

**LIBRARY**  
Jones & Stokes Assoc., Inc.  
2600 V St.  
Sacramento, CA 95818  
(916) 737-3000  
FAX (916) 737-3030

**Final Delineation of Waters  
of the United States, Including Wetlands, for the  
Lower Walnut Creek Channel Restoration  
Project,  
Concord, California**

**U.S. Army Corps of Engineers File Number  
29296S**

*Prepared for:*

Natural Resources Management  
737 Spruce Street  
Berkeley, CA 94707  
Contact: Patricia Berryhill  
510/508-7554

*Prepared by:*

Jones & Stokes  
2600 V Street  
Sacramento, CA 95818-1914  
Contact: Joel Butterworth  
916/737-3000

January 2005

Jones & Stokes, 2005. Final delineation of waters of the United States, including wetlands, for the Lower Walnut Creek channel restoration project, Concord, California, January. (J&S 04-225.) Sacramento, CA. Prepared for Natural Resources Management, Berkeley, CA.

RECEIVED

# Contents

	Page
<b>Executive Summary</b> .....	ES-1
<b>Section 1 Introduction</b> .....	1
Organization of Report .....	1
Overview of the Proposed Project .....	1
Description of General Site Conditions .....	2
Hydrology .....	2
Soil Characteristics .....	4
Vegetation .....	6
<b>Section 2 Delineation Methods</b> .....	7
Delineation Definitions and Interpretation .....	7
Review of Existing Information .....	10
Field Delineation Methods for Wetlands .....	10
Evaluation of Mandatory USACE Criteria .....	10
Wetland Boundary Determinations .....	13
Wetland Mapping and Acreage Calculations .....	13
Field Delineation Methods for Other Waters of the United States .....	14
<b>Section 3 Results</b> .....	15
Wetlands .....	15
Emergent Marsh .....	16
Seasonal Wetland .....	16
Mixed Riparian Woodland .....	16
Emergent Marsh—Tidal .....	17
Pickleweed Marsh—Tidal .....	17
Alkali Wetland—Tidal .....	17
Seasonal Wetland—Alkali Wetland Complex—Tidal .....	17
Seasonal Wetland—Tidal .....	18
Other Waters of the United States .....	18
Stream Channels .....	18
Ponds .....	19
Scalds .....	19
Rivers and Harbors Act Section 10 Jurisdiction .....	19
<b>Section 4 References Cited</b> .....	20
Printed References .....	20

	Personal Communications.....	21
<b>Section 5</b>	<b>List of Preparers.....</b>	<b>22</b>
<b>Appendix A</b>	<b>Photographs of Representative Vegetation Communities in the Project Area</b>	
<b>Appendix B</b>	<b>Plants Identified in the Project Area</b>	
<b>Appendix C</b>	<b>Routine Wetland Delineation Data Forms</b>	
<b>Exhibit A</b>	<b>Delineation of Waters of the United States, Including Wetlands, for the Lower Walnut Creek Channel Restoration Project, Concord, California</b>	

## Figures and Tables

<b>Figure</b>	<b>Page</b>
1      Project Area Overview Map.....	follows 2
 <b>Table</b>	
ES-1    Acreage of Wetlands and Other Waters of the United States in the Project Area.....	ES-2
1      Summary of Soil Mapping Unit Characteristics in Undisturbed Parts of the Project Area .....	5
2      Acreage of Wetlands and Other Waters of the United States in the Project Area.....	15

# Executive Summary

This report presents the results of a delineation of waters of the United States, including wetlands, conducted for the Contra Costa County Department of Public Works proposed Lower Walnut Creek Channel Restoration Project. Jones & Stokes botanists/wetland ecologists and soil scientists conducted field surveys in April, May, and August 2004 to delineate waters of the United States to determine the location and extent of areas that would likely be subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). This delineation was conducted according to the 1987 Wetlands Delineation Manual (Environmental Laboratory 1987) and the USACE San Francisco District's guidance on conducting wetland delineations (USACE San Francisco District 2000).

In summary, 280.89 acres of potential Clean Water Act Section 404 jurisdictional wetlands were delineated, and 110.82 acres of other waters of the United States were mapped. Some 90.94 acres were mapped as being under Rivers and Harbors Act Section 10 jurisdiction (Table ES-1).

**Table ES-1.** Acreage of Wetlands and Other Waters of the United States in the Project Area

Habitat Type	Jurisdictional Area Type	Acreage in Project Area
Emergent marsh—tidal	Wetland	104.79
Pickleweed marsh—tidal	Wetland	39.85
Alkali wetland—tidal	Wetland	64.34
Seasonal wetland—tidal	Wetland	13.55
Emergent marsh	Wetland	2.03
Seasonal wetland	Wetland	24.62
Seasonal wetland—alkali wetland complex—tidal	Wetland	31.41
Mixed riparian woodland	Wetland	0.30
Stream channel	Other water of the United States	96.07
Scald	Other water of the United States	11.49
Pond	Other water of the United States	3.26
	<b>Total Jurisdictional Area</b>	<b>391.71</b>

A description of the delineated areas is provided in Section 3, "Results," of this report, and their locations are shown on Exhibit A.

## **Organization of Report**

This report consists of five sections.

Section 1, "Introduction," presents a brief introduction of the project and summarizes hydrology, soil, and vegetation conditions observed in the project area.

Section 2, "Delineation Methods," discusses terms used in this report, describes and defines the project area, and describes field delineation methods.

Section 3, "Results," presents the results of the wetland delineation.

Section 4, "References Cited", lists the reference sources used in conducting the delineation and preparing the report.

Section 5, "List of Preparers," lists the individuals involved in the delineation.

## **Overview of the Proposed Project**

Jones & Stokes was retained by Natural Resources Management to conduct a delineation of waters of the United States, including wetlands, of the Lower Walnut Creek Channel Restoration Project (project) area. The project, initiated by the U.S. Army Corps of Engineers, Sacramento District, and sponsored by the Contra Costa County Department of Public Works (CCCDPW), is intended to improve the flood conveyance capacity and to restore aquatic and riparian habitats within the project area. Since its conversion from a natural creek to a flood control facility in the 1970's, approximately one million cubic yards of sediment have accumulated in the facility between Willow Pass Boulevard and the Suisun Bay. The project may involve removal and proper disposal of this material.

## Description of General Site Conditions

The project area consists of an approximate 7.8-mile section of lower Walnut Creek, approximately 700 feet of Pacheco Creek, a 4,100-foot long reach of Ellinwood Creek (described in more detail below), and diked areas adjacent to Pacheco Creek and lower Walnut Creek channels (Figure 1). Lower Walnut Creek and Pacheco Creek are hereinafter generally referred to as the “creek” or the “flood control facility”. The upstream limit of the 646.49-acre project area is at the Monument Boulevard overcrossing of the creek. The downstream limit of the project area is at Pacheco Creek’s confluence with Suisun Bay. For most of its length, the project area extends to the middle of the bike paths that exist at the top of the levees/cut slopes above the creek.

The creek passes through residential and commercial areas in the upstream portion, through commercial and industrial areas in the middle portion, and through generally undeveloped areas in the mile farthest downstream.

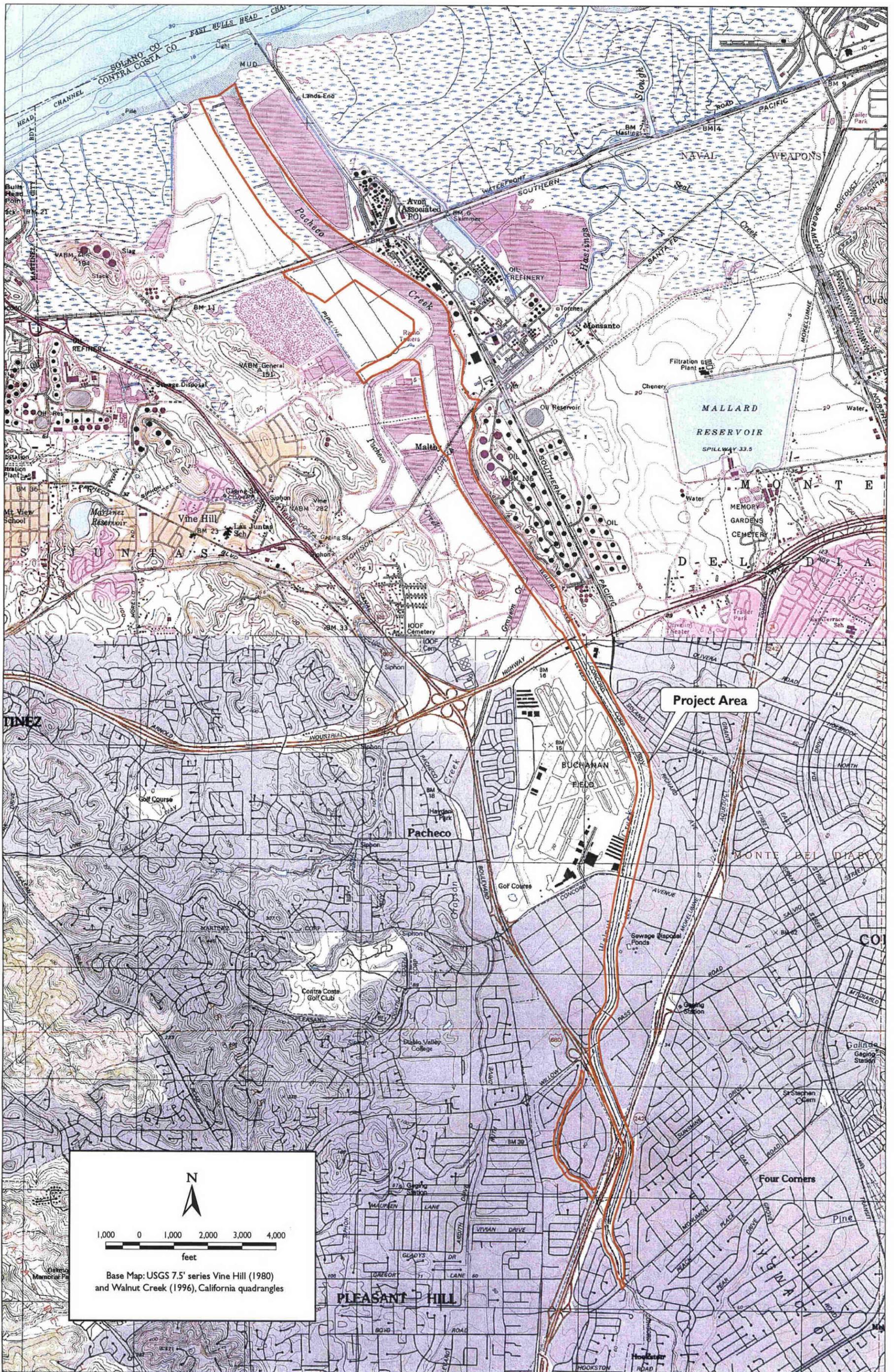
The lower Walnut Creek flood control facility was originally constructed without a low-flow channel. As sediments accumulated over time, base flows cut a steep-sided channel into the sediment (Jensen pers. comm.). Based on a review of aerial photographs, many of the wetlands within the channel, particularly those in the downstream portion, developed in sediments that were deposited subsequent to the construction of the facility.

Ellinwood Creek is located at the upstream end of the project area, between Interstate 680 and Willow Pass Road. The aerial photograph base maps used for the U.S.D.A. soil survey report (Welch 1977), taken in 1970, indicate that the original course of Walnut Creek channel was rerouted to the east of the I-680 and Highway 242 split. Ellinwood Creek, the remnant channel created by the re-routing, was reconnected to the re-routed channel immediately upstream of the Willow Pass Road overcrossing.

CCCDPW manages the vegetation within the facility between Waterfront Road and Highway 4 to maintain floodflow conveyance capacity. Once or twice each year, a Kevlar “high line” is stretched between vehicles on each levee road, and these vehicles then move along the levee while an herbicide is sprayed from the high line onto the vegetation. Herbaceous vegetation is controlled in this manner. Woody species (e.g., willows and cottonwoods) are periodically controlled by cutting the stem near ground level and “painting” the stem with an herbicide to prevent regrowth. (Jensen pers. comm.)

## Hydrology

Based on soil survey data, average annual precipitation ranges from approximately 17 to 20 inches in the project area, with the greater amounts occurring in the southern part.



04215 04 300



Walnut Creek and Pacheco Creek flow in a northerly direction. Based on Jones & Stokes' field observations, the project area can be roughly divided on the basis of hydrology into three reaches: 1) tidally-influenced reaches of Walnut Creek and Pacheco Creek, 2) a nontidally-influenced reach of Walnut Creek, and 3) Ellinwood Creek. These reaches are described in more detail below.

Grayson Creek enters Walnut Creek from the west approximately 2,000 feet downstream of Highway 4. The Clayton Valley Drain (Concord Creek) enters Walnut Creek from the east approximately 1,000 feet upstream of Highway 4.

## Tidally-Influenced Reach

The division between the tidal and nontidal reaches occurs downstream of the Highway 4 overcrossing at a concrete-encased pipeline, where an approximate 4-foot drop in channel bed elevation occurs (corresponding to a point on Exhibit A-11). The reach below this feature receives direct tidal action only within the low-flow channel for a distance downstream of the drop feature during low flow conditions. During higher flows and during higher tides, waters inundate the upper banks of the creek and extend into small sloughs on the floodplain.

A number of in-channel islands occur in the upper part of this reach. Included in the tidally-influenced reach are the diked areas that partly surround Acme Landfill and similar diked areas that exist west of the creek between Pacheco Creek and the overcrossing of the Atchison-Topeka railroad track. These areas appear to be subject to the effects of very high tides, as evidenced by "upwelling" of groundwater under the influence of hydrostatic head, which causes ponding during such tides. Considerable areas of ponding were observed in these areas by Natural Resources Management staff in late July 2004 during a very high tide. Less extensive areas of ponding were observed by Jones & Stokes in mid-August 2004. Because there appear to be no culverts connecting the creek to these areas, the tidal regime is very muted, but nevertheless sufficient to cause variations in the depth and timing of soil saturation in the plant's root zone. Accordingly, all wetlands subject to water level fluctuations and groundwater upwelling as a result of tide level changes were mapped using the "tidal" modifier in the name of the wetland habitat type (see Section 3).

## Nontidal Reach

In this reach, the tidal prism does not normally extend upstream of the aforementioned pipe crossing, based on watermarks on the feature and the general absence of halophytes upstream of the feature.

The hydrology of this reach is dominated by rainy season runoff events and groundwater. Flow in the low-flow channel appears to occur year-round. Based on comparison of water surface elevations of groundwater in soil pits excavated in the floodplain and in the low flow channel in April and May 2004, the creek appears to be a "gaining" stream, at least during these months.

An apparent natural levee, consisting of coarser sediments than that of the outboard areas, occurs along one or both sides of the low-flow channel in many sections. The natural levee is typically 2 to 3 feet higher in elevation than the land surface existing between the natural levee and the outboard levee/cut slope and ranges from 15 to 60 feet wide.

Although the floodplain is overall planar (i.e., is generally flat from the top of bank of the low-flow channel to the toe of the outboard levee) in some areas, it generally is characterized by having one or more swales or “grooves” that are generally parallel to the low-flow channel. Consequently, the microtopography on the floodplains in such areas can be described as having a roughly “corrugated” form, although this may be concealed by the vegetation in places. The swales and grooves range from 2 to approximately 100 feet wide and from less than 1 to 8 feet deep. The deeper ones are steep sided and typically much shorter than the shallower features. Most of the swales/grooves are not connected to the low-flow channel. Although most are vegetated, some appear to support water of a depth and duration such that little or no vegetation occurs. County staff believes that these grooves are re-worked remnants of dredging projects that were conducted in the 1980’s and early 1990’s. Many, but not all, of the swales/grooves were mapped by Jones & Stokes as being potential jurisdictional wetlands or other waters.

The low-flow channel is typically 8 to 18 feet wide. The channel bottom usually ranges from 4 to 12 feet below the top of bank. The banks of the channel typically range from very steep to nearly vertical, although in a few short sections, a low “bench” occurs. Where the banks are steep, no significant hydrophytic vegetation occurs along the channel margins.

## Ellinwood Creek

Based on field observations, flows in Ellinwood Creek are generated only from runoff from adjacent residential and commercial areas, rather than from upstream. Based on the vegetation, the water level appears to vary relatively little during the course of the year within a given subreach. In April and May 2004, some subreaches of the creek supported as much as 3 feet of standing water, while others were dry.

## Soil Characteristics

Soils in the project area are described in the Soil Survey of Contra Costa County, California (Welch 1977). Because the soil survey fieldwork was conducted during 1962 and 1972, and as a result of the mapping scale used, the map generally does not appear to reflect the significant changes in soil characteristics caused by channelization and subsequent sedimentation or other disturbances. For this reason, only those soil mapping units that occur in the parts of the project area that appear to not have been directly affected by channelization are described in this report and are specified on the delineation data sheets in

Appendix C. These mapping units correspond to diked areas north of Pacheco Creek and undisturbed areas on the western side of lower Walnut Creek. Additionally, the soils along Ellinwood Creek are not described below or specified on the data sheets because the soil survey map does not reflect actual soil characteristics within the channel or its banks.

The soil mapping units that are useful to this delineation are listed in Table 1; a copy of the soil survey map for the entire project area is provided at the beginning of the map sheets of Exhibit A.

Based on U.S.D.A. Soil Conservation Service (1992), all of the soil mapping units listed in Table 1 are hydric soils.

