheca echioides*), vetch (*Vicia sativa*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), poison hemlock (*Conium maculatum*), stinkwort (*Dittrichia graveolens*), and sweet fennel (*Foeniculum vulgare*). The

wet drainages contained cattails (*Typha latifolia*), spreading rush (*Juncus patens*), and nut sedge (*Cyperus eragrostis*).

The soil on the majority of the site is mapped by the U.S. Department of Agriculture as Azule clay loam, 9 to 30 percent slopes (Map Unit Symbol 103) and as Xerorthents-Los Osos complex, 30 to 50 percent slopes (158) (Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed 17 June 2013). Both soils are described as well drained with slow permeability. The Los Osos series has high shrink-swell characteristics. Neither soil is listed as hydric. Most of the soils observed on the site have been graded or include imported fill.

The site drains westward via two distinct seasonal drainages, which are confluent within 200 feet of the project site. The combined drainage joins another similar channel and is tributary to San Lorenzo Creek, possibly via municipal storm piping, approximately ½ mile northwest of the project site. San Lorenzo Creek is tributary to San Francisco Bay, a navigable water of the United States, approximately 5 miles west of the project site.

METHODS

The field investigations of potentially jurisdictional wetlands were conducted using the routine determination method provided in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Arid West Supplement; U.S. Army Corps of Engineers 2008). This methodology entails examination of specific sample points within potential wetlands for hydrophytic vegetation, hydric soils, and wetland hydrology. By the federal definition, all three parameters must be present for an area to be considered a wetland.

Hydrophytic plant species are listed by the National Wetland Plant List (2012). The National List identifies five categories of plants according to their frequency of occurrence in wetlands. The categories are:

- | | | |
|---|-----------------------------------|---|
| • | Obligate wetland plants (OBL) | Plants that occur almost always in wetlands |
| • | Facultative wetland plants (FACW) | Plants that usually occur in wetlands |
| • | Facultative plants (FAC) | Plants that are equally likely to occur in wetlands or non-wetlands |
| • | Facultative upland plants (FACU) | Plants that usually occur in uplands |
| • | Obligate upland plants (UPL) | Plants that occur almost always in non-wetlands |

An area is generally considered to have hydrophytic vegetation when more than 50 percent of the dominant species in each stratum (tree, shrub, and herb) are in the obligate wetland, facultative wetland, or facultative categories.

Hydric soils are defined by criteria set forth by the National Technical Committee for Hydric Soils (NTCHS). These criteria are given in the Wetland Delineation Manual Supplement and are based on depth and duration of soil saturation. Hydric soils are commonly identified in the field by using indirect indicators of saturated soil, technically known as redoximorphic features. These features are caused by anaerobic, reduced soil conditions that are brought about by prolonged soil saturation. The

most common redoximorphic features are distinguished by soil color, which is strongly influenced by the frequency and duration of soil saturation. Hydric soils tend to have dark (low chroma) colors that are often accompanied by reddish mottles (iron mottles), reddish stains on root channels (oxidized rhizospheres), or gray colors (gleying). The Arid West Supplement contains descriptions of numerous federally-recognized hydric soil indicators.

Under natural conditions, development of hydrophytic vegetation and hydric soils are dependent on a third characteristic, wetland hydrology. This criterion is met if the area experiences inundation or soil saturation to the surface for a period equal to at least five (5) percent of the growing season (about 14 days in the region of the project site) in a year of median rainfall. In most cases, this criterion can only be measured directly by monitoring the site through an entire wet season. In practice, the hydrological status of a particular area is usually evaluated using indirect indicators. Some of the indicators that are commonly used to identify wetland hydrology include biotic crusts and oxidized rhizospheres around roots. The Arid West Supplement gives thorough descriptions of numerous federally-recognized indicators of wetland hydrology.

FIELD METHODS

LSA soil scientist Chip Bouril and biologist Clint Kellner investigated the site on 18 June 2013. The last significant rainfall had occurred in April.

Wetland boundaries and sample point locations were mapped using a global position system (GPS) receiver with sub-meter accuracy. Wetland boundaries were determined by following a combination of the limits of hydrophytic vegetation, the limits of observed wetland hydrology, topographic breaks, and interpretation of aerial photography.

LSA established 9 sample points on the project site. Their locations are shown on Figure 3.

OBSERVATIONS

Potential jurisdictional features as identified by LSA are mapped on Figure 3 and include two drainages that supported hydrophytic plant species. Most reaches of both drainages contained flowing water during the field investigation. Both drainages receive upslope stormwater and landscape irrigation runoff collected by underground storm drains in the Glenbrook Lane and Stratton Court neighborhoods to the east of the site. The middle reach of each drainage flows through a culvert.

North Drainage

The upper reach of the north drainage (mapped as ND-1) is a wide swale vegetated with Himalayan blackberry and cattails at its upper end, spreading rush and nut sedge in its center, and, cattails closer to the culvert inlet. The potential jurisdictional edges of this reach were mapped to the outer limit of hydrophytic vegetation at the edges of the swale. The lower reach of the north drainage (mapped as ND-3) is a narrow swale with hydrophytic vegetation immediately downstream of the culvert outlet, next a wide patch of nut sedge and Italian rye without a defined swale or a single water flow path (see Sample Points 1-3), and then a narrower swale through a dense patch of Himalayan blackberry

leading to the downstream property boundary. Sample Point 1 shows the jurisdictional wetland characteristics in that section of reach ND-3. ND-3 was also mapped to the limit of hydrophytic vegetation species. All observable sections of ND-1 and ND-3 contained flowing water during the 18 June site investigation. ND-1 and ND-3 are delineated as wetlands. The culvert, ND-2, is delineated as an other water of the United States.

ND-1 has a potential jurisdictional area of 1,680 sq. ft. (0.039 acre) and length of approximately 80 feet. ND-2, the culvert, has a potential jurisdictional area of 105 sq. ft. (0.002 acre) and length of approximately 105 feet. ND-3 has a potential jurisdictional area of 500 sq. ft. (0.011 acre) and length of approximately 75 feet. The North Drainage has a total potential jurisdictional area of 0.052 acre and length of 260 feet.

South Drainage

The upper reach of the south drainage (mapped as SD-1) is a swale vegetated with hydrophytic grasses, sedges and some cattails, with a dense patch of cattails near the culvert inlet. A narrow, vertical cut-bank channel within the swale also runs most of the length of SD-1. The swale's northeastern limit of jurisdiction is mostly the edge of hydrophytic vegetation, while the limit of jurisdiction along the feature's southwestern edge is a combination of the edge of the cut-bank channel (Ordinary High Water Mark) and the outer edge of hydrophytic vegetation. The presence of hydrophytic vegetation outside the channel suggests surfacing of groundwater in this reach. SD-1 is mapped as a wetland because of the hydrophytic vegetation present even within the channel.