**Table 1. Summary of Soil Mapping Unit Characteristics in Undisturbed Parts of the Project Area**

Mapping Unit Symbol, Name, and Taxonomy	Natural Drainage Class	Permeability	Seasonal High Water Table (inches)	Ponding/ Inundation Characteristics	Landform
Ja – Joice muck Typic Medisaprists (now classified as Typic Haplosaprists)	Very poorly drained	Moderate	12–36	Freshwater flooding/ ponding	Brackish marshes
Oa – Omni clay loam Fluaquentic Haplaquolls (now classified as Fluvaquentic Endoaquolls)	Poorly drained	Slow	40–50	Occasional ponding	Lower floodplains
Ob – Omni silty clay Fluaquentic Haplaquolls (now classified as Fluvaquentic Endoaquolls)	Poorly drained	Slow	30–48	Occasional ponding	Lower edges of floodplains
Ra – Reyes silty clay Sulfic Haplaquepts (now classified as Sulfic Fluvaquents and applies only to diked areas)	Very poorly drained	Slow	“high or very high”	Inundation by high tides	Saltwater marshes

Source: Welch 1977

Based on a comparison of a map showing the extent of the historic baylands (Nichols and Wright 1971) with the soil survey map, the Reyes soil mapping unit

closely corresponds to an area that was the once open water of the bay. This area presumably developed into marshland as a result of deposition and redistribution of sediment in Suisun Bay, at least partially due to the influx of hydraulic mining debris from the Sierra Nevada.

## Vegetation

Eleven major jurisdictional vegetation communities were identified in the project area: emergent marsh—tidal, pickleweed marsh-tidal, alkali wetland—tidal, seasonal wetland—tidal, emergent marsh, seasonal wetland, seasonal wetland—alkali wetland complex—tidal, mixed riparian woodland, stream channel, scald, and pond. Nonjurisdictional communities consist of annual grassland and developed areas. Representative photographs of most of these communities are provided in Appendix A. Annual grassland and developed areas (together mapped as “nonwetlands” on Exhibit A) are discussed briefly below; the remainder of the communities are discussed in detail in Section 3, “Results.” A list of the species mentioned in the text and/or observed in the project area, along with their scientific names is included in Appendix B. Nomenclature follows *The Jepson Manual: Higher Plants of California* (Hickman 1993).

### Annual Grassland

Annual grassland is an herbaceous community dominated by naturalized grasses with intermixed perennial and annual forbs. Most annual grasslands in the project area occur on natural levees adjacent to the low-flow channel of Walnut Creek, on elevated areas of the floodplain, and on the cut slopes/levee slopes below the access roads. Annual grasslands within the project area support a large percentage of nonnative species. In addition to the large number of nonnative species, some areas near roadsides and levee roads exhibit low levels of diversity and are dominated by a few grasses and some invasive weeds. Dominant grasses observed included soft chess, ripgut brome, Bermuda grass, and hare barley. Several nonnative forbs were also common, including black mustard, wild radish, Italian thistle, and cut leaf geranium. These species tend to colonize quickly and are typical indicators of previous disturbance and naturalization.

### Developed Areas

Developed areas within the project area include the levee roads, bridges, paved areas, and other such unvegetated areas. Developed areas commonly have a concrete or gravel substrate.

## **Delineation Definitions and Interpretation**

Many of the terms used throughout this report have specific meanings related to the delineation of waters of the United States as required by Section 404 of the CWA and to Section 10 of the federal Rivers and Harbors Act. These terms are defined below.

■ *Waters of the United States* are

(1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters . . . ; (4) all impoundments of waters otherwise defined as waters of the United States under the definition; (5) tributaries of waters identified in paragraphs (a)(1)–(4) of this section; (6) the territorial seas; and (7) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)–(6) of this section” (33 CFR § 328.3).

Waters of the United States are areas under federal jurisdiction pursuant to Section 404 of the CWA. For the purpose of this delineation report, waters of the United States are divided into wetlands and other waters of the United States.

- *Wetlands* are “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR § 328.3[b], 40 CFR § 230.3). To be considered subject to federal jurisdiction, a wetland must normally support hydrophytic vegetation, hydric soil, and wetland hydrology (Environmental Laboratory 1987).

The Code of Federal Regulations (33 CFR § 328.3[3]) defines *adjacent* as

bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands.”

- *Dominance* is a descriptor of vegetation that is related to the standing crop of a species in an area, usually measured by height, areal cover, or basal area (for trees). A dominant plant species exerts a controlling influence on or defines the character of a community. Measurements of percent areal cover are often used to determine a species' dominance (Environmental Laboratory 1987).
- *Frequently flooded* is a flooding class in which flooding is often likely to occur under normal weather conditions (i.e., more than 50% chance of flooding in any year or more than 50 times in 100 years) (Environmental Laboratory 1987).
- *Growing season* is the portion of the year when the soil temperature at 19.7 inches below the soil surface is above biological zero (5°C or 41°F). For ease of determination, this period can be determined by estimating the number of frost-free days in a year (Environmental Laboratory 1987).
- *Hydric soils* are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Environmental Laboratory 1987; Federal Register, July 13, 1994; Natural Resources Conservation Service 1998).
- *Long duration* is the period of inundation for a single event and may range from 7 days to 1 month in duration. "An area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence)" (Environmental Laboratory 1987).

Inundation or soil saturation for a week or more during the growing season typically creates anaerobic conditions in the soil; these conditions affect the types of plants that can grow and the types of soils that develop (Wetland Training Institute 1995).

- The *normal condition* is the periodicity of coverage of an area by surface water or soil saturation. It is usually expressed as the number of years, per 100 years, the soil is inundated or saturated at least once during part of the growing season (Environmental Laboratory 1987).
- "The term '*ordinary high water mark (OHWM)*' means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR § 328.3[e]). The ordinary high water mark is used as a basis for identifying the extent of waters of the United States under Clean Water Act Section 404 in nontidal areas, except for wetlands that may occur above or below the OHWM.
- *High tide line (HTL)* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water

against a coast by strong winds. (33 CFR 328) The high tide line is used as a basis for identifying the extent of waters of the United States under Clean Water Act Section 404 in tidal areas, except for wetlands that may occur above or below the HTL.

- *Mean high water* (MHW) is the average of all the high water heights observed over the National Tidal Datum Epoch. For tidal gauge stations with shorter series, simultaneous observational comparisons are made with a control tide station in order to derive the equivalent datum of the National Tidal Datum Epoch. Mean high water is used as a basis for identifying the extent of Section 10 jurisdiction under the federal Rivers and Harbors of 1899.
- *Redoximorphic features* are soil properties formed by oxidation, translocation, or reduction of iron or manganese oxides. Redoximorphic features indicate past or present prolonged soil saturation and were formerly known as mottles, concretions, soft masses, and low-chroma colors (Vepraskas 1992).
- “An area has *wetland hydrology* if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (i.e., 50% probability of recurrence)” (Environmental Laboratory 1987). Primary indicators of wetland hydrology may include drainage patterns, drift lines, sediment deposition, watermarks, drainage patterns within wetlands, stream gauge data and flood predictions, historic records, visual observation of saturated soils, and visual observation of inundation. Secondary indicators of wetland hydrology may include presence of oxidized rhizospheres associated with living plant roots in the upper 12 inches of the soil, presence of water-stained leaves, local soil survey hydrology data for identified soils, and the FAC-neutral test of the vegetation.
- *Wetland indicator status* denotes the probability that a particular plant species is found in habitats qualifying as wetlands. Indicator status categories were originally developed and defined by the U.S. Fish and Wildlife Service National Wetlands Inventory and subsequently modified by the National Plant List Panel (Environmental Laboratory 1987; Reed 1988).

Plant indicator status categories are defined by the following characteristics:

- obligate (OBL) – almost always occurs in wetlands (99% probability);
- facultative wetland (FACW) – usually occurs in wetlands (67–99% probability);
- facultative (FAC) – equally likely to occur in wetlands or nonwetlands (34–66% probability of occurrence in wetlands);
- facultative upland (FACU) – usually occurs in nonwetlands, but occasionally occurs in wetlands (1–33% probability);
- obligate upland (UPL) – almost never occurs in wetlands (1% probability); and

- no indicator (NI) – no indicator status assigned because information is lacking.

## Review of Existing Information

Before conducting the wetland delineation, a number of sources were reviewed to identify general conditions in the project area:

- USGS 7.5-minute topographic maps (Vine Hill and Walnut Creek quadrangles) (Figure 1);
- soil survey information (Welch 1977);
- National Wetlands Inventory maps (available online);
- EcoAtlas Baylands maps of habitats prepared by the San Francisco Estuary Institute (2004);
- a map of the historic (mid-1800's) baylands (Nichols and Wright 1971); and
- the following aerial photographs:
  - color infrared (approximate scale 1:20,000) taken July 1988,
  - black and white (scale 15,840) taken June 1993,
  - black and white (scale 1: 1,200) taken May 2000,
  - color (approximate scale 1:20,000) taken July 2002, and
  - color (approximate scale 1:12,000) taken March 2003.

## Field Delineation Methods for Wetlands

### Evaluation of Mandatory USACE Criteria

Field surveys for the delineation were conducted by Jones & Stokes botanists and soil scientists in April, May, and August 2004, using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) (1987 Manual). Some 62 sample plots were evaluated to determine the presence or absence of wetlands and to establish wetland-nonwetland boundaries. In addition to the formal sample plots, roughly 200 other observations (not documented) of soils and hydrology were made throughout the project area to supplement the sample plots. Data sheets for the formal sample plots are provided in Appendix C.

The methods used during the wetland delineation to specifically evaluate the hydrophytic vegetation, hydric soils, and wetland hydrology criteria are described below.

## Determination of Hydrophytic Vegetation

The presence of hydrophytic vegetation was determined using the methods outlined in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation 1989), a methodology approved by the Corps for use in conjunction with the 1987 Manual. Under this methodology, areas are considered to have positive indicators of hydrophytic vegetation if greater than 50% of the dominant plant species (defined as plants that comprise 20% or more of the cover value observed at a site) include FAC, FACW, or OBL species (Reed 1988).

## Determination of Wetland Hydrology

Wetland hydrology was determined to be present if a site supported one or more (depending on whether they were primary or secondary indicators of wetland hydrology) of the following characteristics:

- inundation or soil saturation for a long duration (directly observed or inferred from oxidized rhizospheres);
- appropriate landscape position and topography (e.g., concave microtopography, distinct wetland drainage pattern);
- residual evidence of ponding or flooding (e.g., scour marks, sediment deposits, algal matting, drift lines); and
- presence of a hydric soil as mapped by Welch (1977) along with confirmation that the area had not been significantly drained since the soil survey mapping was conducted.

To define inundation or saturation for a long duration, a number of sources were consulted. As described above, the 1987 Manual defines *long duration* as inundation in a single event that ranges from 7 days to 1 month.

As additional guidance to determine the period of inundation or saturation required to meet the wetland hydrology criteria, the 1987 Manual modified a hydrologic classification system for nontidal areas based on periods of inundation or soil saturation. According to this classification system, areas that are inundated for less than 5% of the growing season are not wetlands. Areas that are regularly inundated or saturated for 5–12.5% of the growing season are typically wetlands. Areas that are inundated or saturated for more than 13% of the growing season are always wetlands.

Jones & Stokes used soil survey information (Welch 1977) to determine the length of the growing season in the project area. The soils in the project area have an average annual frost-free period of 250 to 300 days (Welch 1977). Using the frost-free period as a proxy for the growing season, the soils must be inundated or be saturated in the major part of the root zone for a minimum of 13

consecutive days (i.e., 5% of 250 days) on average to meet the criteria for wetland hydrology (Environmental Laboratory 1987).

According to Contra Costa County Department of Public Works staff (Jensen pers. comm.), the creek typically floods to the toe of each levee once or twice each year. The floodwaters persist on the floodplain for a period of approximately 6 to 12 hours, except for depressional areas or channels, where it persists much longer. This duration of inundation would be much too short for reducing conditions to occur, which, based on the growing season information described above, is 12.5 days. Although the surface water from flooding may disappear within hours or a few days, the soils in topographic low areas remain saturated in the root zone to cause the presence of wetland hydrology.

## Determination of Hydric Soils

Soil survey information was reviewed for the project area. In all parts of the project area that are within the limits of the levees/cut slopes of the creek upstream of Waterfront Road, the soil survey mapping was regarded as being irrelevant to the delineation.

If the sample plot supported a prevalence of hydrophytic vegetation, soils were evaluated using the Munsell soil color chart and assessing diagnostic soil characteristics (e.g., redoximorphic features). Based on these characteristics, the following criteria were used to determine the presence of hydric soils in the project area:

- *Redoximorphic features.* This hydric soil indicator was identified by the presence of a low-chroma matrix (chroma 1 or less) with or without redox concentrations or a matrix chroma of 2 with redox concentrations.
- *Positive indicators of anaerobic conditions.* This was evidenced by a sulfidic odor in a few of the soils.
- *Listing on the local hydric soils list.* This was determined from soil survey mapping and confirmation that such soils had not been significantly drained since the soil survey mapping was conducted.
- *Aquic moisture regime.* This was determined by a seasonal groundwater table within the major part of the root zone. (The primary concentration of roots of the wetland communities in the project area typically extended to a depth of roughly 6 to 9 inches).

## Ordinary High Water Mark

As discussed above, floodwaters of the creek generally extend to the toe of the cut slope/levee slope approximately twice a year, on average. Although the creek "banks" generally do not express the morphological characteristics defined in 33 CFR 328.3[e] indicative of an OHWM, such regularity of flooding fits into the

concept of an ordinary high water mark (Martel pers. comm.). Accordingly, in the nontidal reach of the creek, the OHWM generally extends from toe of one cut slope to toe of the other cut slope, thereby making all of the area in between an other waters of the United States. Included in this area are both wetlands and areas that do not meet the 1987 Manual criteria for wetlands but are nevertheless are waters of the United States.

## High Tide Line

The HTL was inferred based on the “rack” (i.e., debris deposited by high tides) line on the shore. Consequently, in the tidal reach of the creek, the HTL generally extends from toe of one cut slope/levee slope to toe of the other cut slope/levee slope, thereby making all of the area in between an other waters of the United States. Included in this area both wetlands and areas that do not meet the 1987 Manual criteria for wetlands but are nevertheless are waters of the United States.

## Mean High Water

Because no detailed topographic map exists that reflects the existing topography of the project area, identification of the MHW line based on topography was not possible. In such situations, changes in vegetation communities can be used to infer the MHW line. Based on guidance from USACE San Francisco District staff (Martel pers. comm.), the MHW line occurs at the lower limit of the emergent marsh-tidal community along Pacheco Creek and the downstream part of Walnut Creek.

## Wetland Boundary Determinations

The wetland-upland boundary was determined on the basis of the presence or inference of positive indicators of all three mandatory criteria (i.e., hydrophytic vegetation, hydric soils, wetland hydrology). The wetland-upland boundary was initially determined based on observed hydrophytic vegetation and wetland hydrologic conditions. Soils were then evaluated at representative sample plots in the wetland and in an adjacent upland area to determine whether the candidate wetland supported hydric soil indicators.

## Wetland Mapping and Acreage Calculations

Wetlands were mapped in the field on aerial photographs taken in May 2000 with a scale of 1 inch = 100 feet (1:1,200) using aerial photograph interpretation and field survey. The first mile of the project area (at the mouth of Walnut Creek) is accessible only by boat; this portion of the project area was delineated from

interpretation of the aerial photographs listed above and from review of soil survey (Welch 1977) and vegetation maps (San Francisco Estuary Institute 2004). In-channel islands and certain other inaccessible areas were mapped from the May 2000 aerial photographs and from viewing the islands from the opposite side of the channel. Such “remotely-mapped” areas were delineated in this fashion only after considerable experience was gained from direct site inspection in accessible areas and after experience was gained by correlating a photograph “signature” to plant species composition.

Each feature was then digitized using AutoCAD software then converted to GIS to calculate acreages.

## Field Delineation Methods for Other Waters of the United States

Other waters of the United States (open waters) in the project area consist of (unvegetated) stream channels (e.g., the low-flow channel of Walnut Creek), pondlike features not associated with the creek (located downstream of Highway 4), and scalds (i.e., barren or sparsely vegetated saline depressions). During the field surveys, stream channels were identified based on the presence of open, perennially flowing water and/or a defined bed and bank. Some of the stream channels contain small areas of sparse wetland vegetation; such vegetated areas were included within the mapping concept of a stream channel. Ponds were also identified in the project area on the basis of open perennial, but stagnant, water. Scalds were identified on the basis of barren or sparsely vegetated depressional areas with a surface salt crust.

Like the wetlands, the other water features were mapped in the field from aerial photograph interpretation and field survey, and acreages were determined from GIS analysis.

As described above, also mapped as other waters were all areas that were within the ordinary high water mark and the high tide line, including areas that otherwise did not meet the criteria for wetlands, stream channels, ponds, and scalds.

## Section 3 Results

This section also summarizes the data collected on jurisdictional wetlands and other waters of the United States in the project area. Data forms for representative wetland and upland communities evaluated in the field are provided in Appendix C. Ground-level photographs of representative vegetation communities are provided in Appendix A.

In summary, a total of 280.89 acres of potential jurisdictional wetlands and 110.82 acres of other waters of the United States were delineated in the project area (Table 2), not including areas that are otherwise within the OHWM or HTL of the creek.

**Table 2.** Acreage of Wetlands and Other Waters of the United States in the Project Area

Habitat Type	Jurisdictional Area Type	Acreage in Project Area
Emergent marsh—tidal	Wetland	104.79
Pickleweed marsh—tidal	Wetland	39.85
Alkali wetland—tidal	Wetland	64.34
Seasonal wetland—tidal	Wetland	13.55
Emergent marsh	Wetland	2.03
Seasonal wetland	Wetland	24.62
Seasonal wetland–alkali wetland complex—tidal	Wetland	31.41
Mixed riparian woodland	Wetland	0.30
Stream channel	Other water of the United States	96.07
Scald	Other water of the United States	11.49
Pond	Other water of the United States	3.26
	<b>Total Jurisdictional Area</b>	<b>391.71</b>

## Wetlands

Emergent marsh, seasonal wetland, mixed riparian woodland (all of which are not tidally-influenced) and emergent marsh—tidal, pickleweed marsh—tidal, seasonal wetland–alkali wetland complex—tidal, alkali wetland—tidal, and seasonal wetland—tidal communities were delineated as jurisdictional wetlands in the project area. General information on the characteristics of each

community is presented below. Locations of individual wetlands are shown on Exhibit A.

## Emergent Marsh

Emergent marsh (nontidal) is commonly present adjacent to the natural levee or low-flow channel of the upper part of Walnut Creek. Emergent wetlands are identified by the presence of rooted, herbaceous hydrophytes emerging from a perennial or semiperennial water source. The dominant species within the emergent wetland are common bulrush, broad-leaf cattail, broad-leaf peppergrass, and poison hemlock, with water plantain and creeping spikerush as associates. At the time of the field surveys in April and May 2004, the presence of wetland hydrology was determined by saturated soil, shallow groundwater, and inundation. The soil of the emergent wetland was determined to be hydric based on the presence of a low chroma matrix.

## Seasonal Wetland

Seasonal wetland (nontidal) is the dominant wetland type in the upstream portion of the project area. In this area, they are typically found in low areas adjacent to the natural levee of the creek. The dominant species within the seasonal wetland community include spreading bentgrass, Bermuda grass, umbrella sedge, creeping spikerush, Italian ryegrass, and bird's-foot trefoil. This community is seasonally inundated with surface water from high flow events of the creek or saturated by shallow groundwater. At the time of the field surveys in April and May 2004, presence of wetland hydrology was determined by drainage patterns with the wetland. The soil of the seasonal wetland was found to be hydric based on the presence of a matrix color with a low chroma and redoximorphic features such as iron concentrations and oxidized root channels.

## Mixed Riparian Woodland

Mixed riparian woodland wetlands are located within the abandoned channel of Walnut Creek (Ellinwood Creek) on similar to slightly higher topographic positions as emergent wetlands. However, they differ from emergent wetlands in that woody shrubs and trees dominate the community instead of herbaceous vegetation. Mixed riparian woodlands within the project area have a dense overstory with an emergent wetland or open water understory. Dominant shrubs include blue elderberry, red willow, and Himalayan blackberry. Dominant trees include big-leaf maple, Oregon ash, and valley oak. Wetland hydrology was identified by drainage patterns within the wetland or inundation. The soil of the mixed riparian woodland was determined to be hydric based on the presence of a low chroma matrix with redox concentrations.

## Emergent Marsh—Tidal

Emergent marsh—tidal is the dominant community at the downstream end of Walnut Creek and Pacheco Creek and where Pacheco Creek converges with Suisun Bay (Exhibit A). Emergent wetlands are identified by the presence of rooted, herbaceous hydrophytes emerging from a perennial or semiperennial water source. The dominant species within the emergent wetland are common bulrush, broad-leaf cattail, broad-leaf pepper-grass, and poison hemlock. This community is tidally-influenced at least to some degree. At the time of the field surveys in April and May 2004, the presence of wetland hydrology was determined by saturated soil or by inundation. The soil of the emergent wetland was determined to be hydric based on the presence of a low chroma or gleyed matrix, sometimes with redox concentrations.

## Pickleweed Marsh—Tidal

Pickleweed marsh—tidal within the project area is generally located in diked areas west of the western levee in the downstream part of the project area. This community is characterized by a coverage of 50% or more by pickleweed; many areas are virtually 100% pickleweed. Wetland hydrology within the pickleweed marsh was identified by the observation of oxidized rhizospheres in the upper 12 inches of the soil and basinlike topography. The marsh appears to be supported by incident precipitation and groundwater upwelling (i.e., subirrigation) during very high tides. No direct surface tidal water inundation appears to occur. The soil of the pickleweed marsh was found to be hydric based on the presence of a low chroma matrix and redox concentrations.

## Alkali Wetland—Tidal

The alkali wetland—tidal community was identified inboard of the cut slope/levee banks at the downstream end of Pacheco Creek. Alkali wetlands are identified by the presence of hydrophytic halophytes dominating the community. The dominant species within the alkali wetland are brass-buttons, saltgrass, alkali heath, fleshy juamea, alkali bulrush, and pickleweed. This community is saturated by groundwater and/or seasonally inundated by surface water from high flow events of the creek. At the time of the field surveys in April and May 2004, the presence of wetland hydrology was determined by drainage patterns within the wetland. The soil of the alkali wetland was found to be hydric based on the presence of a low chroma matrix and redoximorphic features such as redox concentrations and oxidized rhizospheres.

## Seasonal Wetland–Alkali Wetland Complex—Tidal

Mapped areas of seasonal wetland–alkali wetland complex—tidal dominate downstream areas within the project area located west of the western levee. The complex is a mosaic of the nontidal seasonal wetland and nontidal alkali wetlands described above and was mapped as a single community because of the intricacy of their patterns and the scale of the base maps. The complex generally consists of 60% seasonal wetlands and 40% alkali wetlands. Those in the vicinity of Acme Landfill appear to have formed as a result of diking from tidal action, subsequent subsidence, and salinization of some of the soils.

## Seasonal Wetland—Tidal

The seasonal wetland—tidal community was identified inboard of the cut slope/levee banks at the downstream end of Walnut Creek and Pacheco Creek and within the diked areas west of the western levee in the downstream part of the project area. Seasonal wetlands occur in areas that are ephemerally or seasonally inundated or saturated by shallow groundwater. This community is often associated with the upper limits of emergent wetlands or along channel banks where the duration of soil saturation cannot support obligate wetland species such as cattails and willows, but instead supports more facultative species. Seasonal wetland plants include annuals and perennials adapted to a yearly cycle of winter flooding or saturation and spring or summer drying. The dominant species within the seasonal wetland community include spreading bentgrass, Bermuda grass, umbrella sedge, creeping spikerush, Italian ryegrass, and bird's-foot trefoil. This community is seasonally inundated with surface water from high flow events of the creek. At the time of the field surveys in April and May 2004, the presence of wetland hydrology was determined by drainage patterns within the wetland. The soil of the seasonal wetland was found to be hydric based on the presence of a low chroma matrix color and redoximorphic features such as redox concentrations and oxidized rhizospheres.

## Other Waters of the United States

Stream channels, ponds, and scalds were mapped as other waters of the United States in the project area. Representative photographs of each of these communities are provided in Appendix A. General information on the characteristics of each jurisdictional habitat type is presented below. Locations of individual waters are shown on Exhibit A. Also shown on Exhibit A are the ordinary high water mark and the high tide line, which reflect the overall extent of Section 404 jurisdiction.

## Stream Channels

Two major stream channels occur within the project area: lower Walnut Creek and Pacheco Creek. During the field surveys, stream channels were identified based on the presence of open, perennially flowing water and/or a defined bed and bank. Minor stream channels consist of narrow sloughs that extend into the floodplains of the major streams.

Stream channels were also mapped in Ellinwood Creek where the water is too deep to support vegetation. Culverts under roadways connect the individual reaches of Ellinwood Creek. Such features were classified as stream channels in the delineation mapping.

## Ponds

Ponds were also identified on the basis of stagnant, open perennial water. The larger of the ponds, which occur in elevated areas on the eastern side of the project area downstream of Highway 4, appear to be artificial and mostly supported by groundwater. Included within these ponds were small patches of emergent wetland vegetation, such as broad-leaf cattail and common bulrush.

Nearly all of the other mapped ponds occur within the floodplain of the creek and appear to be elongate areas where dredging has been conducted.

## Scalds

Scalds were identified on the basis of basinlike topography subject to ponding; some areas were ponded at the time of the field surveys. Scalds in the project area contain no or very low vegetation cover and are typically adjacent to alkali wetlands and pickleweed marshes. Like the soils of alkali wetlands (nontidal), excess sodium in the soil may deflocculate the clay particles to promote ponding of incident precipitation. At least some of the scalds occasionally become inundated from groundwater upwelling. Those in the vicinity of Acme Landfill appear to have formed as a result of diking from tidal action, subsequent subsidence, and salinization of the soils. Some of the scalds in the diked areas south of Pacheco Creek in the diked areas appear to have been created by motorcycle and other vehicle use.

## Rivers and Harbors Act Section 10 Jurisdiction

Exhibit A shows Rivers and Harbors Act Section 10 jurisdiction within the project area, which extends over a 90.94-acre area.

## Section 4

# References Cited

### Printed References

- Environmental Laboratory. 1987. *Corps of Engineers wetlands delineation manual*. (Technical Report Y-87-1.) Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
- Federal Interagency Committee for Wetland Delineation. 1989. *Federal manual for identifying and delineating jurisdictional wetlands*. (Cooperative Technical Publication.) Washington, D.C: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, and USDA Soil Conservation Service.
- Hickman, J.C. (ed.). 1993. *The Jepson Manual: Higher Plants of California*. Berkeley, CA: University of California Press.
- Natural Resources Conservation Service. 1998. Field indicators of hydric soils in the United States. Version 4.0. G.W. Hurt, Whited, P.M., and Pringle, R.F. (eds.). Ft. Worth, TX: U.S. Department of Agriculture.
- Nichols, D. and N. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey and U.S. Department of Housing and Urban Development. Washington, DC.
- Reed, P.B., Jr. 1988. National list of plant species that occur in wetlands: California (Region 0). (Biological Report 88 [26.10].) Washington, DC: U.S. Fish and Wildlife Service Research and Development. Prepared for National Wetlands Inventory, U.S. Fish & Wildlife Service, Washington, DC.
- San Francisco Estuary Institute. 2004. Bay Area EcoAtlas Version 1.50pr5, modern view of Suisun subregion, ca. 1997. Available: <<http://www.sfei.org>>. Accessed: May 20, 2004.
- Welch, L.E. 1977. Soil survey of Contra Costa County, California. Prepared by the U.S.D.A. Soil Conservation Service and the Regents of the University of California (Agricultural Experiment Station). Washington, D.C: U.S. Government Printing Office.

USACE San Francisco District. 2000. Information needed for verification of Corps jurisdiction. February. Regulatory Program. San Francisco, CA.

U.S.D.A. Soil Conservation Service. 1992. List of hydric soils for Contra Costa County, California. Field office technical guide. Davis, CA.

Vepraskas, M. J. 1992. Redoximorphic features for identifying aquic conditions. (Technical Bulletin 301.) Raleigh, NC: North Carolina Agricultural Research Service, North Carolina State University.

Wetland Training Institute. 1995. *Field guide for wetland delineation: 1987 Corps of Engineers manual*. (WTI 95-3.) Poolsville, MD.

## Personal Communications

Jenson, Tim. Associate Civil Engineer, Contra Costa County Department of Public Works. Telephone conversation with Joel Butterworth on May 21, 2004.

Martel, Dan. Regulatory Specialist, U.S. Army Corps of Engineers, San Francisco District. Telephone conversation with Joel Butterworth and Kate Carpenter on June 17, 2004.

## Section 5

# List of Preparers

The following persons were involved in preparing this report:

Jim Robins	Project Manager
Joel Butterworth	Soil and Wetland Specialist
Kate Carpenter	Botanist/Wetland Ecologist
Joel Gerwein	Botanist/Wetland Ecologist
Kiran Toor	AutoCAD Specialist
Shawn Vreeland	Editor
Chris Nelson	GIS Specialist
Kesha Chapman	AutoCAD Specialist

Appendix A

**Photographs of Representative Vegetation  
Communities in the Project Area**





Photo 1. Small tule (*Scirpus acutus*) dominated emergent marsh within Ellinwood Creek with mixed riparian woodland in the background. Western side of the creek, looking upstream. Map sheet 19a.



Photo 2. Area of seasonal wetlands and nonwetlands, with high flow detritus accumulation at toe of levee slope. Eastern side of the creek, looking downstream from levee. Map sheet 14.



Photo 3. Detritus accumulation from high flows on dead shrub up to 2 to 3 feet above current ground water level. Shrub is located on (nonwetland) natural levee dominated by annual canarygrass (*Phalaris canariensis*). Eastern side of the creek, looking across channel (not visible) to west. Map sheet 13.



Photo 4. Seasonal wetland in swale (lower-growing vegetation) dominated by spreading bentgrass (*Agrostis stolonifera*) and Bermuda grass (*Cynodon dactylon*). Western side of the creek, looking upstream. Map sheet 13.



Photo 5. Seasonal wetland in swale at left-center, which here is separated from the Walnut Creek stream channel by (nonwetland) natural levee. The Walnut Creek channel is mapped as other waters of the United States. Eastern side of the creek, looking upstream. Map sheet 15.

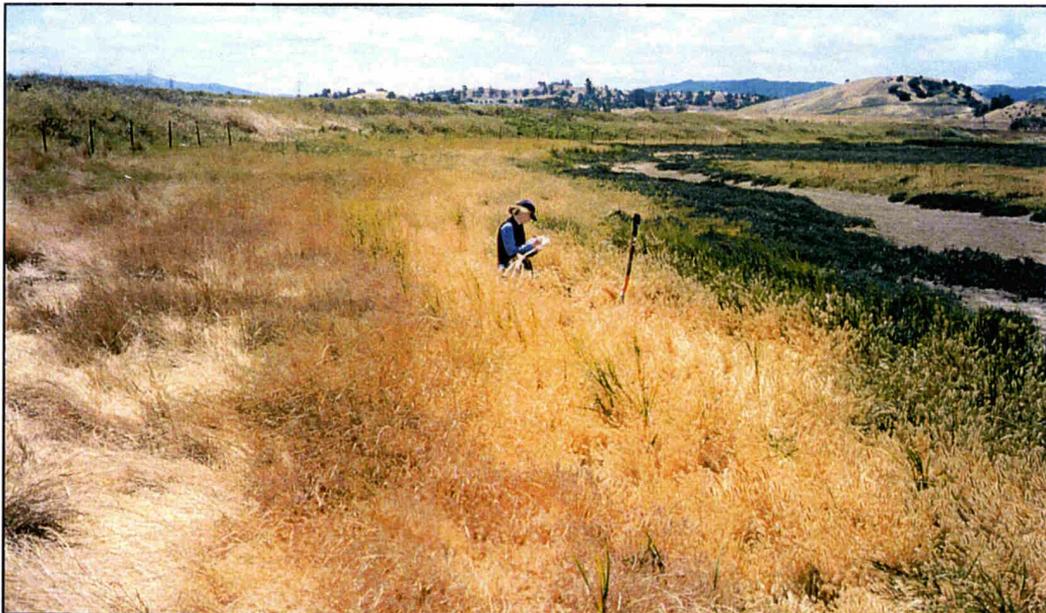


Photo 6. Various habitat types on elevational/hydrologic gradient. From left to right: ruderal vegetation (nonwetland) on levee slope, annual grassland dominated by Italian ryegrass (*Lolium multiflorum*) and hare barley (*Hordeum murinum* ssp. *leporinum*) (brown) (nonwetland), seasonal wetland dominated by rabbitsfoot grass (*Polypogon monspeliensis*) (golden), alkali wetland dominated by alkali bulrush (*Scirpus robustus*) and brass-buttons (*Cotula coronopifolia*) (medium green), pickleweed (*Salicornia virginica*) marsh (dark green), and scald (tan) (other waters of the United States). Diked area on western side of the creek, looking upstream. Map sheet 6.

04225.04-300 Wet Delin



Photo 7. Cattail (*Typha latifolia*) dominated emergent marsh subject to tidal action. Western side of the creek, looking upstream from levee slope. Map sheet 6.



Photo 8. Off-channel pond mapped as other waters of the United States. Scattered tule and cattail occur within the pond. Eastern side of creek, looking upstream. Map sheet 9.