The reach immediately downstream of the culvert is a varying width swale (mapped as SD-3) predominantly vegetated with nut sedge and velvet grass. Below this, the drainage passes under the tree canopy in an approximately 3-foot wide non-wetland channel (SD-4). Reach SD-1 and SD-3 are delineated as wetlands. The culvert, ND-2 and SD-2 and reach SD-4 are delineated as other waters of the United States.

SD-1 has a potential jurisdictional area of 780 sq. ft. (0.018 acre) and length of approximately 120 feet. SD-2, the culvert, has a potential jurisdictional area of 95 sq. ft. (0.002 acre) and length of approximately 95 feet. SD-3 has a potential jurisdictional area of 690 sq. ft. (0.016 acre) and length of approximately 80 feet. SD-4 has a potential jurisdictional area of 240 sq. ft. (0.006 acre) and length of approximately 40 feet. The South Drainage has a total potential jurisdictional area of 0.042 acre and length of 335 feet.

Other Observations

Sample Point 5 was placed in a level area on the hill slope which supported a vegetation type dominated by green grass (an indicator of moist conditions at this time of year). The only dominant plant species is Bermuda grass (*Cynodon dactylon*), with a FACU wetland indicator status; therefore failing to meet hydrophytic vegetation criteria. Although the soil was damp during the field investigation, no hydric soil or wetland hydrology indicators were observed.

Sample Point 6 was placed in an approximately two-foot by five-foot tire rut basin within the graded roadway that is predominantly vegetated with Italian rye and has mud cracks as evidence of seasonal ponding. The vegetation meets jurisdictional hydrophytic plant criteria and the mud cracks meet

jurisdictional wetland hydrology criteria. The top one inch of soil shows likely redoximorphic oxidized iron staining on platy ped faces, but the limited depth of the staining does not meet criterion F8 or any of the other listed hydric soil indicators. Given that this location has artificially compacted soil and very marginal wetland characteristics, the shallow iron staining is interpreted as not meeting jurisdictional hydric soil criteria. Sample Point 6 and this small basin are therefore determined to be non-jurisdictional.

Other locations on the site are vegetated with non-hydrophytic species and did not display any wetland characteristics.

No other evidence of potential waters of the United States was observed on the site.

CONCLUSIONS

Potential Clean Water Act Section 404 jurisdictional features identified on the D Street Project Site consist of 0.084-acre of seasonal wetland swales and 0.010-acre of non-wetland Waters of the United States, for a total jurisdictional area of 0.094 acre.

Potential jurisdictional features, project site boundaries, and sample point locations are mapped on Figure 3, which is attached.

The findings and conclusions presented in this report, including the location and extent of other waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the Corps.

Please contact me or Clint Kellner at (510) 236-6810 to schedule a verification visit.

Sincerely,

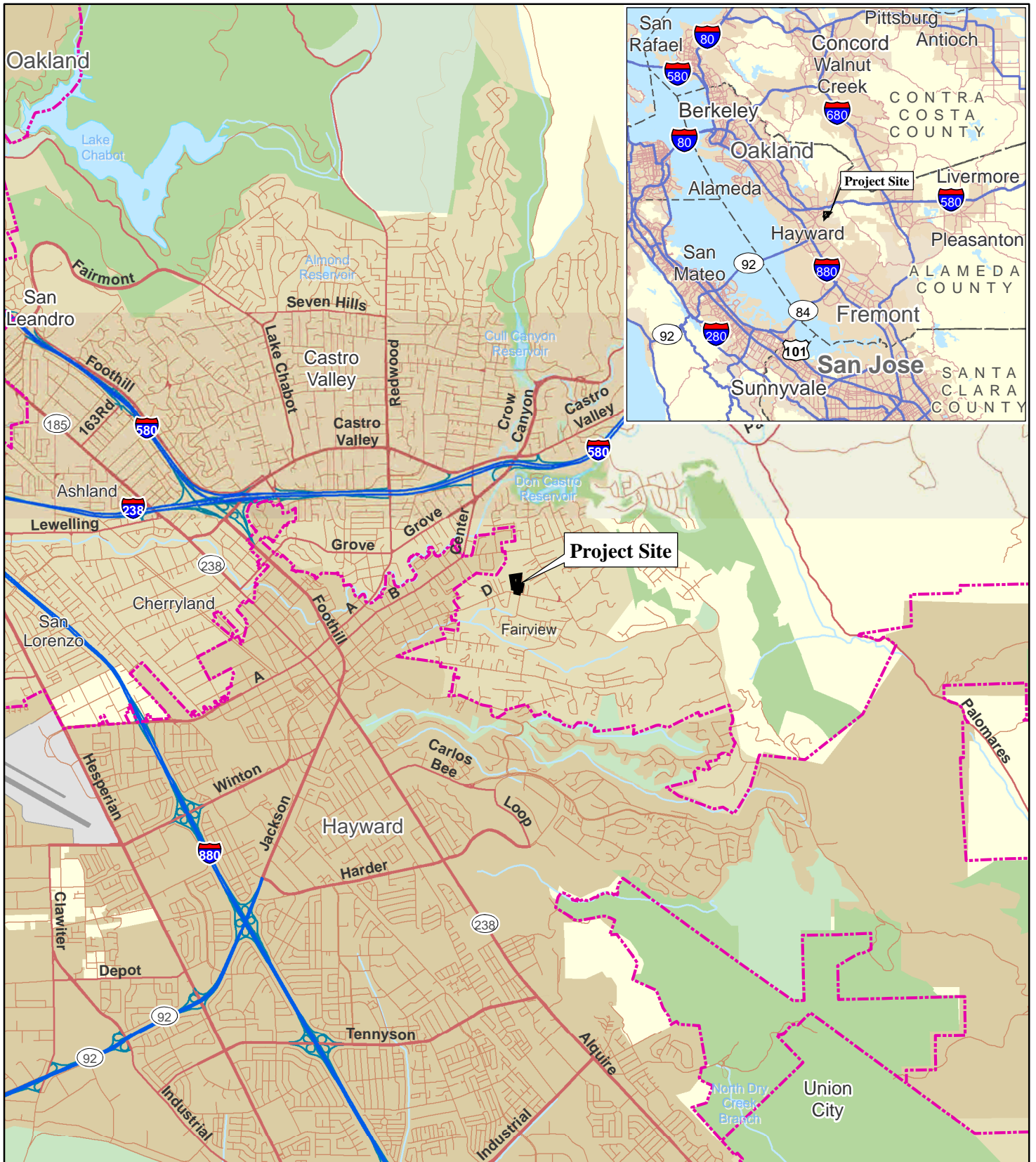
LSA ASSOCIATES, INC.