Appendix B

# **Plants Identified in the Project Area**



**Appendix B.** List of Plant Species Observed on the Preliminary Delineation of Waters of the United States, Including Wetlands, for the Lower Walnut Creek Channel Restoration Project, Concord, California

<b>Scientific Name</b>	<b>Common Name</b>	<b>Indicator Status</b>	<b>Habitat<sup>a</sup></b>
<i>Acer macrophyllum</i>	Big-leaf maple	FAC	MR
<i>Acer negundo</i>	Box-elder	FACW	SW
<i>Agrostis avenacea</i>	Pacific bentgrass	FACW	AG, SW
<i>Agrostis stolonifera</i>	Spreading bentgrass	FACW	AG, SW
<i>Ailanthus altissima</i>	Tree-of-heaven	FACU	MR
<i>Alisma plantago-aquatica</i>	Water plantain	OBL	EM, SW
<i>Artemisia douglasiana</i>	Mugwort	FACW	AG, SW
<i>Arundo donax</i>	Giant reed	FACW	SW, EM
<i>Atriplex triangularis</i>	Sparscale	FACW	AW
<i>Avena barbata</i>	Slender wild oat	UPL	AG
<i>Baccharis pilularis</i>	Coyote brush	UPL	MR
<i>Brassica nigra</i>	Black mustard	UPL	AG
<i>Bromus catharticus</i>	Rescue grass	UPL	AG
<i>Bromus diandrus</i>	Ripgut brome	UPL	AG
<i>Bromus hordeaceus</i>	Soft chess	UPL	AG
<i>Carduus pycnocephalus</i>	Italian thistle	UPL	AG
<i>Centaurea solstitialis</i>	Yellow star-thistle	UPL	AG
<i>Cichorium intybus</i>	Chicory	UPL	AG
<i>Cirsium vulgare</i>	Bull thistle	FACU	AG
<i>Conium maculatum</i>	Poison hemlock	FACW	AG, SW, EM, EM-T
<i>Convolvulus arvensis</i>	Field bindweed	UPL	AG
<i>Cotula coronopifolia</i>	Brass-buttons	FACW+	AW, AW-T
<i>Cynara cardunculus</i>	Artichoke thistle	UPL	AG
<i>Cynodon dactylon</i>	Bermuda grass	FAC	SW, SW-T
<i>Cyperus eragrostis</i>	Umbrella sedge	FACW	SW
<i>Distichlis spicata</i>	Saltgrass	FACW	AG, AW, SW, AW-T
<i>Eleocharis macrostachya</i>	Creeping spikerush	OBL	SW, EM
<i>Elymus glaucus</i>	Blue wild-rye	FACU	AG

<sup>a</sup>Habitat: AG = annual grassland; AW = alkali wetland; AW-T = alkali wetland-tidal; EM = emergent marsh; EM-T = emergent marsh-tidal; MR = mixed riparian; SW = seasonal wetland; SW-T = seasonal wetland-tidal

<i>Epilobium brachycarpum</i>	Panicled willow-herb	UPL	AG
<i>Epilobium ciliatum</i>	Hairy willow-herb	FACW	SW
<i>Equisetum telmateia</i> ssp. <i>braunii</i>	Giant horsetail	OBL	SW, EM
<i>Eschscholzia californica</i>	California poppy	UPL	AG, MR
<i>Euthamia occidentalis</i>	Western goldentop	OBL	SW
<i>Festuca arundinacea</i>	Tall fescue	FAC-	AG
<i>Foeniculum vulgare</i>	Sweet fennel	FACU	AG
<i>Frankenia salina</i>	Alkali heath	FACW+	SW, AW, SW-T, AW-T
<i>Fraxinus latifolia</i>	Oregon ash	FACW	MR
<i>Galium aparine</i>	Bed straw	FACU	AG, SW
<i>Geranium dissectum</i>	Cutleaf geranium	UPL	AG
<i>Grindelia camporum</i>	Great valley gumweed	FACU	AG
<i>Hedra helix</i>	English ivy	UPL	MR
<i>Hirschfeldia incana</i>	Mediterranean mustard	UPL	AG
<i>Hordeum brachyantherum</i> ssp. <i>californicum</i>	California barley	FACU	AG
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	FAC	AG
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Hare barley	UPL	AG
<i>Jaumea carnosa</i>	Fleshy juamea	OBL	AW, AW-T
<i>Juglans californica</i>	California walnut	FAC	MR
<i>Juncus bufonius</i>	Toad rush	FACW+	SW
<i>Juncus effusus</i>	Soft rush	OBL	SW, EM
<i>Lactuca serriola</i>	Prickly lettuce	FAC	AG
<i>Lathyrus jepsonii</i> var. <i>californicus</i>	California tule pea	OBL	AG, SW
<i>Lepidium latifolium</i>	Broad-leaf pepper-grass	FACW	AG, SW, SW-T, EM, EM-T
<i>Leymus triticoides</i>	Creeping wildrye	FAC+	AG
<i>Lolium multiflorum</i>	Italian ryegrass	FAC	AG, SW
<i>Lotus corniculatus</i>	Bird's-foot trefoil	FAC	AG, SW
<i>Lotus purshianus</i>	Chile lotus	UPL	AG

<sup>a</sup>Habitat: AG = annual grassland; AW = alkali wetland; AW-T = alkali wetland-tidal; EM = emergent marsh; EM-T = emergent marsh-tidal; MR = mixed riparian; SW = seasonal wetland;

<i>Lythrum salicaria</i>	Purple loosestrife	OBL	SW, EM, EM-T
<i>Malva neglecta</i>	Common mallow	UPL	AG
<i>Melilotus alba</i>	White sweet-clover	FACU+	AG
<i>Mentha arvensis</i>	Field mint	FACW	SW
<i>Mimulus guttatus</i>	Seep monkey-flower	OBL	SW
<i>Oenothera speciosa</i>	Mexican evening-primrose	—	SW
<i>Paspalum dilatatum</i>	Dallis grass	FAC	AG, SW
<i>Phalaris aquatica</i>	Harding grass	FAC+	AG, SW
<i>Phalaris canariensis</i>	Annual canarygrass	UPL	AG
<i>Phragmites australis</i>	Common reed	FACW	EM, SW
<i>Picris echioides</i>	Bristly oxtongue	FAC	AG
<i>Plantago subnuda</i>	Mexican plantain	FACW+	AG, SW
<i>Polygonum arenastrum</i>	Common knotweed	FAC	AG
<i>Polygonum lapathifolium</i>	Common knotweed	OBL	EM, SW
<i>Polypogon monspeliensis</i>	Rabbit's-foot grass	FACW+	EM, SW
<i>Populus fremontii</i>	Fremont's cottonwood	FACW	SW, MR
<i>Quercus agrifolia</i>	Coast live oak	UPL	MR
<i>Quercus lobata</i>	Valley oak	FAC	MR
<i>Raphanus sativus</i>	Wild radish	UPL	AG
<i>Rorippa nasturtium-aquaticum</i>	Water cress	OBL	SW, MR
<i>Rubus discolor</i>	Himalayan blackberry	FACW	MR
<i>Rumex acetosella</i>	Sheep sorrel	FAC-	AG, SW
<i>Rumex crispus</i>	Curly dock	FACW-	AG, SW
<i>Rumex pulcher</i>	Fiddle dock	FAC+	AG, SW
<i>Salicornia virginica</i>	Pickleweed	OBL	SW, AW, SW-T, AW-T
<i>Salix laevigata</i>	Red willow	FACW+	MR
<i>Salix lasiolepis</i>	Arroyo willow	FACW	AG, SW
<i>Sambucus mexicana</i>	Blue elderberry	FAC	MR
<i>Scirpus acutus</i>	Common bulrush	OBL	EM, EM-T

<sup>a</sup>Habitat: AG = annual grassland; AW = alkali wetland; AW-T = alkali wetland-tidal; EM = emergent marsh; EM-T = emergent marsh-tidal; MR = mixed riparian; SW = seasonal wetland;

<i>Scirpus robustus</i>	Alkali bulrush	OBL	AW, AW-T, SW, SW-T
<i>Sonchus asper</i>	Prickly sow-thistle	FAC	AG, SW
<i>Sonchus oleraceus</i>	Sow thistle	NI	AG
<i>Taeniatherum caput-medusae</i>	Medusa-head	UPL	AG
<i>Torilis arvensis</i>	Hedge parsley	UPL	AG
<i>Typha latifolia</i>	Broad-leaf cattail	OBL	EM, EM-T
<i>Urtica dioica</i> ssp. <i>holosericea</i>	Hoary nettle	FACW	AG
<i>Vicia sativa</i> ssp. <i>sativa</i>	Common vetch	FACU	AG
<i>Vinca major</i>	Periwinkle	—	SW
<i>Vulpia myuros</i> var. <i>myuros</i>	False foxtail fescue	FACU	AG
<i>Washingtonia</i> sp.	Fan palm	—	MR
<i>Xanthium strumarium</i>	Rough cockle-bur	OBL	SW

<sup>a</sup>Habitat: AG = annual grassland; AW = alkali wetland; AW-T = alkali wetland-tidal; EM = emergent marsh; EM-T = emergent marsh-tidal; MR = mixed riparian; SW = seasonal wetland;

Appendix C

# **Routine Wetland Delineation Data Forms**





Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/15/04	Community ID:	Seasonal Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-01
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Euthamia occidentalis</i>	H	50	OBL	<i>Lotus corniculatus</i>	H	5	FAC
<i>Mentha arvensis</i>	H	30	FACW	<i>Equisetum telmateia</i>	H	10	OBL
				<i>ssp. braunii</i>			
				<i>Raphanus sativus</i>	H	2	UPL
				<i>Scirpus acutus</i>	H	<5	OBL
				<i>Typha latifolia</i>	H	<5	OBL

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

**Hydrophytic Vegetation Present?**  YES  NO

Remarks:

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record)	Primary Indicators:
<input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	<input type="checkbox"/> Inundated
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Saturated Upper 12 Inches
Recorded Data (describe below):	<input type="checkbox"/> Water Marks
<input type="checkbox"/> Stream, Lake, or Tide Gauge	<input checked="" type="checkbox"/> Drift Lines
<input checked="" type="checkbox"/> Aerial Photographs	<input checked="" type="checkbox"/> Sediment Deposits
<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth of Surface Water: <u>none</u> inches	<input type="checkbox"/> Water-Stained Leaves
Depth to Standing Water in Pit: <u>&gt;19</u> inches	<input type="checkbox"/> Local Soil Survey Data
Depth to Saturated Soil: <u>&gt;19</u> inches	<input checked="" type="checkbox"/> FAC-Neutral Test
	<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks:	

**SOILS**

Plot ID: DP-01

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-7	vfsl		2.5Y 3/1	---	--	---	
A2	7-19	sil		2.5Y 4/1	---	--	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Very faint and few redox concentrations in matrix of A2 horizon. Not true horizons - recent deposition. Plastic debris found at 9 inches.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fvsl - fine sandy loam	
vfs - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Gerwein</u>	S/T/R	
Date:	<u>04/15/04</u>	Community ID:	<u>Annual Grassland/ Rip-Rap Bank</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>Upland</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-02</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus diandrus</i>	H	25	UPL	<i>Euthamia occidentalis</i>	H	<5	OBL
				<i>Raphanus sativus</i>	H	<5	UPL
				<i>Avena barbata</i>	H	<5	UPL
				<i>Rumex crispus</i>	H	<5	FACW-
				<i>Vicia sativva ssp. sativva</i>	H	<5	FACU
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>0%</u>		Total vegetation cover		<u>50%</u> %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		Wetland Hydrology Indicators:		
Typical length: <u>266</u> Days	5% = <u>13</u>		Primary Indicators:		
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available		<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands		
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;19</u> inches Depth to Saturated Soil: <u>&gt;19</u> inches		Secondary Indicators (2 or more required):		
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)	
Remarks:					
<u>Sediments are from large flow events within the creeks levee banks.</u>					

**SOILS**

Plot ID: DP-02

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Soil not evaluated. Sample plot is located on rip-rapped bank

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Gerwein</u>	S/T/R	
Date:	<u>04/15/04</u>	Community ID:	<u>Annual Grassland</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>Upland</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-03</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus diandrus</i>	H	60	UPL	<i>Galium aparine</i>	H	<5	FACU
<i>Xanthium strumarium</i>	H	20	FACW	<i>Salix lasiolepis</i>	T	<5	FACW
<i>Leymus triticoides</i>	H	20	FAC+				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>66%</u>	Total vegetation cover		<u>95%</u>	%	
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)	
<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO				
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		<b>Wetland Hydrology Indicators:</b>		
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:		<input type="checkbox"/> Inundated	
Recorded Data (describe below):		<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches	
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Other		<input type="checkbox"/> Water Marks	
<input type="checkbox"/> None Available				<input type="checkbox"/> Drift Lines	
Field Observations:		Depth of Surface Water: <u>none</u> inches		<input type="checkbox"/> Sediment Deposits	
Depth to Standing Water in Pit: <u>&gt;20</u> inches		Depth to Saturated Soil: <u>&gt;20</u> inches		<input checked="" type="checkbox"/> Drainage Patterns in Wetlands	
				<b>Secondary Indicators (2 or more required):</b>	
				<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches	
				<input type="checkbox"/> Water-Stained Leaves	
				<input type="checkbox"/> Local Soil Survey Data	
				<input type="checkbox"/> FAC-Neutral Test	
				<input type="checkbox"/> Other (explain below)	
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO		
<b>Remarks:</b>					
Sample plot within lowest position of a swale-like high flow channel.					

**SOILS**

Plot ID: DP-03

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-14	fsl		10YR 4/2	---	---	---	
A2	14-20	sil		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/15/04	Community ID:	Annual Grassland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	Upland
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-04
Is the area a potential problem area?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
(If needed, explain below)			

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus diandrus</i>	H	25	UPL	<i>Artemisia douglasiana</i>	H	10	FACW
<i>Xanthium strumarium</i>	H	30	FACW	<i>Vulpia myuros</i> var. <i>myuros</i>	H	<5	FACU
<i>Raphanus sativus</i>	H	30	UPL	<i>Picris echioides</i>	H	<5	FAC
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		33%		Total vegetation cover		100% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)			
Hydrophytic Vegetation Present?				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks:							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>
Typical length:	<u>266</u> Days 5% = <u>13</u>
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;19</u> inches Depth to Saturated Soil: <u>&gt;19</u> inches
Wetland Hydrology Indicators:	
Primary Indicators:	
<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands	
Secondary Indicators (2 or more required):	
<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)	
Wetland Hydrology Present?	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks:	

**SOILS**

Plot ID: DP-04

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-7	ls		10YR 4/2	---	---	---	many fine and med. Roots
A2	7-19	ls		10YR 4/2	---	---	---	very few fine roots

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site: <u>Lower Walnut Creek</u>	State: <u>CA</u>
Applicant/Owner: <u>Contra Costa County Flood Control District</u>	County: <u>Contra Costa</u>
Investigator(s): <u>Butterworth, Gerwein</u>	S/T/R
Date: <u>04/15/04</u>	
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID: <u>Seasonal Wetland</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID: <u>SW</u>
Is the area a potential problem area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID: <u>DP-05</u>
(If needed, explain below)	

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Agrostis stolonifera</i>	H	50	FACW	<i>Euthamia occidentalis</i>	H	5	OBL
				<i>Xanthium strumarium</i>	H	5	OBL
				<i>Picris echioides</i>	H	<5	FAC
				<i>Scirpus acutus</i>	H	<5	OBL
				<i>Cyperus eragrostis</i>	H	<5	FACW
				<i>Lotus corniculatus</i>	H	<5	FAC
				<i>Plantago subnuda</i>	H	<5	FACW+

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 70% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

Hydrophytic Vegetation Present?  YES  NO

Remarks:

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	
Typical length: <u>266</u> Days 5% = <u>13</u>	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;21</u> inches Depth to Saturated Soil: <u>&gt;21</u> inches	
Wetland Hydrology Present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: Sample plot located 2 feet above WSE on narrow bench.	

**SOILS**

Plot ID: DP-05

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-4	cl	*	10YR 3/1	---	---	---	
A2	4-11	sicl		10YR 4/1	---	---	---	
A3	11-21	cl		10YR 3/1	m, 3, d	Fe-x, mat	5YR 4/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ - dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
\* pseudo-platy structure caused by deposited layers of leaves.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture		Rock Fragments
cos - coarse sand	vfsl - very fine sandy loam	gr - gravelly
s - sand	l - loam	vgr - very gravelly
fs - fine sand	sil - silt loam	xgr - extremely gravelly
vfs - very fine sand	si - silt	cb - cobbly
lcos - loamy coarse sand	scl - sandy clay loam	vcb - very cobbly
ls - loamy sand	cl - clay loam	xcb - extremely cobbly
lfs - loamy fine sand	sicl - silty clay loam	st - stony
lvfs - loamy very fine sand	sc - sandy clay	vst - very stony
cosl - coarse sandy loam	sic - silty clay	xst - extremely stony
sl - sandy loam	c - clay	
fsl - fine sandy loam		

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/15/04	Community ID:	Emergent Marsh
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	EM
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-06
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator				
<i>Agrostis stolonifera</i>	H	50	FACW	<i>Scirpus acutus</i>	H	15	OBL				
<i>Typha latifolia</i>	H	30	OBL	<i>Populus fremontii</i>	H	<5	FACW				
				<i>Lotus corniculatus</i>	H	10	FAC				
				<i>Lepidium latifolium</i>	H	<5	FACW				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%				Total vegetation cover	70%	%	
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)	
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO							
Remarks:											

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:									
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:									
Typical length:	266 Days 5% = 13	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands									
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):									
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>14</u> inches Depth to Saturated Soil: <u>13</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)									
<b>Wetland Hydrology Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO							
Remarks:											

**SOILS**

Plot ID: DP-06

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-9	cos		2.5Y 3/1	---	---	---	
A2	9-17	sl		10YR 2.5/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Slight odor of Hydrogen Sulfide.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/15/04	Community ID:	Non Wetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-07
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	80	FAC	<i>Euthamia occidentalis</i>	H	5	OBL
				<i>Salix lasiolepis</i>	H	<5	FACW
				<i>Lotus corniculatus</i>	H	5	FAC
				<i>Mentha arvensis</i>	H	<5	FACW
				<i>Cynodon dactylon</i>	H	15	FAC
				<i>Rumex crispus</i>	H	<5	FACW-
				<i>Polygonum lapathifolium</i>	H	5	OBL

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

**Hydrophytic Vegetation Present?**  YES  NO

Remarks:

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u> Typical length: <u>266</u> Days 5% = <u>13</u>	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	<b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;18</u> inches Depth to Saturated Soil: <u>&gt;18</u> inches	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: Hydrology conditions are from high flow events.	

**SOILS**

Plot ID: DP-07

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-9	fsl		10YR 3/2	—	—	—	many fine med. roots
A2	9-18	sil		10YR 3/2	f, 1, d	Fe-x, mat	7.5YR 4/4	few fine roots

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Hydric soil indicators not present within the major part of the root zone.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R	
Date:	04/16/04	Community ID:	Non Wetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-08
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Phalaris aquatica</i>	H	55	FAC+	<i>Cynodon dactylon</i>	H	5	FAC
<i>Galium aparine</i>	H	30	FACU	<i>Lolium multifolium</i>	H	15	FAC
				<i>Raphanus sativus</i>	H	<5	UPL
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		50%		Total vegetation cover		110% %	
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Technical Literature	
<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
Remarks:							

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		Wetland Hydrology Indicators:		
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:		<input type="checkbox"/> Inundated	
Recorded Data (describe below):		<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches	
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Other		<input type="checkbox"/> Water Marks	
<input type="checkbox"/> None Available		Field Observations:		<input type="checkbox"/> Drift Lines	
Depth of Surface Water: <u>none</u> inches		Depth to Standing Water in Pit: <u>&gt;16</u> inches		<input type="checkbox"/> Sediment Deposits	
Depth to Saturated Soil: <u>&gt;16</u> inches				<input checked="" type="checkbox"/> Drainage Patterns in Wetlands*	
				Secondary Indicators (2 or more required):	
				<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches	
				<input type="checkbox"/> Water-Stained Leaves	
				<input type="checkbox"/> Local Soil Survey Data	
				<input type="checkbox"/> FAC-Neutral Test	
				<input type="checkbox"/> Other (explain below)	
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks:					
* From high flow events. Sample plot is approximately 2 feet in elevation above DP-09, just above the toe of the levee.					

**SOILS**

Plot ID: DP-08

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-11	sicl		10YR 4/2	---	---	---	
A2	11-16	c		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/16/04	Community ID:	Seasonal Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-09
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Xanthium strumarium</i>	H	40	FAC+	<i>Euthamia occidentalis</i>	H	5	OBL
<i>Lotus corniculatus</i>	H	40	FAC	<i>Convolvulus arvensis</i>	H	10	UPL
<i>Lactuca scariola</i>	H	20	FAC				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		110% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		<b>Wetland Hydrology Indicators:</b>	
Typical length: <u>266</u> Days	5% = <u>13</u>		<b>Primary Indicators:</b>	
Recorded Data (describe below):		<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands		
<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available		<b>Secondary Indicators (2 or more required):</b>		
Field Observations:		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)		
Depth of Surface Water: <u>none</u> inches				
Depth to Standing Water in Pit: <u>&gt;16</u> inches				
Depth to Saturated Soil: <u>&gt;16</u> inches				
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
<b>Remarks:</b>				
Sample plant is located in a backwater/high flow swale, approximately 2 feet lower than DP-08 and 2 feet lower than DP-10 (DP-10 is located on the levee within ruderal vegetation).				

**SOILS**

Plot ID: DP-09

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-4	sil	*	10YR 3/2	---	---	---	
A2	4-11	l		2.5Y 4/2	m, 1, p	Fe-x, por	5YR 4/6	
A3	11-16	sil		10YR 3/2	m, 1, p	Fe-x, por	5YR 4/6	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Gerwein</u>	S/T/R	
Date:	<u>04/16/04</u>	Community ID:	<u>Non Wetland (Annual Grassland/Ruderal)</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>NW</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-10</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator	
<i>Bromus diandrus</i>	H	50	UPL	<i>Cynodon dactylon</i>	H	10	FAC	
<i>Raphanus sativus</i>	H	30	UPL	<i>Galium aparine</i>	H	5	FACU	
				<i>Equisetum telmateia</i> ssp.	H	<5	OBL	
				<i>braunii</i>				
				<i>Brassuca nigra</i>	H	<5	UPL	
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				<u>0%</u>	Total vegetation cover			<u>100%</u> %
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)						
<b>Hydrophytic Vegetation Present?</b>				<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
Remarks:								

**HYDROLOGY**

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:	
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:	
Typical length:	<u>266</u> Days <u>5%</u> = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands	
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):	
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;22</u> inches Depth to Saturated Soil: <u>&gt;22</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks: Sample plot is located at the top of the natural levee, 2 feet higher than DP-09. No evidence that soil material consist of dredge spoils from the channel.			

**SOILS**

Plot ID: DP-10

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-22	l, sl, fsl		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture		Rock Fragments
cos - coarse sand	vfsl - very fine sandy loam	gr - gravelly
s - sand	l - loam	vgr - very gravelly
fs - fine sand	sil - silt loam	xgr - extremely gravelly
vfs - very fine sand	si - silt	cb - cobbly
lcos - loamy coarse sand	scl - sandy clay loam	vcb - very cobbly
ls - loamy sand	cl - clay loam	xcb - extremely cobbly
lfs - loamy fine sand	sicl - silty clay loam	st - stony
lvfs - loamy very fine sand	sc - sandy clay	vst - very stony
cosl - coarse sandy loam	sic - silty clay	xst - extremely stony
sl - sandy loam	c - clay	
fsl - fine sandy loam		

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/16/04	Community ID:	Non Wetland (Ruderal)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-11
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lepidium latifolium</i>	H	30	FACW	<i>Conium maculatum</i>	H	15	FACW
<i>Rumex crispus</i>	H	20	FACW-	<i>Raphanus sativus</i>	H	5	UPL
<i>Picris echinoides</i>	H	20	FAC				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		110% %	
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)	
<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation					
Hydrophytic Vegetation Present?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
Remarks:							

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	
Wetland Hydrology Present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: Drainage patterns probably from high flow events.	

**SOILS**

Plot ID: DP-11

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-15	silt		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R	
Date:	04/16/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Seasonal Wetland
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	SW
Is the area a potential problem area?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-12
(If needed, explain below)			

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Xanthium strumarium</i>	H	25	OBL	<i>Rumex crispus</i>	H	5	FACW-
<i>Cynodon dactylon</i>	H	90	FAC	<i>Eleocharis macrostachya</i>	H	5	OBL
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		110% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
Remarks:							

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain)	Contra Costa Soil Survey
Typical length: 266 Days	5% = 13
Recorded Data (describe below):	
<input type="checkbox"/> Stream, Lake, or Tide Gauge	
<input checked="" type="checkbox"/> Aerial Photographs	
<input type="checkbox"/> Other	
<input type="checkbox"/> None Available	
Field Observations:	
Depth of Surface Water: none inches	
Depth to Standing Water in Pit: >18 inches	
Depth to Saturated Soil: >18 inches	
<b>Wetland Hydrology Present?</b>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Remarks:	
Sample plot is located within a topographic swale.	

Wetland Hydrology Indicators:

Primary Indicators:

- Inundated
- Saturated Upper 12 Inches
- Water Marks
- Drift Lines
- Sediment Deposits
- Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- Oxidized Rhizospheres in Upper 12 Inches
- Water-Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (explain below)

**SOILS**

Plot ID: DP-12

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-18	sil		10YR 4/2	c, 2, p	Fe-x, por	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R:	
Date:	04/16/04	Community ID:	Emergent Marsh
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	EM
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-13
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Scirpus robustus</i>	H	50	OBL	<i>Eleocharis macrostachya</i>	H	10	OBL
<i>Agrostis stolonifera</i>	H	50	FACW	<i>Cynodon dactylon</i>	H	5	FAC
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		110% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)			
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days      5% = <u>13</u>	<input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>12</u> inches Depth to Saturated Soil: <u>10</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
<b>Remarks:</b>		
Sample plot is located at the tole of levee in a high flow channel/swale. Standing water is present in deepest areas along the feature.		

**SOILS**

Plot ID: DP-13

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-4	sil		10YR 4/1	---	---	---	
A2	4-14	sl		10YR 3/2	f, 1, d	Fe-x, mat	5YR 4/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ dipyrityl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Gerwein	S/T/R	
Date:	04/16/04	Community ID:	Non Wetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-14
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator	
<i>Cynodon dactylon</i>	H	30	FAC	<i>Galium aparine</i>	H	<5	FACU	
<i>Bromus diandrus</i>	H	30	UPL	<i>Eleocharis maculatum</i>	H	5	OBL	
				<i>Raphanus sativus</i>	H	<5	UPL	
				<i>Atriplex triangularis</i>	H	<5	FACW	
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				50%	Total vegetation cover			70% %
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)				
<b>Hydrophytic Vegetation Present?</b>				<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
Remarks:								

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length: <u>266</u> Days <u>5%</u> = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;17</u> inches Depth to Saturated Soil: <u>&gt;17</u> inches	
<b>Wetland Hydrology Present?</b>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Remarks: Drainage patterns are caused by high flow events. Sample plot is 2-3 feet higher than DP-13.	

**SOILS**

Plot ID: DP-14

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-17	sil		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ dipyrindyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/03/04	Community ID:	Seasonal Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-15
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Phalaris aquatica</i>	H	60	FAC+	<i>Equisetum telmateia</i>	H	15	OBL
<i>Cynodon dactylon</i>	H	40	FAC	<i>ssp. braunii</i>			
				<i>Scirpus acutus</i>	H	5	OBL
				<i>Salix lasiolepis</i>	S	5	FACW
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		110% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u> Typical length: <u>266</u> Days 5% = <u>13</u>	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	<b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>4</u> inches Depth to Saturated Soil: <u>3</u> inches	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<b>Remarks:</b> Sample plot is within swale like topography approximately one foot lower than adjacent area between it and channel of Walnut Creek. Drainage patterns may be from a high flow event.	

**SOILS**

Plot ID: DP-15

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-14	I		5Y 2.5/1	—	—	—	saturated up to 3"

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Mucky?

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fls - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/03/04	Community ID:	Nonwetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-16
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator	
<i>Bromus diandrus</i>	H	60	UPL	<i>Equisetum telmateia</i>	H	5	OBL	
<i>Cynodon dactylon</i>	H	40	FAC	<i>ssp. braunii</i>				
				<i>Gallium aparine</i>	H	5	UPL	
				<i>Picris echioides</i>	H	5	FAC	
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				50%	Total vegetation cover			120% %
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Technical Literature
<input type="checkbox"/> Other (explain below)						<input type="checkbox"/> Other (explain below)		
<b>Hydrophytic Vegetation Present?</b>				<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO			
<b>Remarks:</b> Dead <i>Zanthium strumarium</i> observed within sample plot, however no regeneration observed.								

**HYDROLOGY**

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
<b>Remarks:</b> Drift lines are from a high flow event. Sample plot is located approximately 1 elevational foot above toe of levee elevation.		

**SOILS**

Plot ID: DP-16

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-16	I		10YR 4/2	—	—	—	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-17

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-17	I+		10YR 3/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha'$ dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
loos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/03/04	Community ID:	Seasonal Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-18
Is the area a potential problem area?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
(If needed, explain below)			

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	70	FAC	<i>Xanthium strumarium</i>	H	10	OBL
<i>Phalaris aquatica</i>	H	20	FAC+	<i>Agrostis stolonifera</i>	H	5	FACW
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		100% %	
<input type="checkbox"/> Morphological Adaptations	<input type="checkbox"/> Physiological/Reproductive Adaptations	<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation	<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	<input type="checkbox"/> Technical Literature	<input type="checkbox"/> Other (explain below)		
<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO							
Remarks:							

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:
Recorded Data (describe below):		<input type="checkbox"/> Inundated
<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Water Marks
<input type="checkbox"/> Other		<input checked="" type="checkbox"/> Drift Lines
<input type="checkbox"/> None Available		<input type="checkbox"/> Sediment Deposits
Field Observations:		<input type="checkbox"/> Drainage Patterns in Wetlands
Depth of Surface Water: <u>none</u> inches		Secondary Indicators (2 or more required):
Depth to Standing Water in Pit: <u>&gt;16</u> inches		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Saturated Soil: <u>&gt;16</u> inches		<input type="checkbox"/> Water-Stained Leaves
		<input type="checkbox"/> Local Soil Survey Data
		<input type="checkbox"/> FAC-Neutral Test
		<input checked="" type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Remarks: Other: Swale-like topography between levee and natural levee. Drift lines are from high flow events.		

**SOILS**

Plot ID: DP-18

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	l		10YR 4/2	—	—	—	
A2	6-16	l		10YR 4/2	c, 1, p	Fe-x, mat	5YR 4/6	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ - dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
loos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
	<b>Location</b>
	mat - soil matrix
	ped - ped surface
	por - soil pores
	otr - other
	<b>Contrast</b>
	f - faint
	d - distinct
	p - prominent



**SOILS**

Plot ID: DP-19

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-9	sil		10YR 3/1	m, 1, p	Fe-x, mat+por	5YR 4/4	
A2	9-17	sil		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha'$ - dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
silt - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-20

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-17	I		10YR 3/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfls - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R:	
Date:	<u>05/04/04</u>	Community ID:	<u>Seasonal Wetland</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>SW</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-21</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Cynodon dactylon</i>	H	60	FAC	<i>Epilobium ciliatum</i>	H	5	FACW
<i>Agrostis avenacea</i>	H	20	FACW	<i>Xanthium strumarium</i>	H	5	OBL
<i>Lolium multiflorum</i>	H	20	FAC				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>100%</u>		Total vegetation cover		<u>120%</u> %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
<b>Remarks:</b> Emergent marsh to north with about 1-foot of standing water.							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u> Typical length: <u>266</u> Days 5% = <u>13</u>	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<b>Recorded Data (describe below):</b> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	<b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)
<b>Field Observations:</b> Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;19</u> inches Depth to Saturated Soil: <u>&gt;19</u> inches	
<b>Wetland Hydrology Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
<b>Remarks:</b> Other: Swale topography	

**SOILS**

Plot ID: DP-21

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-9	sil		10YR 4/2	c, 1, p	Fe-x, mat	5YR 4/4	
A2	9-19	sil		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/04/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Nonwetland (Annual Grassland)
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	NW
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-22

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator		
<i>Lolium multiflorum</i>	H	100	FAC	<i>Avena barbata</i>	H	5	UPL		
				<i>Festuca arundinacea</i>	H	5	FAC-		
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%	Total vegetation cover			110%	%
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
Hydrophytic Vegetation Present?				<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO				
Remarks:									

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days <u>5%</u> = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Wetland Hydrology Present?		
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Remarks: Sample plot is about 1-foot higher than swale (DP-21).		





Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/04/04	Community ID:	Emergent Marsh
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	EM
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-23
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Scirpus acutus</i>	H	40	OBL	<i>Lolium multiflorum</i>	H	10	FAC
<i>Agrostis avenacea</i>	H	40	FACW	<i>Mentha arvensis</i>	H	<5	FACW
				<i>Lotus corniculatus</i>	H	5	FAC
				<i>Bromus diandrus</i>	H	<5	UPL
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%	Total vegetation cover		110%	%	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)			
Hydrophytic Vegetation Present?				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks:							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)
Wetland Hydrology Present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Remarks: Other: Broad shallow swale		

**SOILS**

Plot ID: DP-23

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-12	sil and		10YR 4/1	---	---	---	stratified horizon
		sicl		10YR 4/1				
A2	12-16	sil		10YR 4/1	c, 2, p	Fe-x, mat	5YR 4/6	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site: <u>Lower Walnut Creek</u>	State: <u>CA</u>
Applicant/Owner: <u>Contra Costa County Flood Control District</u>	County: <u>Contra Costa</u>
Investigator(s): <u>Butterworth, Carpenter</u>	S/T/R: _____
Date: <u>05/04/04</u>	
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID: <u>Nonwetland (Annual Grassland)</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID: <u>NW</u>
Is the area a potential problem area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID: <u>DP-24</u>
(If needed, explain below)	

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus diandrus</i>	H	60	UPL	<i>Avena barbata</i>	H	5	UPL
<i>Lolium multiflorum</i>	H	20	FAC	<i>Xanthium strumarium</i>	H	5	OBL
<i>Raphanus sativus</i>	H	20	UPL	<i>Sonchus oleraceus</i>	H	5	NI
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): <u>25%</u>				Total vegetation cover <u>100%</u> %			
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO							
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record)	Primary Indicators:
<input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	<input type="checkbox"/> Inundated
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Saturated Upper 12 Inches
Recorded Data (describe below):	<input type="checkbox"/> Water Marks
<input type="checkbox"/> Stream, Lake, or Tide Gauge	<input type="checkbox"/> Drift Lines
<input checked="" type="checkbox"/> Aerial Photographs	<input type="checkbox"/> Sediment Deposits
<input type="checkbox"/> Other	<input type="checkbox"/> Drainage Patterns in Wetlands
<input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth of Surface Water: <u>none</u> inches	<input type="checkbox"/> Water-Stained Leaves
Depth to Standing Water in Pit: <u>&gt;17</u> inches	<input type="checkbox"/> Local Soil Survey Data
Depth to Saturated Soil: <u>&gt;17</u> inches	<input type="checkbox"/> FAC-Neutral Test
<b>Wetland Hydrology Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> Other (explain below)
<b>Remarks:</b>	
<u>Sample plot is located 2 elevational feet above DP-23 near toe of levee.</u>	

**SOILS**

Plot ID: DP-24

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-17	I		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ - dipyrityl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-25

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-10	sil		10YR 3/2	---	---	---	
A2	10-16	sicl		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Low chroma colors present below major part of root zone.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R	
Date:	<u>05/04/04</u>		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	<u>Nonwetland (Annual Grassland)</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	<u>NW</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-26</u>

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus drandrus</i>	H	50	UPL				
<i>Agrostis avenacea</i>	H	50	FACW				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>50%</u>	Total vegetation cover		<u>100%</u>	%	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO				
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		Wetland Hydrology Indicators:	
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:		
Recorded Data (describe below):		<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands		
<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available		Secondary Indicators (2 or more required):		
Field Observations:		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)		
Depth of Surface Water: <u>none</u> inches				
Depth to Standing Water in Pit: <u>&gt;21</u> inches				
Depth to Saturated Soil: <u>&gt;21</u> inches				
<b>Wetland Hydrology Present?</b>		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
Remarks: Other: Swale topography adjacent to the toe slope of the levee				