Chip Bouril
Wetland Scientist

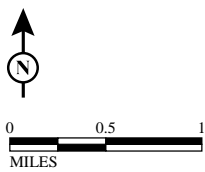
Attachments: Figure 1: Regional Location
Figure 2: Project Location
Figure 3: Delineation Map
Data Sheets 1 through 9

cc: Hardy Gill , Shaw Group LP, PO Box 2622, Sumas, WA 98295
Brian Dorward and Jeff Moore, Greenwood & Moore, Inc.,
3111 Castro Valley Blvd., Suite 200, Castro Valley, CA 94546



LSA

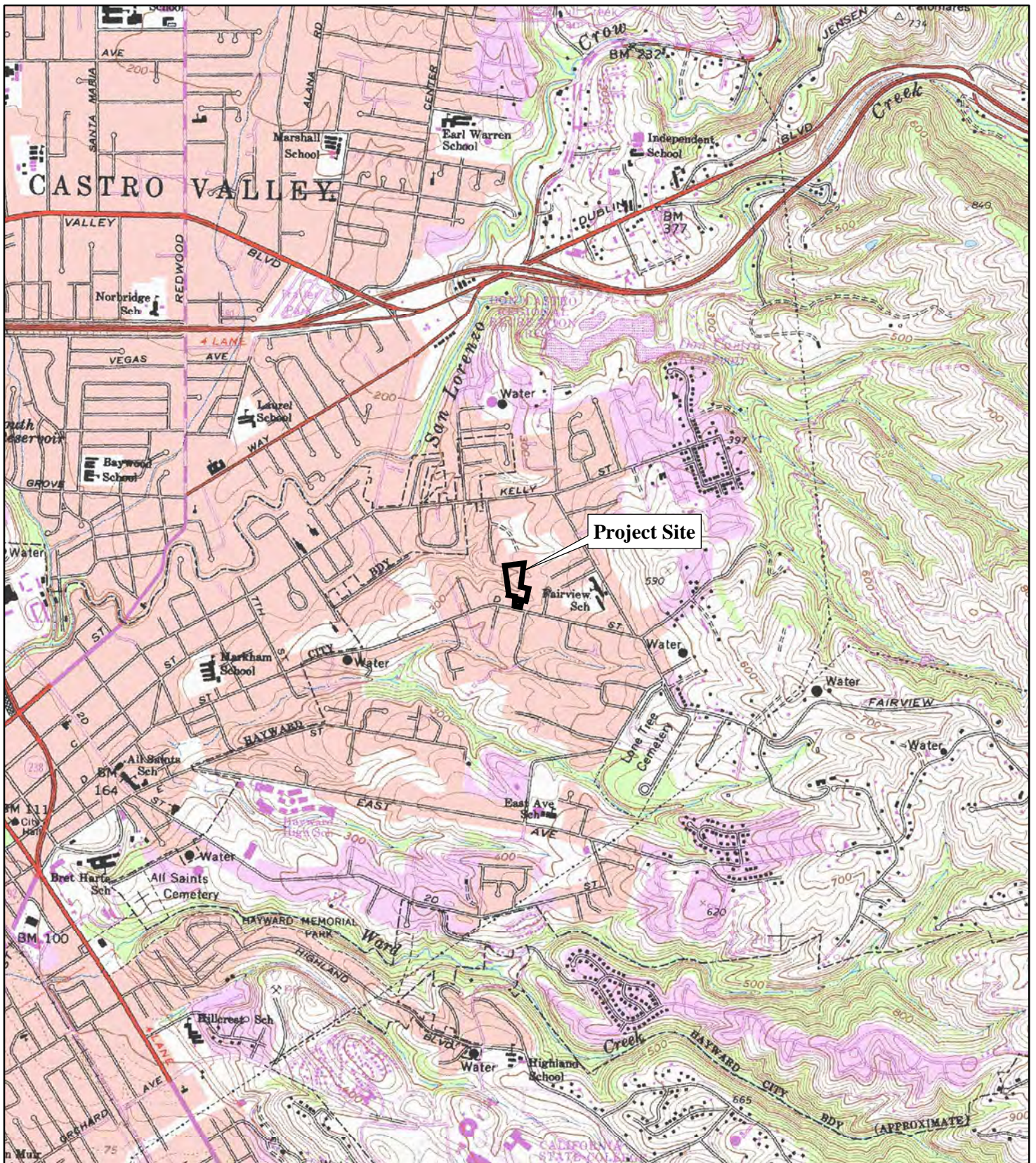
FIGURE 1



SOURCE: Esri StreetMap North America (2012).

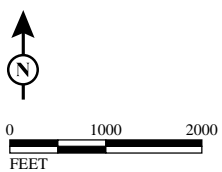
F:\SHG1301\GIS\Maps\Figure1_Regional Location.mxd (8/12/2013)