**SOILS**

Plot ID: DP-26

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

**Profile Description**

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-14			10YR 3/2	---	---	---	
A2	14-21			10YR 3/2	c, 2, d	Fe-x, mat	5YR 4/4	

**Hydric Soil Indicators (check all that apply):**

<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ -dipyridyl test)	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

**Hydric Soils Present?**  YES  NO

**Remarks:**  
A2 horizon is below the root zone

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

**Remarks:**

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R:	
Date:	<u>05/04/04</u>	Community ID:	<u>Seasonal Wetland</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>SW</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-27</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Agrostis stolonifera</i>	H	80	FACW				
<i>Cynodon dactylon</i>	H	20	FAC				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>100%</u>	Total vegetation cover		<u>100%</u>	%	
<input type="checkbox"/> Morphological Adaptations	<input type="checkbox"/> Physiological/Reproductive Adaptations	<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation	<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	<input type="checkbox"/> Technical Literature	<input type="checkbox"/> Other (explain below)		
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO				
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Based On:	<input type="checkbox"/> Soil Temp (record)	<input checked="" type="checkbox"/> Other (explain)	<u>Contra Costa Soil Survey</u>
Typical length:	<u>266</u> Days	5% =	<u>13</u>
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge	<input checked="" type="checkbox"/> Aerial Photographs	<input type="checkbox"/> Other
	<input type="checkbox"/> None Available		
Field Observations:	Depth of Surface Water:	<u>none</u> inches	
	Depth to Standing Water in Pit:	<u>&gt;16</u> inches	
	Depth to Saturated Soil:	<u>&gt;16</u> inches	
<b>Wetland Hydrology Indicators:</b>		<b>Primary Indicators:</b>	
		<input type="checkbox"/> Inundated	
		<input type="checkbox"/> Saturated Upper 12 Inches	
		<input type="checkbox"/> Water Marks	
		<input type="checkbox"/> Drift Lines	
		<input checked="" type="checkbox"/> Sediment Deposits	
		<input type="checkbox"/> Drainage Patterns in Wetlands	
		<b>Secondary Indicators (2 or more required):</b>	
		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches	
		<input type="checkbox"/> Water-Stained Leaves	
		<input type="checkbox"/> Local Soil Survey Data	
		<input type="checkbox"/> FAC-Neutral Test	
		<input checked="" type="checkbox"/> Other (explain below)	
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
<b>Remarks:</b>			
Other: Swale-like topography			

**SOILS**

Plot ID: DP-27

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-16	sil		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scf - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R:	
Date:	<u>05/04/04</u>	Community ID:	<u>Seasonal Wetland</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>SW</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-28</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Eleocharis macrostachya</i>	H	20	OBL				
<i>Xanthium strumarium</i>	H	20	OBL				
<i>Cynodon dactylon</i>	H	40	FAC				
<i>Agrostis stolonifera</i>	H	20	FACW				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

**Hydrophytic Vegetation Present?**  YES  NO

Remarks:

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;17</u> inches Depth to Saturated Soil: <u>&gt;17</u> inches	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: <u>Other: Swale topography</u>	

**SOILS**

Plot ID: DP-28

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-13	sil		10YR 4/1	c, 2, p	Fe-x, por, & mat	5YR 4/6	
A2	13-17	sil		10YR 4/1	m, 2&3, p	Fe-x, por, & mat	5YR 4/6	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site: <u>Lower Walnut Creek</u>	State: <u>CA</u>
Applicant/Owner: <u>Contra Costa County Flood Control District</u>	County: <u>Contra Costa</u>
Investigator(s): <u>Butterworth, Carpenter</u>	S/T/R: _____
Date: <u>05/04/04</u>	
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID: <u>Nonwetland (Annual Grassland)</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID: <u>NW</u>
Is the area a potential problem area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID: <u>DP-29</u>
(If needed, explain below)	

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	40	FAC	<i>Xanthium strumarium</i>	H	<5	OBL
<i>Cynodon dactylon</i>	H	60	FAC				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>100%</u>		Total vegetation cover		<u>100%</u> %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;20</u> inches Depth to Saturated Soil: <u>&gt;20</u> inches	
<b>Wetland Hydrology Present?</b>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Remarks:	

**SOILS**

Plot ID: DP-29

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-20	I		2.5Y 5/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/05/04	Community ID:	Nonwetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-30
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Epilobium ciliatum</i>	H	90	FACW	<i>Xanthium strumarium</i>	H	5	OBL
<i>Agrostis stolonifera</i>	H	20	FACW	<i>Bromus diandrus</i>	H	<5	UPL
				<i>Rumex crispus</i>	H	5	FACW-
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%	Total vegetation cover		110% %
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:
Recorded Data (describe below):		<input type="checkbox"/> Inundated
<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Water Marks
<input type="checkbox"/> Other		<input checked="" type="checkbox"/> Drift Lines
<input type="checkbox"/> None Available		<input type="checkbox"/> Sediment Deposits
Field Observations:		<input type="checkbox"/> Drainage Patterns in Wetlands
Depth of Surface Water: <u>none</u> inches		Secondary Indicators (2 or more required):
Depth to Standing Water in Pit: <u>&gt;20</u> inches		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Saturated Soil: <u>&gt;20</u> inches		<input type="checkbox"/> Water-Stained Leaves
		<input type="checkbox"/> Local Soil Survey Data
		<input checked="" type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
<b>Remarks:</b> Sample plot on natural levee adjacent to channel of creek.		

**SOILS**

Plot ID: DP-30

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-20	I		10YR 3/2	---	---	---	fine & medium roots to 8 inches

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Pepsi can at 8 inches. Not recently deposited soil.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	vfs1 - very fine sandy loam
s - sand	l - loam
fs - fine sand	sil - silt loam
vfs - very fine sand	si - silt
lcos - loamy coarse sand	scl - sandy clay loam
ls - loamy sand	cl - clay loam
lfs - loamy fine sand	sicl - silty clay loam
lvfs - loamy very fine sand	sc - sandy clay
cosl - coarse sandy loam	sic - silty clay
sl - sandy loam	c - clay
fs1 - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-31

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-11	sil		10YR 3/2	c, 2, d	Fe-x, mat	5YR 4/6	
A2	11-18	sicl		10YR 3/1	c, 2, d	Fe-x, mat	5YR 4/6	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-32

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-8	l		10YR 4/2	---	---	---	
A2	8-16	fsl		10YR 3/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrityl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/05/04	Community ID:	Nonwetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-33
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Rumex crispus</i>	H	30	FACW-	<i>Hordeum murinum</i>	H	10	UPL
<i>Lolium multiflorum</i>	H	60	FAC	<i>Rumex pulcher</i>	H	5	FAC+
				<i>Convolvulus arvensis</i>	H	5	UPL
				<i>Xanthium strumarium</i>	H	5	OBL
				<i>Lotus corniculatus</i>	H	5	FAC

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 90% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

**Hydrophytic Vegetation Present?**  YES  NO

Remarks:

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;17</u> inches Depth to Saturated Soil: <u>&gt;17</u> inches	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks:	

**SOILS**

Plot ID: DP-33

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-7	l		10YR 4/2	---	---	---	
A2	7-12	sil		10YR 3/2	---	---	---	
A3	12-17	sil		10YR 3/2	f, 2, p	Fe-x, mat	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrindyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Hydric indicators occur below the 0-6" root zone

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfst - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R	
Date:	05/05/04	Community ID:	Seasonal Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-34
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Cyndon dactylon</i>	H	90	FAC	<i>Typha latifolia</i>	H	5	OBL
<i>Cyperus eragrostis</i>	H	20	FACW	<i>Rumex acetosella</i>	H	<5	FAC-
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%	Total vegetation cover		110%	%	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO				
Remarks:							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days      5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;18</u> inches Depth to Saturated Soil: <u>&gt;18</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Remarks: Broad undulating swale partially fed by storm water drainage outfall. Outfall has water released at this time of year.		

**SOILS**

Plot ID: DP-34

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-13	sil		10YR 3/1	---	---	---	
A2	13-18	sici		10YR 3/1	f, 1, p	Fe-x, mat	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfls - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R	
Date:	05/05/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Nonwetland (Annula Grassland)
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	NW
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-35

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator	
<i>Phalaris canariensis</i>	H	90	UPL	<i>Rumex acetosella</i>	H	<5	FAC-	
				<i>Brassica nigra</i>	H	<5	UPL	
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				0%	Total vegetation cover			100% %
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)				
<b>Hydrophytic Vegetation Present?</b>				<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO			
Remarks:								

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Remarks:		

**SOILS**

Plot ID: DP-35

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-16	sil		10YR 3/2	—	—	—	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
icos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site: <u>Lower Walnut Creek</u>	State: <u>CA</u>
Applicant/Owner: <u>Contra Costa County Flood Control District</u>	County: <u>Contra Costa</u>
Investigator(s): <u>Butterworth, Carpenter</u>	S/T/R
Date: <u>05/05/04</u>	
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID: <u>Nonwetland (Annula Grassland)</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID: <u>NW</u>
Is the area a potential problem area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID: <u>DP-36</u>
(If needed, explain below)	

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	90	FAC	<i>Gallium aparine</i>	H	5	FACU
				<i>Lotus corniculatus</i>	H	5	FAC
				<i>Convolvulus arvensis</i>	H	5	UPL
				<i>Sonchus oleraceus</i>	H	5	NI
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): <u>100%</u>				Total vegetation cover <u>110%</u> %			
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO							
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Based On: <input type="checkbox"/> Soil Temp (record)	
<input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	
Typical length: <u>266</u> Days	5% = <u>13</u>
Recorded Data (describe below):	
<input type="checkbox"/> Stream, Lake, or Tide Gauge	
<input checked="" type="checkbox"/> Aerial Photographs	
<input type="checkbox"/> Other	
<input type="checkbox"/> None Available	
Field Observations:	
Depth of Surface Water: <u>none</u> inches	
Depth to Standing Water in Pit: <u>&gt;19</u> inches	
Depth to Saturated Soil: <u>&gt;19</u> inches	
Wetland Hydrology Indicators:	
Primary Indicators:	
<input type="checkbox"/> Inundated	
<input type="checkbox"/> Saturated Upper 12 Inches	
<input type="checkbox"/> Water Marks	
<input checked="" type="checkbox"/> Drift Lines	
<input type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetlands	
Secondary Indicators (2 or more required):	
<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches	
<input type="checkbox"/> Water-Stained Leaves	
<input type="checkbox"/> Local Soil Survey Data	
<input type="checkbox"/> FAC-Neutral Test	
<input type="checkbox"/> Other (explain below)	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: Sample plot is located 3 feet above bottom of adjacent swale/seasonal wetland.	

**SOILS**

Plot ID: DP-36

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-14	sl		10YR 3/2	---	---	---	
A2	14-18	l		10YR 3/2	---	---	---	
A3	18-19	l		10YR 3/2	f, 2, p	Fe-x, mat	5YR 4/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha'$ - dipyrityl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Redox features are below root zone.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site: <u>Lower Walnut Creek</u>	State: <u>CA</u>
Applicant/Owner: <u>Contra Costa County Flood Control District</u>	County: <u>Contra Costa</u>
Investigator(s): <u>Butterworth, Carpenter</u>	S/T/R: _____
Date: <u>05/05/04</u>	
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID: <u>Seasonal Wetland</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID: <u>SW</u>
Is the area a potential problem area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If needed, explain below)	Plot ID: <u>DP-37</u>

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Cynodon dactylon</i>	H	40	FAC	<i>Xanthium strumarium</i>	H	10	OBL
<i>Agrostis stolonifera</i>	H	60	FACW				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): <u>100%</u>				Total vegetation cover <u>110%</u> %			
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO							
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Based On: <input type="checkbox"/> Soil Temp (record)	
<input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	
Typical length: <u>266</u> Days	5% = <u>13</u>
Recorded Data (describe below):	
<input type="checkbox"/> Stream, Lake, or Tide Gauge	
<input checked="" type="checkbox"/> Aerial Photographs	
<input type="checkbox"/> Other	
<input type="checkbox"/> None Available	
Field Observations:	
Depth of Surface Water: <u>none</u> inches	
Depth to Standing Water in Pit: <u>&gt;16</u> inches	
Depth to Saturated Soil: <u>&gt;16</u> inches	
Wetland Hydrology Indicators:	
Primary Indicators:	
<input type="checkbox"/> Inundated	
<input type="checkbox"/> Saturated Upper 12 Inches	
<input type="checkbox"/> Water Marks	
<input checked="" type="checkbox"/> Drift Lines	
<input checked="" type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetlands	
Secondary Indicators (2 or more required):	
<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches	
<input type="checkbox"/> Water-Stained Leaves	
<input type="checkbox"/> Local Soil Survey Data	
<input checked="" type="checkbox"/> FAC-Neutral Test	
<input checked="" type="checkbox"/> Other (explain below)	
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks:	
Other: <u>Swale topography</u>	

**SOILS**

Plot ID: DP-37

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-8	sc		10YR 3/2	c, 2, d	Fex, mat	5YR 3/3	
A2	8-16	c		2.5Y 4/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/13/04	Community ID:	Seasonal Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-38
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator	
<i>Agrostis stolonifera</i>	H	95	FACW	<i>Alisma plantago aquatica</i>	H	5	OBL	
				<i>Cyperus eragrostis</i>	H	<5	FACW	
				<i>Rumex pulcher</i>	H	<5	FAC+	
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%	Total vegetation cover			100% %
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)				
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO			
Remarks:								

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:
Recorded Data (describe below):		<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available		Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;18</u> inches Depth to Saturated Soil: <u>&gt;18</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Remarks: Other: Broad swale topography		

**SOILS**

Plot ID: DP-38

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-18	I		10YR 3/2	c, 2, p	Fe-x, mat	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/13/04	Community ID:	Nonwetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-39
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus diandrus</i>	H	70	UPL	<i>Convolvulus arvensis</i>	H	<5	upl
				<i>Picris echioides</i>	H	<5	FAC
				<i>Bromus catharticus</i>	H	<5	UPL
				<i>Lolium multiflorum</i>	H	<5	FAC
				<i>Polygonum monspeliensis</i>	H	<5	FACW+

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 0% Total vegetation cover 100% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

Hydrophytic Vegetation Present?  YES  NO

Remarks:

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days 5% = <u>13</u>		Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available		Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches		
Wetland Hydrology Present? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Remarks: Sample plot is about 1-foot higher topographically than DP-38 and is located on a "bench".		

**SOILS**

Plot ID: DP-39

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-16	I		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/13/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Seasonal Wetland
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	SW
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-40

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	80	FAC	<i>Polypogon monspeliensis</i>	H	5	FACW+
<i>Distichlis spicata</i>	H	20	FACW	<i>Carduus pycnocephalus</i>	H	<5	UPL
				<i>Bromus diandrus</i>	H	5	UPL
				<i>Xanthium strumarium</i>	H	<5	OBL
				<i>Geranium dissectum</i>	H	<5	UPL
				<i>Rumex crispus</i>	H	<5	FACW-

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

**Hydrophytic Vegetation Present?**  YES  NO

Remarks:

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days 5% = <u>13</u>	Recorded Data (describe below): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Field Observations: Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;17</u> inches Depth to Saturated Soil: <u>&gt;17</u> inches		Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Remarks: Other: broad swale topography		

**SOILS**

Plot ID: DP-40

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	sil		10YR 3/2	---	---	---	
A2	6-17	cl		10YR 4/1	c, 1, p	Fe-x, met	5YR 4/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ dipyridyl test)	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R:	
Date:	<u>05/13/04</u>		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	<u>Seasonal Wetland</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	<u>SW</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-41</u>

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lepidium latifolium</i>	H	70	FACW	<i>Lythrum salicaria</i>	H	<5	OBL
<i>Agrostis stolonifera</i>	H	20	FACW	<i>Conium maculatum</i>	H	5	FACW
				<i>Raphanus sativus</i>	H	5	UPL
				<i>Picris echioides</i>	H	<5	FAC
				<i>Polypogon monspeliensis</i>	H	<5	FACW+
				<i>Cyperus eragrostis</i>	H	<5	FACW-
				<i>Mimulus guttatus</i>	H	<5	FACW
				<i>Epilobium ciliatum</i>	H	<5	FACW

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 150% %

Morphological Adaptations  
 Physiological/Reproductive Adaptations  
 Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation

Personal Knowledge of Regional Plant Communities  
 Technical Literature  
 Other (explain below)

**Hydrophytic Vegetation Present?**  YES  NO

Remarks:

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On: <input type="checkbox"/> Soil Temp (record)	Primary Indicators:
<input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	<input type="checkbox"/> Inundated
Typical length: <u>266</u> Days 5% = <u>13</u>	<input type="checkbox"/> Saturated Upper 12 Inches
Recorded Data (describe below):	<input type="checkbox"/> Water Marks
<input type="checkbox"/> Stream, Lake, or Tide Gauge	<input type="checkbox"/> Drift Lines
<input checked="" type="checkbox"/> Aerial Photographs	<input checked="" type="checkbox"/> Sediment Deposits
<input type="checkbox"/> Other	<input type="checkbox"/> Drainage Patterns in Wetlands
<input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth of Surface Water: <u>none</u> inches	<input type="checkbox"/> Water-Stained Leaves
Depth to Standing Water in Pit: <u>&gt;16</u> inches	<input type="checkbox"/> Local Soil Survey Data
Depth to Saturated Soil: <u>&gt;16</u> inches	<input checked="" type="checkbox"/> FAC-Neutral Test
	<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks:	
<u>Sample plot located on bench above main channel</u>	

**SOILS**

Plot ID: DP-41

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	sil		10YR 3/2	---	---	---	
A2	6-16	sil		2.5Y 3/1	c, 1, d	Fe-x, por	5YR 4/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfst - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R	
Date:	<u>05/13/04</u>	Community ID:	<u>Nonwetland (Ruderal)</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>NW</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-42</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Raphanus sativa</i>	H	80	UPL	<i>Gallium aparine</i>	H	5	FACU
				<i>Vulpianmyrus myurus</i>	H	10	FACU
				<i>Malva neglecta</i>	H	10	UPL
				<i>Bromus diandrus</i>	H	10	UPL
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>0%</u>	Total vegetation cover		<u>120%</u>	%	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		Wetland Hydrology Indicators:	
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:		
Recorded Data (describe below):		<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands		
<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available		Secondary Indicators (2 or more required):		
Field Observations:		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)		
Depth of Surface Water: <u>none</u> inches				
Depth to Standing Water in Pit: <u>&gt;15</u> inches				
Depth to Saturated Soil: <u>&gt;15</u> inches				
<b>Wetland Hydrology Present?</b>		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Remarks: Sample plot is located 1-2 feet higher than DP-41, just above toe slope of levee.				

**SOILS**

Plot ID: DP-42

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-8	I		10YR 3/2	---	---	---	
A2	8-15	I		10YR 4/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture		Rock Fragments
cos - coarse sand	vfs1 - very fine sandy loam	gr - gravelly
s - sand	l - loam	vgr - very gravelly
fs - fine sand	sil - silt loam	xgr - extremely gravelly
vfs - very fine sand	si - silt	cb - cobbly
lcos - loamy coarse sand	scl - sandy clay loam	vcb - very cobbly
ls - loamy sand	cl - clay loam	xcb - extremely cobbly
lfs - loamy fine sand	sicl - silty clay loam	st - stony
lvfs - loamy very fine sand	sc - sandy clay	vst - very stony
cosl - coarse sandy loam	sic - silty clay	xst - extremely stony
sl - sandy loam	c - clay	
fsl - fine sandy loam		

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/13/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Nonwetland (Annual Grassland)
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	NW
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-43

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	80	FAC	<i>Salicornia virginica</i>	H	10	OBL
				<i>Plyopogon monspeliensis</i>	H	10	FACW+
				<i>Brassica nigra</i>	H	<5	UPL
				<i>Picris echioides</i>	H	5	FAC
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%	Total vegetation cover		100% %
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:
Recorded Data (describe below):		<input type="checkbox"/> Inundated
<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Water Marks
<input type="checkbox"/> Other		<input type="checkbox"/> Drift Lines
<input type="checkbox"/> None Available		<input type="checkbox"/> Sediment Deposits
Field Observations:		<input type="checkbox"/> Drainage Patterns in Wetlands
Depth of Surface Water: <u>none</u> inches		Secondary Indicators (2 or more required):
Depth to Standing Water in Pit: <u>&gt;16</u> inches		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Saturated Soil: <u>&gt;16</u> inches		<input type="checkbox"/> Water-Stained Leaves
		<input type="checkbox"/> Local Soil Survey Data
		<input type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
<b>Remarks:</b>		
Area (marked by dashed line on aerial) is planar but not basin like. Wetland hydrology, if present, would be from incident precipitation and slowly permeable soils.		





**SOILS**

Plot ID: DP-44

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	c		10YR 3/1	---	---	---	
A2	6-10	c		10YR 3/2	c, 2, p	Fe-x, mat	5YR 3/4	salt along pore lining

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Soil is very hard

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/14/04	Community ID:	Mixed riparian
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	MR
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-45
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator	
<i>Salix laevigata</i>	T	60	FACW+	<i>Juglans californica</i>	S	10	FAC	
<i>Rubus discolor</i>	H	80	FACW	<i>Populus fremontii</i>	T	10	FAC+	
				<i>Avena barbata</i>	H	<5	UPL	
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%	Total vegetation cover			170% %
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Technical Literature
<input type="checkbox"/> Other (explain below)						<input type="checkbox"/> Other (explain below)		
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO			
Remarks:								

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>
Typical length:	<u>266</u> Days 5% = <u>13</u>
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;14</u> inches Depth to Saturated Soil: <u>&gt;14</u> inches
<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: Sample plot is near toe of slope of stream bank and about 5 feet away from active channel of creek.	

- Wetland Hydrology Indicators:
- Primary Indicators:
- Inundated
  - Saturated Upper 12 Inches
  - Water Marks
  - Drift Lines
  - Sediment Deposits
  - Drainage Patterns in Wetlands
- Secondary Indicators (2 or more required):
- Oxidized Rhizospheres in Upper 12 Inches
  - Water-Stained Leaves
  - Local Soil Survey Data
  - FAC-Neutral Test
  - Other (explain below)

**SOILS**

Plot ID: DP-45

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	l		10YR 4/2	—	—	—	
A2	6-14	cl		Gley1 4/10Y	c, 2, p	Fe-x, mat	5YR 3/4	moist

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-46

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	rocky l		10YR 3/2	---	---	---	fill

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Rocky fill prevented further excavation

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/14/04	Community ID:	Emergent Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	EM
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-47
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Typha latifolia</i>	H	80	OBL				
<i>Scirpus acutus</i>	H	20	OBL				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%	Total vegetation cover		100%	%	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
Hydrophytic Vegetation Present?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO				
Remarks:							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:	
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:	
Typical length:	<u>266</u> Days <u>5%</u> = <u>13</u>	<input checked="" type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands	
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):	
Field Observations:	Depth of Surface Water: <u>3</u> inches Depth to Standing Water in Pit: <u>N/A</u> inches Depth to Saturated Soil: <u>N/A</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)	
Wetland Hydrology Present?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Remarks: Sample plot is located 2 feet above toe of slope on stream bank.			

**SOILS**

Plot ID: DP-47

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrilid test)	<input type="checkbox"/> Other (explain below) _____
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Not observed - wetland is dominated by obligated

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R:	
Date:	<u>05/14/04</u>	Community ID:	<u>Nonwetland (Annual Grassland)</u>
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	<u>NW</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-48</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Bromus diandrus</i>	H	80	UPL	<i>Aesculus californica</i>	S	20	UPL
<i>Carduus pycnocephalus</i>	H	20	UPL				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				<u>0%</u>	Total vegetation cover <u>120%</u> %		
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>				<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:
Recorded Data (describe below):		<input type="checkbox"/> Inundated
<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Water Marks
<input type="checkbox"/> Other		<input type="checkbox"/> Drift Lines
<input type="checkbox"/> None Available		<input type="checkbox"/> Sediment Deposits
Field Observations:		<input type="checkbox"/> Drainage Patterns in Wetlands
Depth of Surface Water: <u>none</u> inches		Secondary Indicators (2 or more required):
Depth to Standing Water in Pit: <u>&gt;15</u> inches		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Saturated Soil: <u>&gt;15</u> inches		<input type="checkbox"/> Water-Stained Leaves
		<input type="checkbox"/> Local Soil Survey Data
		<input type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
<b>Remarks:</b>		
Sample plot is about 2 feet above DP-47 near toe of bank.		

**SOILS**

Plot ID: DP-48

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-8	l		10YR 3/2	---	---	---	
A2	8-15	c		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Roots are not present within the hydric horizon

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fst - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-49

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-11	l		10YR 4/2	---	---	---	
A2	11-16	cl		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Hydric colors are below the root zone

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfst - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-50

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-8	fsl		10YR 4/1	f, 2	Fe-x, por & mat	5YR 4/4	
A2	8-21	l		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrityl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-51

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-16	I		10YR 3/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R	
Date:	05/14/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Nonwetland (Ruderal)
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	NW
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-52

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Conium maculatum</i>	H	100	FACW	<i>Carduus pycnocephalus</i>	H	5	UPL
				<i>Brassica nigra</i>	H	5	UPL
				<i>Bromus diandrus</i>	H	<5	UPL
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		110%	%
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)			
Hydrophytic Vegetation Present?				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks:							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days      5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;19</u> inches Depth to Saturated Soil: <u>&gt;19</u> inches	<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
Wetland Hydrology Present? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Remarks: Sample plot is about 3 feet higher than DP-50 on a natural levee.		

**SOILS**

Plot ID: DP-52

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-19	sl		10YR 3/2	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	

Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/14/04	Community ID:	Alkali Wetland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	SW - AW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-53
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Salicornia virginica</i>	H	80	OBL	<i>Hordium marinum</i>	H	10	FAC
<i>Cotula coronopifolia</i>	H	30	FACW+	<i>ssp. gossypinum</i>			
				<i>Lolium multiflorum</i>	H	5	FAC
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		85% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
<b>Remarks:</b>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>		<b>Wetland Hydrology Indicators:</b>	
Typical length: <u>266</u> Days	5% =	<u>13</u>	<b>Primary Indicators:</b>	
Recorded Data (describe below):			<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available			<b>Secondary Indicators (2 or more required):</b>	
Field Observations:			<input checked="" type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (explain below)	
Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;20</u> inches Depth to Saturated Soil: <u>&gt;20</u> inches				
<b>Wetland Hydrology Present?</b>			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<b>Remarks:</b>				
Oxidized rhizospheres in top 2 inches only. Other: basin-like topography				

**SOILS**

Plot ID: DP-53

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-6	c		10YR 3/1	c, 2, p	Fe-x, mat	5YR 3/4	oxidized rhizospheres in top 2"
Alow	6-10	l		10YR 4/2	c, 1, p	Fe-x, mat	2.5YR 3/4	
C1	10-12	scl		2.5Y 4/1	m, 3, f	Fe-x, mat	2.5YR 4/1	
C2	12-20	s		10YR 4/2	---	---	---	slightly moist

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Horizon A has many salt accumulations along pore linings.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:  
Soil was checked in the seasonal wetland component and was also found to be hydric.

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/14/04	Community ID:	Nonwetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-54
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Lolium multiflorum</i>	H	90	FAC	<i>Carduus pycnocephalus</i>	H	5	UPL
				<i>Lactuca serriola</i>	H	5	FAC
				<i>Hordeum marinum</i>	H	5	UPL
				<i>Bromus diandrus</i>	H	5	UPL
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				100%	Total vegetation cover		100% %
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	
<input type="checkbox"/> Technical Literature		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks:							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days <u>5%</u> = <u>13</u>	<input type="checkbox"/> Inundated
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	<input type="checkbox"/> Saturated Upper 12 Inches
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;14</u> inches Depth to Saturated Soil: <u>&gt;14</u> inches	<input type="checkbox"/> Water Marks
		<input type="checkbox"/> Drift Lines
		<input type="checkbox"/> Sediment Deposits
		<input type="checkbox"/> Drainage Patterns in Wetlands
		Secondary Indicators (2 or more required):
		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
		<input type="checkbox"/> Water-Stained Leaves
		<input type="checkbox"/> Local Soil Survey Data
		<input type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Remarks: Road fill is 2-3 feet above surrounding SW - AW plane.		

**SOILS**

Plot ID: DP-54

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A	0-14	cl w/		10YR 3/2	---	---	---	fill
		f, angular						
		gravels						

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Compacted fill prevented excavation below 14 inches

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO

Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfsl - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R	
Date:	05/17/04		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	Alkali Wetland
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	SW - AW
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-55

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Distichlis spicata</i>	H	80	FACW	<i>Bromus diandrus</i>	H	5	UPL
<i>Lolium multiflorum</i>	H	20	FAC	<i>Polypogon monspeliensis</i>	H	5	FACW+
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		100%		Total vegetation cover		100% %	
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)			
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
<b>Remarks:</b> Data point is in a transitional zone with upland grass ( <i>B. diandrus</i> ) as an associate. Upland boundary is at levee toe slope.							

HYDROLOGY

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:					
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:					
Typical length:	<u>266</u> Days      5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands					
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):					
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	<input checked="" type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)					
<b>Wetland Hydrology Present?</b>				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
<b>Remarks:</b>							

**SOILS**

Plot ID: DP-55

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
Oe	2-0	---		---	---	---	---	
A1	0-9	sic		2.5Y 4/1	---	---	---	oxidized rhizospheres
A2	9-16	sic		10YR 3/1	---	---	---	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ dipyrityl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

Wetland/non-wetland boundary is defined by the levee embankment of Pacheo Creek. No upland sample plot taken.

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-56

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
Oe	2-0	---		---	---	---		
A1	0-7	sic		2.5Y 3/1	---	---		
A2	7-17	sic		10YR 3/2	c, 3, p	Fe-x, mat	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ - dipyriddy test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:  
Deeper redox features may be reliced because of hydrologic alterations.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:  
Wetland/non-wetland boundary is defined by the levee embankment of Pacheo Creek. No upland sample plot taken.

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-57

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
Oe	0-2	---		---	---	---		
A1	2-7	sic		10YR 3/1	---	---	high OM content	
A2	7-17	sic		10YR 3/2	m, 2, p	Fe-x, mat	2.5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Project/Site: <u>Lower Walnut Creek</u>	State: <u>CA</u>
Applicant/Owner: <u>Contra Costa County Flood Control District</u>	County: <u>Contra Costa</u>
Investigator(s): <u>Butterworth, Carpenter</u>	S/T/R: _____
Date: <u>05/17/04</u>	
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID: <u>Seasonal Wetland</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID: <u>SW</u>
Is the area a potential problem area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If needed, explain below)	Plot ID: <u>DP-58</u>

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<u>Lolium multiflorum</u>	<u>H</u>	<u>100</u>	<u>FAC</u>				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		<u>100%</u>	Total vegetation cover		<u>100%</u>	%	
<input type="checkbox"/> Morphological Adaptations	<input type="checkbox"/> Physiological/Reproductive Adaptations	<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation	<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	<input type="checkbox"/> Technical Literature	<input type="checkbox"/> Other (explain below)		
<b>Hydrophytic Vegetation Present?</b>		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO				
Remarks: <u>Large area of 100% Lolium - no associates</u>							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Soil Temp (record) _____	Wetland Hydrology Indicators:
Based On: <input checked="" type="checkbox"/> Soil Temp (record)	Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	<input type="checkbox"/> Inundated
Recorded Data (describe below):		<input type="checkbox"/> Saturated Upper 12 Inches
<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Water Marks
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Drift Lines
<input type="checkbox"/> Other		<input type="checkbox"/> Sediment Deposits
<input type="checkbox"/> None Available		<input type="checkbox"/> Drainage Patterns in Wetlands
Field Observations:		Secondary Indicators (2 or more required):
Depth of Surface Water: <u>none</u> inches		<input checked="" type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Standing Water in Pit: <u>&gt;17</u> inches		<input type="checkbox"/> Water-Stained Leaves
Depth to Saturated Soil: <u>&gt;17</u> inches		<input checked="" type="checkbox"/> Local Soil Survey Data
		<input type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Remarks: <u>Planar surface part of larger basin area/wetland complex.</u>		

**SOILS**

Plot ID: DP-58

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-5	c		10YR 2/1	—	—	—	oxidized rhizospheres
A2	5-17	c		10YR 2/1	c, 2, p	Fe-x, mat	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ - dipyrldyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/18/04	Community ID:	Annual Grassland
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-59
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator		
<i>Bromus hordeaceus</i>	H	90	UPL	<i>Lolium multiflorum</i>	H	10	FAC		
				<i>Leymus triticoides</i>	H	5	FAC+		
				<i>Vulpia myuros myuros var.</i>	H	5	UPL		
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				0%	Total vegetation cover			100%	%
<input type="checkbox"/> Morphological Adaptations <input type="checkbox"/> Physiological/Reproductive Adaptations <input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation				<input type="checkbox"/> Personal Knowledge of Regional Plant Communities <input type="checkbox"/> Technical Literature <input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>				<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
<b>Remarks:</b> Vegetation on upland plateau between levee bank and emergent wetland is mostly ruderal with <u>Picris</u> , <u>Carduus</u> , and <u>Lolium</u> as dominants in other locations.									