D Street Project
 Alameda County, California
 Regional Location



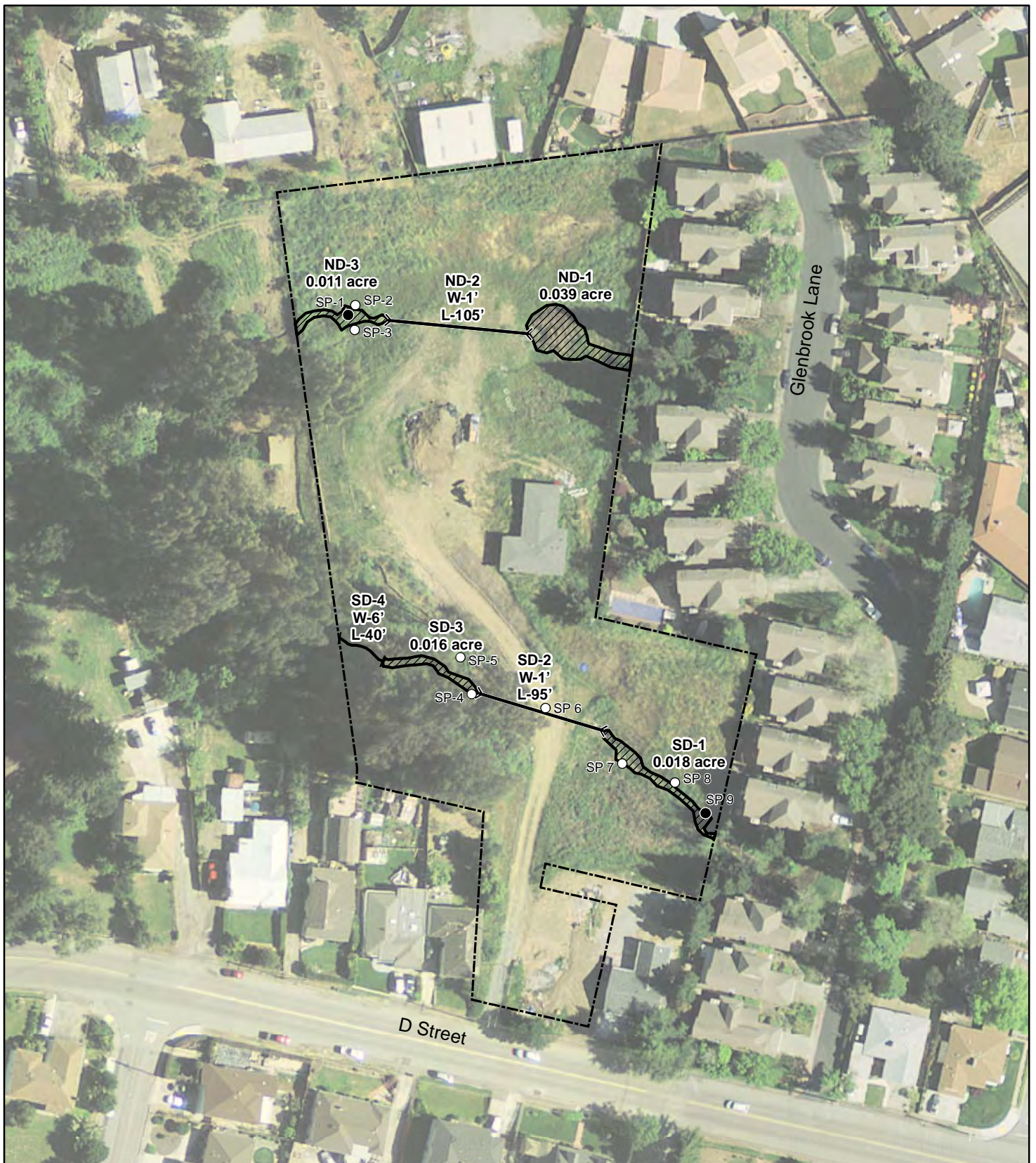
LSA

FIGURE 2



SOURCE: USGS 7.5-minute Topo Quad - Hayward, Calif. (1980).
 I:\SHG1301\GIS\Maps\Figure2_Site Location.mxd (8/12/2013)

D Street Project
 Alameda County, California
 Site Location



LSA

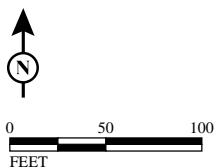
LEGEND

- Property Boundary
- Wetland Sample Point
- Non-wetland Sample Point

POTENTIAL WATERS OF THE US

- Wetlands
- ▨ Seasonal Wetland
- Other Waters
- Channel
- Culvert
- W-1' Width
- L-105' Length

FIGURE 3



SOURCE: USGS OrthoImagery (04/2011).

E:\SHG1301\GIS\Maps\Delineation\Figure3_Potential Waters of the US.mxd (8/12/2013)

D Street Project
 Alameda County, California
 Potential Waters of the US

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward Alameda Sampling Date: 18 June 2013

Applicant Owner: _____ State: CA Sampling Point: 1

Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 10

Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

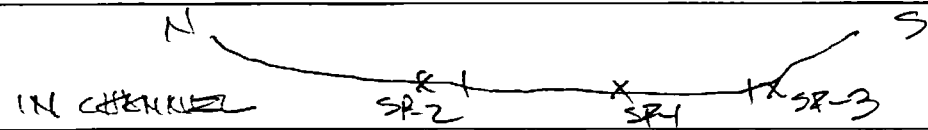
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	

Remarks: 

VEGETATION

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>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
Total Cover: _____				Prevalence Index worksheet: 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 = _____
Sapling/Shrub Stratum (Plot size: _____)				
1.				
2.				
3.				
Total Cover: _____				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≤ 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, unless disturbed or problematic.
1.	<u>FESTUCA PERENNIS</u>	<u>70</u>	<u>X</u> <u>FAC</u>	
2.	<u>CYPERUS ERAGROSTIS</u>	<u>20</u>	<u>X</u> <u>FACW</u>	
3.	<u>HELMINTHOTHeca ECHYDES</u>	<u>5</u>	<u>FACU</u>	
4.	<u>AVEN & SP.</u>	<u>2</u>	<u>UPL</u>	
5.				
6.				
7.				
Total Cover: <u>97</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot size: _____)				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	2.5Y4/2		10YR4/3	3	C?	L-CL	FILL
	10YR4/3		10YR4/3	3	C?		
6-12	10YR3/2		2.5Y4/1	8	D	"	
			10YR4/3	10	C		

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

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (All)	<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)		

³ 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)

Primary Indicators (any one indicator is sufficient)

<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 Plowed Soils (CS)	<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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>41</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0-6</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 2
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 8
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	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

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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
Total Cover: _____				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) Prevalence Index = B/A = <u>23</u>
Sapling/Shrub Stratum (Plot size: _____)				
1.				
2.				
3.				
4.				
5.				
Total Cover: _____				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≥ 3.0 ¹ — Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation ² (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>AVICIA SP.</u>	<u>40</u>	<u>X</u>	<u>UPL</u>	
2. <u>BROMUS DIANDRUS</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	
3. <u>FESTUCA PERENNIS</u>	<u>10</u>		<u>FAC</u>	
4. <u>RAPHANUS SATIVA</u>	<u>30</u>	<u>X</u>	<u>UPL</u>	
5.				
6.				
Total Cover: <u>100</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1.				
2.				
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/2.5						L	
	10YR 4/3.5							

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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 (All)	<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)		

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

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 Plowed Soils (C5)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

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

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

Remarks: SOIL DRY

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 3
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 15
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	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

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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
Total Cover: _____				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) Prevalence Index = B/A = <u>23</u>
Sapling-Shrub Stratum (Plot size: _____)				
1.				
2.				
3.				
4.				
5.				
Total Cover: _____				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is $\leq 0^1$ — 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, unless disturbed or problematic.
1.	<u>35</u>	<u>X</u>	<u>UPL</u>	
2.	<u>20</u>	<u>X</u>	<u>FACU</u>	
3.	<u>20</u>	<u>X</u>	<u>UPL</u>	
4.	<u>25</u>	<u>X</u>	<u>UPL</u>	
5.				
6.				
7.				
Total Cover: _____				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1.				
2.				
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks: _____				

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/2		—				L	
6-10	10YR4/2 97		—					
	10YR2/1	3					?	MIXED FILL

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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 (All)	<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)		

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

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<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 Plowed Soils (C5)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

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

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

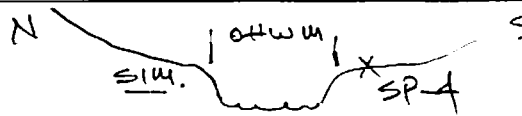
Remarks: MAST TO SFC,

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 4
 Investigator(s): C. Bournl Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 5
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	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

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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
Total Cover: _____				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) Prevalence Index = B/A = <u>73</u>
Sapling/Shrub Stratum (Plot size: _____)				
1.				
2.				
3.				
4.				
5.				
Total Cover: _____				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≥ 0.1 — Morphological Adaptations I (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u>FESTUCA BRUNDIACA</u>	<u>10</u>	<u>FACU</u>	
2.	<u>AVENIA SP</u>	<u>15</u>	<u>X UPL</u>	
3.	<u>BROMUS DIANDRUS</u>	<u>20</u>	<u>X UPL</u>	
4.	<u>HILICHTHOTAIA ETHIOIDES</u>	<u>5</u>	<u>FACU</u>	
5.	<u>HOLCUS LANATUS</u>	<u>10</u>	<u>FAC</u>	
6.	<u>FESTUCA PERENNIS</u>	<u>10</u>	<u>FAC</u>	
7.				
8.				
Total Cover: _____				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1.				
2.				
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/2		—				L	PLASTIC SHEET
4-10	"	30	—				GR	A SPH,
	10YR4/3	70						ALL FILL

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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 (All)	<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)		

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

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 Plowed Soils (CS)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

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

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

Remarks: SOIL DRY

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 5
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): FLAT LOCATION ON SLOPE Local relief (concave, convex, none): _____ Slope (%): 10
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	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: GREEN, LEVEL AREA



VEGETATION

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>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
Total Cover: _____				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) Prevalence Index = B/A = <u>23</u>
Sapling/Shrub Stratum (Plot size: _____)				
1.				
2.				
3.				
4.				
Total Cover: _____				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is $\geq 0^1$ — 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, unless disturbed or problematic.
1. <u>CYNODON DACTYLON</u>	<u>85</u>	<u>X</u>	<u>FACW</u>	
2. <u>ALGUA SP.</u>	<u>2</u>		<u>UPL</u>	
3. <u>RUBUS BRUNNIACUS</u>	<u>3</u>		<u>FACW</u>	
4. <u>ERHARTIA ERUTA?</u>	<u>5</u>		<u>UPL?</u>	
5. <u>UORRUBIUM VULGARE</u> <u>HOREHOUND</u>	<u>3</u>		<u>FACU</u>	
6.				
7.				
8.				
Total Cover: <u>100</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1.				
2.				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 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 ¹	Loc ²		
0-10	10YR4/3						SL	FILL

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (All)	
<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)	

³ 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 <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 Plowed Soils (CS)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: SOIL ~ DUMP

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 6
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): GRADED ROADWAY Local relief (concave, convex, none): _____ Slope (%): < 3
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks: TIRE RUT Puddle IN ROADWAY S ROAD X

VEGETATION

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: _____				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) Prevalence Index = B/A = <u>23</u>
Sapling/Shrub Stratum (Plot size: _____)				
1.				
2.				
3.				
4.				
Total Cover: _____				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≤ 0.1 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, unless disturbed or problematic.
1. <u>FESTUCA PERENNIS</u>	<u>70</u>	<u>X</u>	<u>FAC</u>	
2. <u>ALYSSA SP.</u>	<u>5</u>		<u>UPL</u>	
3. <u>BROMUS HORDEACEUS</u>	<u>5</u>		<u>FACU</u>	
4. <u>PLANTAGO CORONOPUS</u>	<u>3</u>		<u>FACU</u>	
5. <u>HELMINTHOTHeca ECHIOIDES</u>	<u>2</u>		<u>FACU</u>	
6.				
7.				
8.				
Total Cover: <u>85</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1.				
2.				
Total Cover: _____				
% Bare Ground in Herb Stratum		% Cover of Biotic Crust		
Remarks:				

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-1	10YR4/2		10YR4/4	0-8	C	PL SCL SIL		
1-8	10YR4/2 SO		10YR4/6	8			ERL	
	10YR4/3 SO							

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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 (All)	<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)		

³ 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 <u>X</u>
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Remarks: APPROXIMATE REDOX IS LIMITED TO VEHICLE-COMPACTED SURFACE ONE INCH. DOESN'T MEET F8 CRITERIA. REDOX ONLY IN 5'x2' PUDDLE.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<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 checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (CS)	<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 <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

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

Remarks: CRACKS ONLY IN 5'x2' PUDDLE


WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 7
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): <10
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	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

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: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1.				Total % Cover of:	Multiply by:
2.				OBL species _____	x 1 = _____
3.				FACW species _____	x 2 = _____
4.				FAC species _____	x 3 = _____
5.				FACU species _____	x 4 = _____
6.				UPL species _____	x 5 = _____
Total Cover: _____				Column Totals:	_____ (A) _____ (B)
				Prevalence Index = B/A =	<u>73</u>
1. <u>FESTUCA BRUNDIACLES</u> 85 X FACU 2. <u>CYPERUS BRACHYPODIUS</u> 10 FACW 3. <u>VICIA SATIVA</u> 5 FACU 4. <u>HIZUNIA THOTHEA ECHINOIDEA</u> 1 FACU 5. <u>RUBUS ARVENSIACUS</u> 1 FACU				Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≤ 0.1 — Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____ 7. _____ 8. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Total Cover: _____					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
1.					
2.					
Total Cover: _____					
% Bare Ground in Herb Stratum		% Cover of Biotic Crust			
Remarks:					

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 4/2	60	—	—	—	—	L/CRL	MIXED FILL
	10YR 4/3	20	—	—	—	—		
	10YR 3/2	10	—	—	—	—		

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ² :
<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)		

² 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 <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<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 Plowed Soils (C5)	<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 <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

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

Remarks:


WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 8
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 6
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks: 

VEGETATION

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>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
Total Cover: _____				
Sapling/Shrub Stratum (Plot size: _____)				

1.	2.	3.	4.	5.	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 = _____
Total Cover: _____					Column Totals:	_____ (A) _____ (B)
Herb Stratum (Plot size: _____)					Prevalence Index = B/A = <u>73</u>	

1.	2.	3.	4.	5.	6.	7.	8.	Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≤ 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, unless disturbed or problematic.
1. <u>FESTUCA ARUNDINACEA</u>	<u>90</u>	<u>X</u>	<u>FACU</u>					
2. <u>RAPHANUS SATIVA</u>	<u>2</u>		<u>UPL</u>					
3. <u>ERODIUM CICUTARIUM</u>	<u>2</u>		<u>UPL</u>					
4. <u>BROMUS DIODEUS</u>	<u>2</u>		<u>UPL</u>					
5. <u>HELIANTHUS ESTIVUS</u>	<u>2</u>		<u>FACU</u>					
6.								
7.								

Woody Vine Stratum (Plot size: _____)	Total Cover: _____	Hydrophytic Vegetation Present?
1.		Yes _____ No <u>X</u>
2.		
Total Cover: _____		
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____	

Remarks: _____

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/2		—				FC	
4-10	10YR4/2		5YR3/4	S	C	PL, PF	11	STEEL NERVE

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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 (All)	<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)		

³ 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<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 Plowed Soils (CS)	<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 checked="" type="checkbox"/> Other (Explain in Remarks) <i>OLGAE/SALT STRIPES @ SFC</i>	<input type="checkbox"/> FAC-Neutral Test (D5)

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


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

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: D Street Properties City/County: Hayward/Alameda Sampling Date: 18 June 2013
 Applicant/Owner: _____ State: CA Sampling Point: 9
 Investigator(s): C. Bouril Section, Township, Range: Unsectioned, T3S, R2W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 8
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____
 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	
Remarks: 			

VEGETATION

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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____				
3. _____				
4. _____				
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species <u>65</u> x 2 = <u>130</u> FAC species _____ x 3 = _____ FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>270</u> (B)
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____				Prevalence Index = B/A = <u>2.7</u>
Herb Stratum (Plot size: _____)				
1. <u>ACROSTIS STOLONIFERA</u>	<u>65</u>	<u>X</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: — Dominance Test 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, unless disturbed or problematic.
2. <u>PENNISETUM CLANDESTINUM</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	
3. <u>FESTUCA ARUNDINACEA</u>	<u>5</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>100</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
Total Cover: _____				% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____
Remarks: <u>THE PENNISETUM APPEARS HYDROPHYTIC FROM BAY AREA OBSERVATIONS</u>				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/2		NONE OBSERVED				FSL	SOIL SATURATED AND RUCKY

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

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (All)	<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)		

³ 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 DETERMINED HYDRIC BY SATURATION IN WINTER - LIKELY CONTINUOUS SINCE WINTER.