**HYDROLOGY**

Is it the growing season?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Wetland Hydrology Indicators:
Based On:	<input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Primary Indicators:
Typical length:	<u>266</u> Days      5% = <u>13</u>	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
Recorded Data (describe below):	<input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> None Available	Secondary Indicators (2 or more required):
Field Observations:	Depth of Surface Water: <u>none</u> inches Depth to Standing Water in Pit: <u>&gt;16</u> inches Depth to Saturated Soil: <u>&gt;16</u> inches	<input checked="" type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

**SOILS**

Plot ID: DP-59

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

**Profile Description**

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-7	cl		10YR 3/1	—	—	—	
A2	7-16	cl		10YR 4/1	c, 2, p	Fe-x, mat	5YR 3/4	oxidized rhizospheres

**Hydric Soil Indicators (check all that apply):**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

**Hydric Soils Present?**  YES  NO

**Remarks:**  
A2 horizon contains glass and angular chert fragments. Soil is fill.

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

**Remarks:**

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



Project/Site:	<u>Lower Walnut Creek</u>	State:	<u>CA</u>
Applicant/Owner:	<u>Contra Costa County Flood Control District</u>	County:	<u>Contra Costa</u>
Investigator(s):	<u>Butterworth, Carpenter</u>	S/T/R	
Date:	<u>05/18/04</u>		
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Community ID:	<u>Emergent Marsh</u>
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Transect ID:	<u>EM</u>
Is the area a potential problem area? (If needed, explain below)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	<u>DP-60</u>

**VEGETATION**

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Typha latifolia</i>	H	80	OBL				
<i>Scirpus acutus</i>	H	20	OBL				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):				<u>100%</u>	Total vegetation cover <u>100%</u> %		
<input type="checkbox"/> Morphological Adaptations		<input type="checkbox"/> Personal Knowledge of Regional Plant Communities		<input type="checkbox"/> Physiological/Reproductive Adaptations		<input type="checkbox"/> Technical Literature	
<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation		<input type="checkbox"/> Other (explain below)					
<b>Hydrophytic Vegetation Present?</b>				<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO		
Remarks:							

**HYDROLOGY**

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record)	Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>		Primary Indicators:
Recorded Data (describe below):			<input type="checkbox"/> Inundated
<input type="checkbox"/> Stream, Lake, or Tide Gauge			<input checked="" type="checkbox"/> Saturated Upper 12 Inches
<input checked="" type="checkbox"/> Aerial Photographs			<input type="checkbox"/> Water Marks
<input type="checkbox"/> Other			<input type="checkbox"/> Drift Lines
<input type="checkbox"/> None Available			<input type="checkbox"/> Sediment Deposits
Field Observations:			<input checked="" type="checkbox"/> Drainage Patterns in Wetlands
Depth of Surface Water: <u>none</u> inches			Secondary Indicators (2 or more required):
Depth to Standing Water in Pit: <u>7</u> inches			<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Saturated Soil: <u>5</u> inches			<input type="checkbox"/> Water-Stained Leaves
			<input checked="" type="checkbox"/> Local Soil Survey Data
			<input checked="" type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (explain below)
<b>Wetland Hydrology Present?</b>			
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
Remarks:			

**SOILS**

Plot ID: DP-60

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-7	sic1		10YR 3/1	c, 3, p	Fe-x, mat	5YR 4/6	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha'$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium 2-5mm	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	



**SOILS**

Plot ID: DP-61

Map Unit Name (series and phase): Ob Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-6	cl		2.5Y 3/1	---	---	---	oxidized rhizospheres
A2	6-18	cl		2.5Y 3/1	c, 2, p	Fe-x, mat & root channels	5YR 3/4	

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha$ , $\alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
<b>Size</b>	<b>Location</b>
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
<b>Contrast</b>	
f - faint	
d - distinct	
p - prominent	



Project/Site:	Lower Walnut Creek	State:	CA
Applicant/Owner:	Contra Costa County Flood Control District	County:	Contra Costa
Investigator(s):	Butterworth, Carpenter	S/T/R:	
Date:	05/18/04	Community ID:	Nonwetland (Annual Grassland)
Do normal circumstances exist on the site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Transect ID:	NW
Is the site significantly disturbed (atypical situation)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Plot ID:	DP-62
Is the area a potential problem area?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	(If needed, explain below)	

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
<i>Raphanus sativa</i>	H	80	UPL	<i>Polypogon monspeliensis</i>	H	5	FACW+
<i>Lolium multiflorum</i>	H	20	FAC				
Percent of dominants that are OBL, FACW, or FAC (excluding FAC-):		50%	Total vegetation cover		100%	%	
<input type="checkbox"/> Morphological Adaptations	<input type="checkbox"/> Physiological/Reproductive Adaptations	<input type="checkbox"/> Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation	<input type="checkbox"/> Personal Knowledge of Regional Plant Communities	<input type="checkbox"/> Technical Literature	<input type="checkbox"/> Other (explain below)		
<b>Hydrophytic Vegetation Present?</b>			<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	Remarks:		

HYDROLOGY

Is it the growing season? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Based On: <input type="checkbox"/> Soil Temp (record) <input checked="" type="checkbox"/> Other (explain) <u>Contra Costa Soil Survey</u>	Wetland Hydrology Indicators:
Typical length: <u>266</u> Days	5% = <u>13</u>	Primary Indicators:
Recorded Data (describe below):		<input type="checkbox"/> Inundated
<input type="checkbox"/> Stream, Lake, or Tide Gauge		<input type="checkbox"/> Saturated Upper 12 Inches
<input checked="" type="checkbox"/> Aerial Photographs		<input type="checkbox"/> Water Marks
<input type="checkbox"/> Other		<input type="checkbox"/> Drift Lines
<input type="checkbox"/> None Available		<input type="checkbox"/> Sediment Deposits
Field Observations:		<input type="checkbox"/> Drainage Patterns in Wetlands
Depth of Surface Water: <u>none</u> inches		Secondary Indicators (2 or more required):
Depth to Standing Water in Pit: <u>&gt;16</u> inches		<input type="checkbox"/> Oxidized Rhizospheres in Upper 12 Inches
Depth to Saturated Soil: <u>&gt;16</u> inches		<input type="checkbox"/> Water-Stained Leaves
<b>Wetland Hydrology Present?</b>	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> Local Soil Survey Data
		<input type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (explain below)

**SOILS**

Plot ID: DP-62

Map Unit Name (series and phase): Not Applicable Drainage Class: \_\_\_\_\_

Taxonomy (subgroup): \_\_\_\_\_ Field observations confirm mapped type?  YES  NO

Is data point located within a hydric inclusion?  YES  NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features			Other
					Abundance, Size, Contrast	Type, location	Color (moist)	
A1	0-5	cl		10YR 2/1	---	---	---	
A2	5-12	cl		10YR 2/2	c, 2, p	Fe-x, mat	5YR 4/4	
A3	12-16	cl		10YR 3/2	---	---	---	salt acc. along pore linings

Hydric Soil Indicators (check all that apply):

<input type="checkbox"/> Histosol	<input type="checkbox"/> Mn or Fe Concretions or Nodules
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on National/Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions ( $\alpha, \alpha^1$ -dipyridyl test)	<input type="checkbox"/> Other (explain below)
<input checked="" type="checkbox"/> Gleyed or Low-Chroma ( $\leq 1$ ) matrix	
<input checked="" type="checkbox"/> Matrix Chroma $\leq 2$ with Redoximorphic Concentrations and/or Depletions	

Hydric Soils Present?  YES  NO

Remarks:

**WETLAND DETERMINATION :**

Hydrophytic vegetation present?  YES  NO

Wetland hydrology present?  YES  NO

Hydric soils present?  YES  NO Is the sampling point within a wetland?  YES  NO

Remarks:

**Texture and Rock Fragment Content**

Texture	Rock Fragments
cos - coarse sand	gr - gravelly
s - sand	vgr - very gravelly
fs - fine sand	xgr - extremely gravelly
vfs - very fine sand	cb - cobbly
lcos - loamy coarse sand	vcb - very cobbly
ls - loamy sand	xcb - extremely cobbly
lfs - loamy fine sand	st - stony
lvfs - loamy very fine sand	vst - very stony
cosl - coarse sandy loam	xst - extremely stony
sl - sandy loam	
fsl - fine sandy loam	
vfs1 - very fine sandy loam	
l - loam	
sil - silt loam	
si - silt	
scl - sandy clay loam	
cl - clay loam	
sicl - silty clay loam	
sc - sandy clay	
sic - silty clay	
c - clay	

**Redoximorphic Feature Morphology**

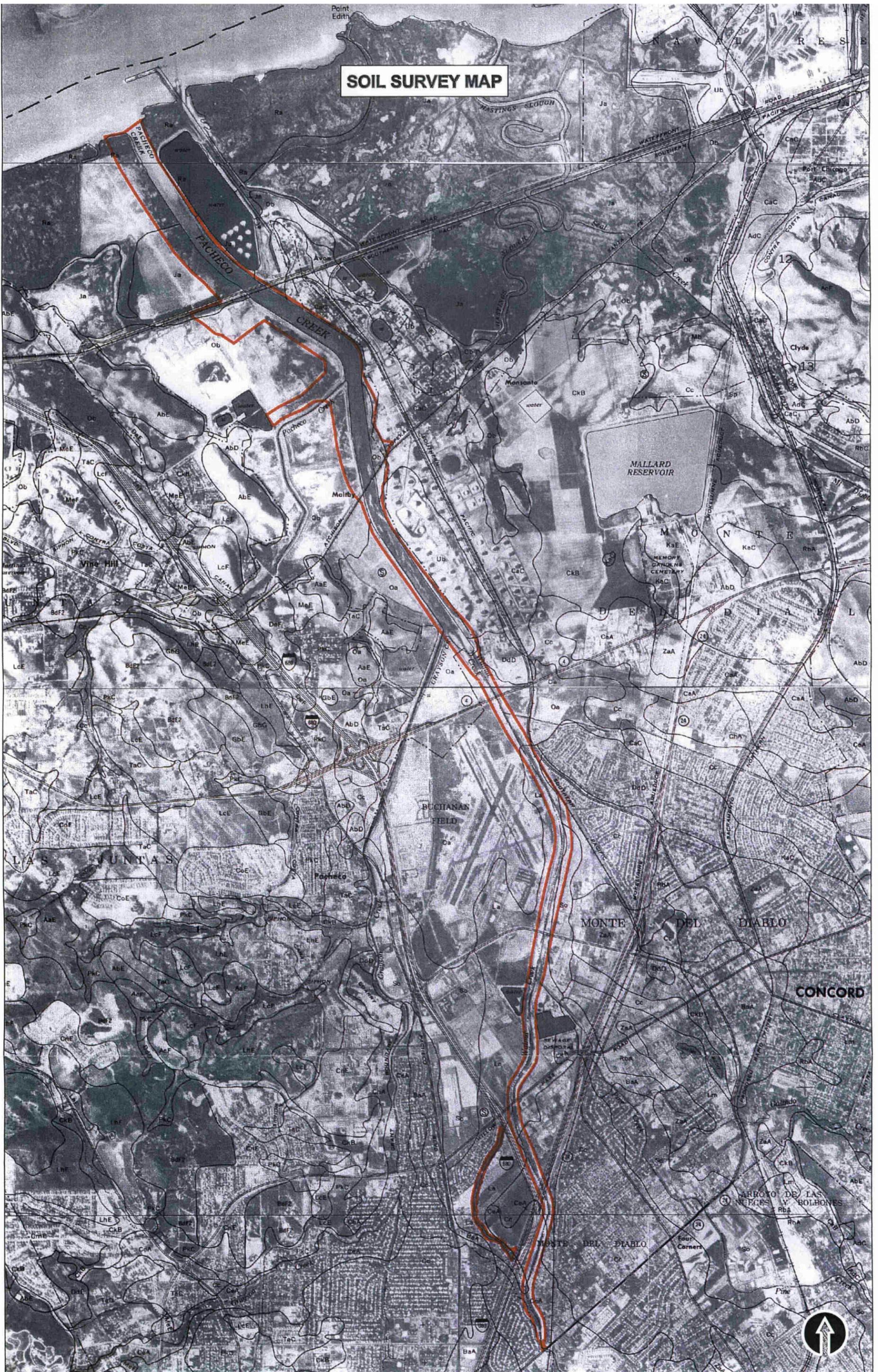
Abundance	Type
f - few	Fe-x - iron concentration (soft mass)
c - common	Fe-nc - iron nodule or concretion
m - many	Mn-x - manganese concentration (soft mass)
	Mn-nc - manganese nodule or concretion
	d - depletion
Size	Location
1 - fine (<2mm)	mat - soil matrix
2 - medium (2-5mm)	ped - ped surface
3 - coarse (5-20mm)	por - soil pores
4 - very coarse (20-76mm)	otr - other
5 - extremely coarse (>76mm)	
Contrast	
f - faint	
d - distinct	
p - prominent	

Exhibit A

**Delineation of Waters of the United States,  
Including Wetlands, for the Lower Walnut  
Creek Channel Restoration Project,  
Concord, California**



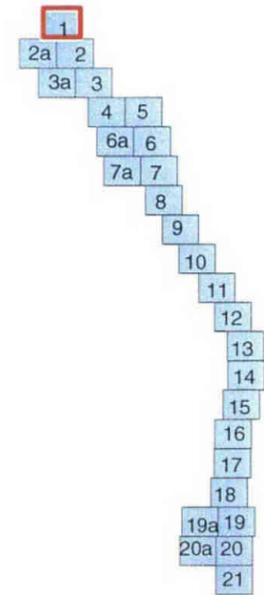
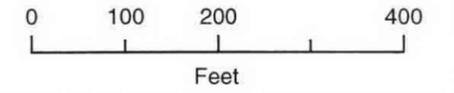
# SOIL SURVEY MAP



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



Suisun Bay

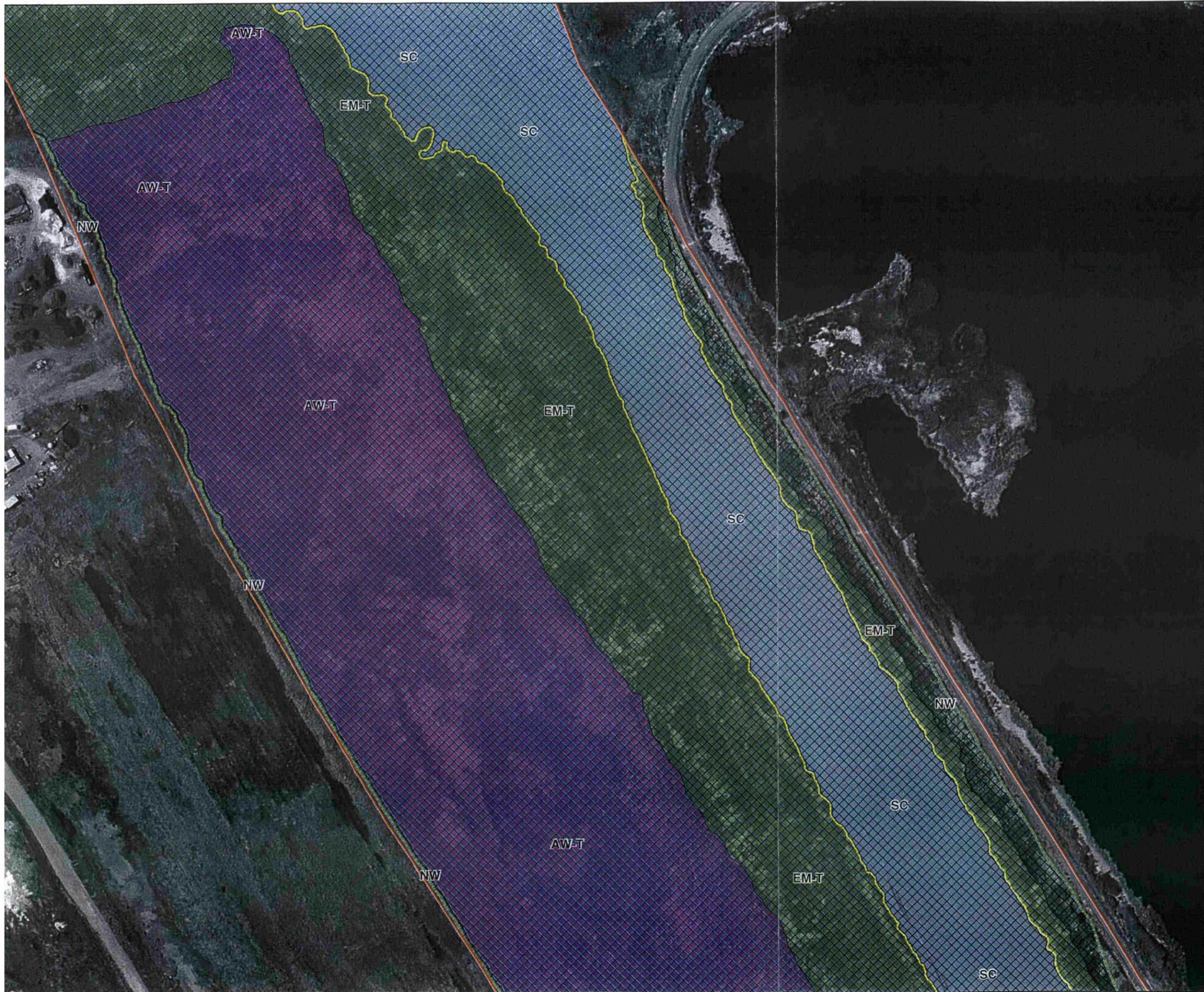


US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292965  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

*Bob Quebedeaux*

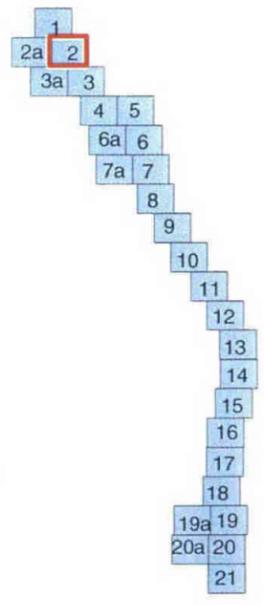
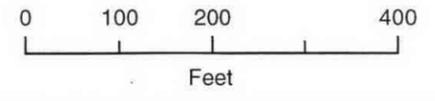
-  Project Area Boundary
-  Data Point
-  3' Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



Delineation of Waters and Wetlands of the U.S.  
Corps File Number 29296S  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

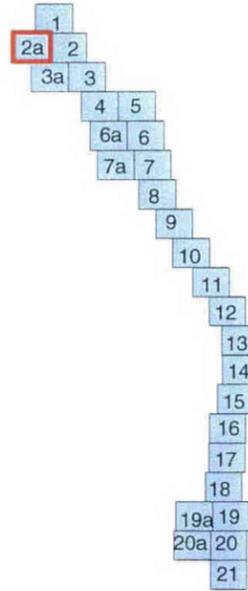
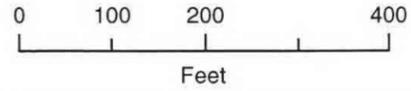
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  3' Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