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

<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 Plowed Soils (CS)	<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:

WATER SOURCE APPEARS TO BE LANDSCAPE RUNOFF FROM THE UPSTREAM GLEN BROOK NEIGHBORHOOD



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

JUL 16 2014



REPLY TO
ATTENTION OF

Regulatory Division

Subject: File Number 2013-00396S

Mr. Clint Kellner
LSA Associates, Inc.
157 Park Place
Point Richmond, CA 94801

Dear Mr. Kellner:

This correspondence is in reference to your submittal of August 12, 2013, on behalf of Shaw Group LP and Greenwood & Moore, Inc., requesting an approved jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on the D Street project site. This project site is located at 2492 and 2512 D Street, in the City of Hayward, Alameda County, CA (APNs 416-200-22-6 and 416-200-19-9).

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*). Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.

All proposed structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States, typically require Department of the Army authorization and the issuance of a permit under Section 10 of

the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.*). Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

The enclosed delineation map entitled, "Approved Jurisdictional Determination, SPN File Number 2013-00396S, D Street Project Site, 2492 and 2512 D Street, Hayward, Alameda County, CA (APNs 416-200-22-6 and 416-200-19-9), in one sheet and date certified July 15, 2014, accurately depicts the extent and location of wetlands, and other waters of the United States, within the boundary area of the site that are subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This approved jurisdictional determination is based on the current conditions of the site, as verified during a field investigation of January 16, 2014, and a review of other data included in your submittal. This approved jurisdictional determination will expire in five years from the date of this letter, unless new information or a change in field conditions warrants a revision to the delineation map prior to the expiration date. The basis for this approved jurisdictional determination is further explained in the enclosed *Approved Jurisdictional Determination Form*. This approved jurisdictional determination is presumed to be consistent with the official interagency guidance of June 5, 2007, interpreting the Supreme Court decision, *Rapanos v. United States*, 126 S. Ct. 2208 (2006).

You are advised that the approved jurisdictional determination may be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; Mar. 28, 2000), and outlined in the enclosed flowchart and *Notification of Administrative Appeal Options, Process, and Request for Appeal* (NAO-RFA) Form. If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to this office for reconsideration of this decision. If you do not provide new information to this office, you may elect to submit a completed NAO-RFA Form to the Division Engineer to initiate the appeal process; the completed NAO-RFA Form must be submitted directly to the Appeal Review Officer at the address specified on the NAO-RFA Form. You will relinquish all rights to a review or an appeal, unless this office or the Division Engineer receives new information or a completed NAO-RFA Form within 60 days of the date on the NAO-RFA Form. If you intend to accept the approved jurisdictional determination, you do not need to take any further action associated with the Administrative Appeal Process.

You may refer any questions on this matter to Katerina Galacatos of my Regulatory staff by telephone at 415-503-6778 or by e-mail at Katerina.Galacatos@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and

cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website:
<http://www.spn.usace.army.mil/Missions/Regulatory.aspx>.

Sincerely,


Jane M. Hicks
Chief, Regulatory Division

Enclosures

Copy Furnished (w/encls):

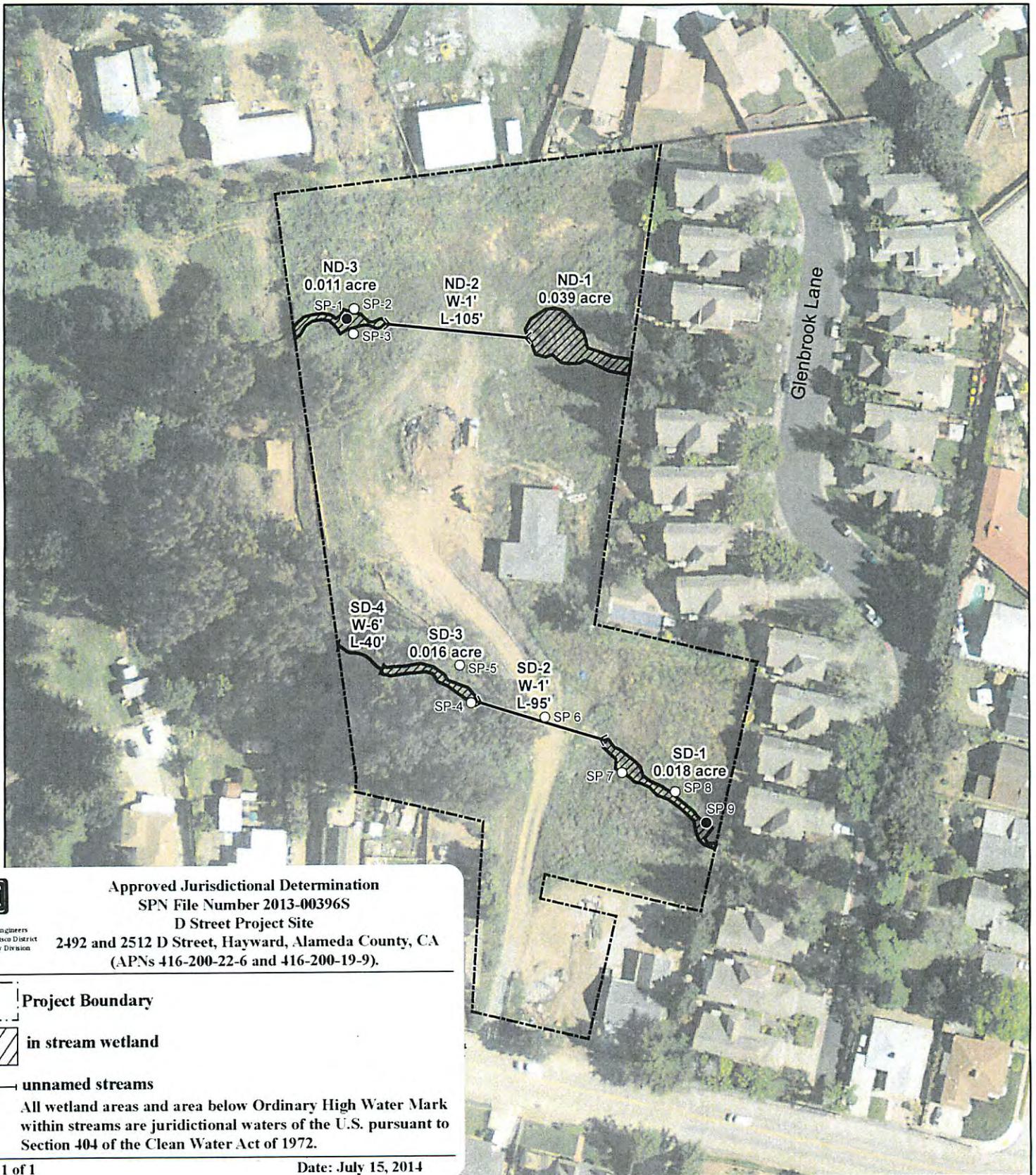
Shaw Group, Sumas, WA (Attn. Hardy Gill)
Greenwood & Moore, Inc., Castro Valley, CA (Attn. Brian Dorward and Jeff Moore)

Copy Furnished (w/map only):

CA RWQCB, Oakland, CA

Copy Furnished (w/o encls):

U.S. EPA, San Francisco, CA
CA SWRCB, Sacramento, CA



Approved Jurisdictional Determination
 SPN File Number 2013-00396S
 D Street Project Site
 2492 and 2512 D Street, Hayward, Alameda County, CA
 (APNs 416-200-22-6 and 416-200-19-9).

- Project Boundary
- in stream wetland
- unnamed streams

All wetland areas and area below Ordinary High Water Mark within streams are jurisdictional waters of the U.S. pursuant to Section 404 of the Clean Water Act of 1972.

Sheet 1 of 1

Date: July 15, 2014

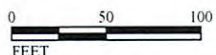
LSA

LEGEND

- Property Boundary
- Wetland Sample Point
- Non-wetland Sample Point

WATERS OF THE UNITED STATES

- Wetlands
- Seasonal Wetland
- Other Waters
- Channel
- Culvert
- W-1' Width
- L-105' Length



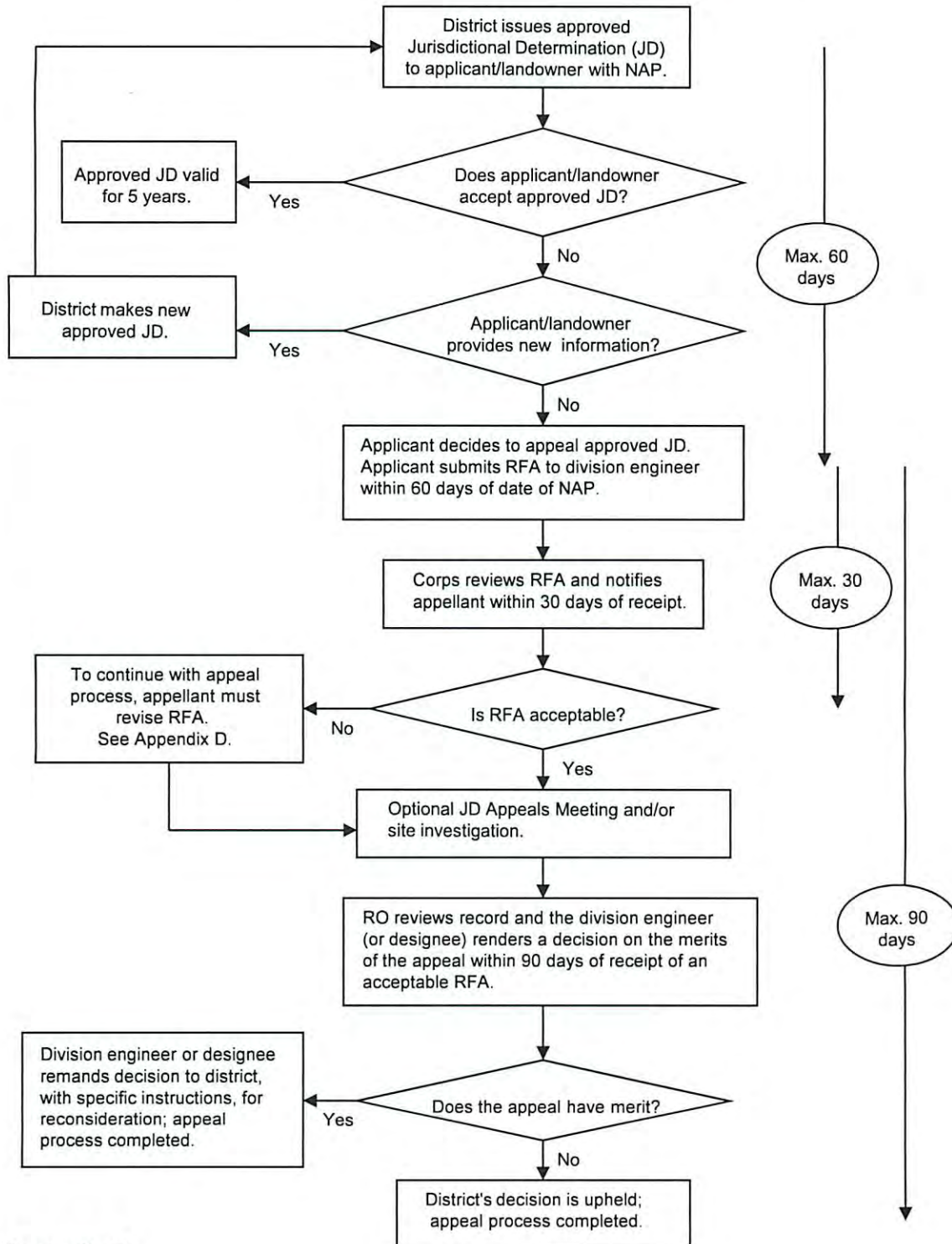
SOURCE: USGS Orthoimagery (04/2011).

I:\SHG1301\GIS\Maps\Delination\Figure3_ Waters of the US.mxd (1/17/2014)

FIGURE 3

D Street Project
 Alameda County, California
 Waters of the United States
 (Field Verified 16 January 2014)

Administrative Appeal Process for Approved Jurisdictional Determinations



APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): July 15, 2014

B. DISTRICT OFFICE: San Francisco District FILE NUMBER: 2013-00396S
File Name: D Street Project Site
Waterbody Name: unnamed tributaries to San Lorenzo Creek

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: California County/parish/borough: Alameda Co. City: Hayward
Center coordinates of site: (lat/long (in degree decimal format): Lat: 37.68068 Pick Long: -122.05656 Pick
Pick List (lat/long (in degree decimal format): Lat: Pick Long: Pick
Pick List (lat/long (in degree decimal format): Lat: Pick Long: Pick
Universal Transverse Mercator: 10, UTM X Coordinate, 583202.82, UTM Y Coordinate, 4170770.85

Name of nearest waterbody: San Lorenzo Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: San Francisco Bay
Name of watershed or Hydrologic Unit Code (HUC): 18050004
 Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request
 Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:
 Field Determination. Date(s): January 16, 2014

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required].

Waters subject to the ebb and flow of the tide.
 Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION

There are "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.:

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area
Non-wetland waters: 240 linear feet: width (ft) and/or 0.01 acres. (other comments:)
Wetlands: 0.084 acres. (other comments:)

c. Limits (boundaries) of jurisdiction based on: Pick List
Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:
Summarize rationale supporting determination that waterbody is a TNW:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: Pick List
Drainage area: Pick List
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:

a. Relationship with TNW:

Tributary flows directly into TNW
 Tributary flows through Pick List tributaries before entering TNW

Project waters are Pick List river miles from TNW.
Project waters are Pick List river miles from RPW.
Project waters are Pick List aerial (straight) miles from TNW.
Project waters are Pick List aerial (straight) miles from RPW.
Project waters cross or serve as a state boundary. Explain:

Identify flow route to TNW⁵:
Tributary stream order, if known:

b. General Tributary Characteristics (check all that apply):

Tributary is:
 Natural: (comment if needed)
 Artificial (man-made): Explain:
 Manipulated (man-altered): Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months)

³ Supporting documentation is presented in Section III.F.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW

Tributary properties with respect to top of bank (estimate):

Average width: feet (measured from top of bank to top of bank)
Average depth: feet. (measured from OHWM to top of bank)
Average side slopes: *Pick List*

Primary tributary substrate composition (check all that apply):

- Silt:
- Sand:
- Clay:
- Cobbles:
- Gravel:
- Muck:
- Bedrock:
- Concrete:
- Vegetation (Type / % cover):
- Other (Explain):

Tributary condition/stability [e.g., highly eroding, sloughing banks]. *Explain:*

Presence of run/riffle/pool complexes. *Explain:*

Tributary geometry: *Pick List*.

Tributary gradient (approximate average slope): %

c. FLOW INFORMATION

Tributary provides for: *Pick List*

Estimate average number of flow events in review area/year: *Pick List*

Describe flow regime:

Other information on duration and volume:

Surface flow is: *Pick List*. Characteristics:

Subsurface flow: *Pick List*. *Explain findings:*

- Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
- OHWM⁶ (check all indicators that apply):

- | | |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris shelving |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> destruction of terrestrial vegetation | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> scour |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> sediment deposition |
| <input type="checkbox"/> multiple observed or predicted flow events | |
| <input type="checkbox"/> water staining | |
| <input type="checkbox"/> abrupt change in plant community. <i>Explain:</i> | |
| <input type="checkbox"/> other (list): | |

- Discontinuous OHWM.⁷ *Explain:*

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | | |
|--|----|---|
| <input type="checkbox"/> High Tide Line indicated by: | OR | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | | <input type="checkbox"/> survey to available datum |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | | <input type="checkbox"/> physical markings |
| <input type="checkbox"/> physical markings/characteristics | | <input type="checkbox"/> vegetation lines/changes in vegetation types |
| <input type="checkbox"/> tidal gauges | | |
| <input type="checkbox"/> other (list): | | |

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). *Explain:*

Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. *Explain findings:*
 - Fish/spawn areas. *Explain findings:*
 - Other environmentally-sensitive species. *Explain findings:*
 - Aquatic/wildlife diversity. *Explain findings:*

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties

Wetland size: acres

Wetland type. *Explain:*

Wetland quality. *Explain:*

Project wetlands cross or serve as state boundaries. *Explain:*

(b) General Flow Relationship with Non-TNW:

Flow is: *Pick List* *Explain:*

Surface flow is: *Pick List*

Characteristics:

Subsurface flow: *Pick List* *Explain findings:*

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. *Explain:*
 - Ecological connection. *Explain:*
 - Separated by berm / barrier. *Explain:*

(d) Proximity (Relationship) to TNW

Project wetlands are *Pick List* river miles from TNW.

Project waters are: *Pick List* aerial (straight) miles from TNW.

Flow is from: *Pick List*

Estimate approximate location of wetland as within the: *Pick List* floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). *Explain:*

Identify specific pollutants, if known: *Explain:*

(iii) Biological Characteristics. Wetland supports (check all that apply):

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. *Explain:*
- Habitat for:
 - Federally Listed species. *Explain findings:*
 - Fish/spawn areas. *Explain findings:*
 - Other environmentally-sensitive species. *Explain findings:*
 - Aquatic/wildlife diversity. *Explain findings:*

3. Characteristics of all wetlands adjacent to the tributary (if any)

- (i) All wetland(s) being considered in the cumulative analysis: *Pick List*

(ii) Approximately () acres in total are being considered in the cumulative analysis.

(iii) For each wetland associated with the reach or waterbody being analyzed in this form, specify the following:

Number/Name ⁸	Directly abuts (Yes/No)	Size	Number/Name	Directly abuts (Yes/No)	Size
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres

(iv) Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** *Explain* findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** *Explain* findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** *Explain* findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

⁸ In the Number/Name column, add the number and/or name that you have given the wetland being referred to in the table. Example, you are referring to a wetland on your wetland delineation map number 6, that you call wetland No 3 on a reach you refer to as Putah Creek. For this wetland you would add to the table in the Number/Name column, something like the following (No. 3, Putah Cr., Map # 6)

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet width (ft), and/or acres.
 - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: *We noted water flow within both features and the source of the water appears to be a seep since there had been little to rainfall in the preceding months due to ongoing drought conditions. Therefore, these features can be considered relatively permanent waters of the U.S.* Provide estimates for jurisdictional waters in the review area (*check all that apply*)
 - Tributary waters: 240 linear feet 1-6 width (ft).
 - Other non-wetland waters: acres.
 Identify type(s) of waters:
3. **Non-RPWs⁹ that flow directly or indirectly into TNWs.**
 - Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C. Provide estimates for jurisdictional waters within the review area (*check all that apply*):
 - Tributary waters: linear feet width (ft).
 - Other non-wetland waters: acres.
 Identify type(s) of waters:
4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
 - Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: *The wetland features are in-stream wetland areas and therefore "abutting" the RPW's.*
 - Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
 Provide acreage estimates for jurisdictional wetlands in the review area: 0.084 acres.
5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
 - Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.
 Provide acreage estimates for jurisdictional wetlands in the review area: acres.
6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
 - Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.
 Provide estimates for jurisdictional wetlands in the review area: acres.

⁹See Footnote # 3.

7. Impoundments of jurisdictional waters.¹⁰

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹¹

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply)

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.
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¹⁰ To complete the analysis refer to the key in Section III D 6 of the Instructional Guidebook.

¹¹ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Sumbittal of August 12, 2013.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: See memorandum dated July 15, 2014.
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: .
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
 Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .
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B. ADDITIONAL COMMENTS TO SUPPORT JD: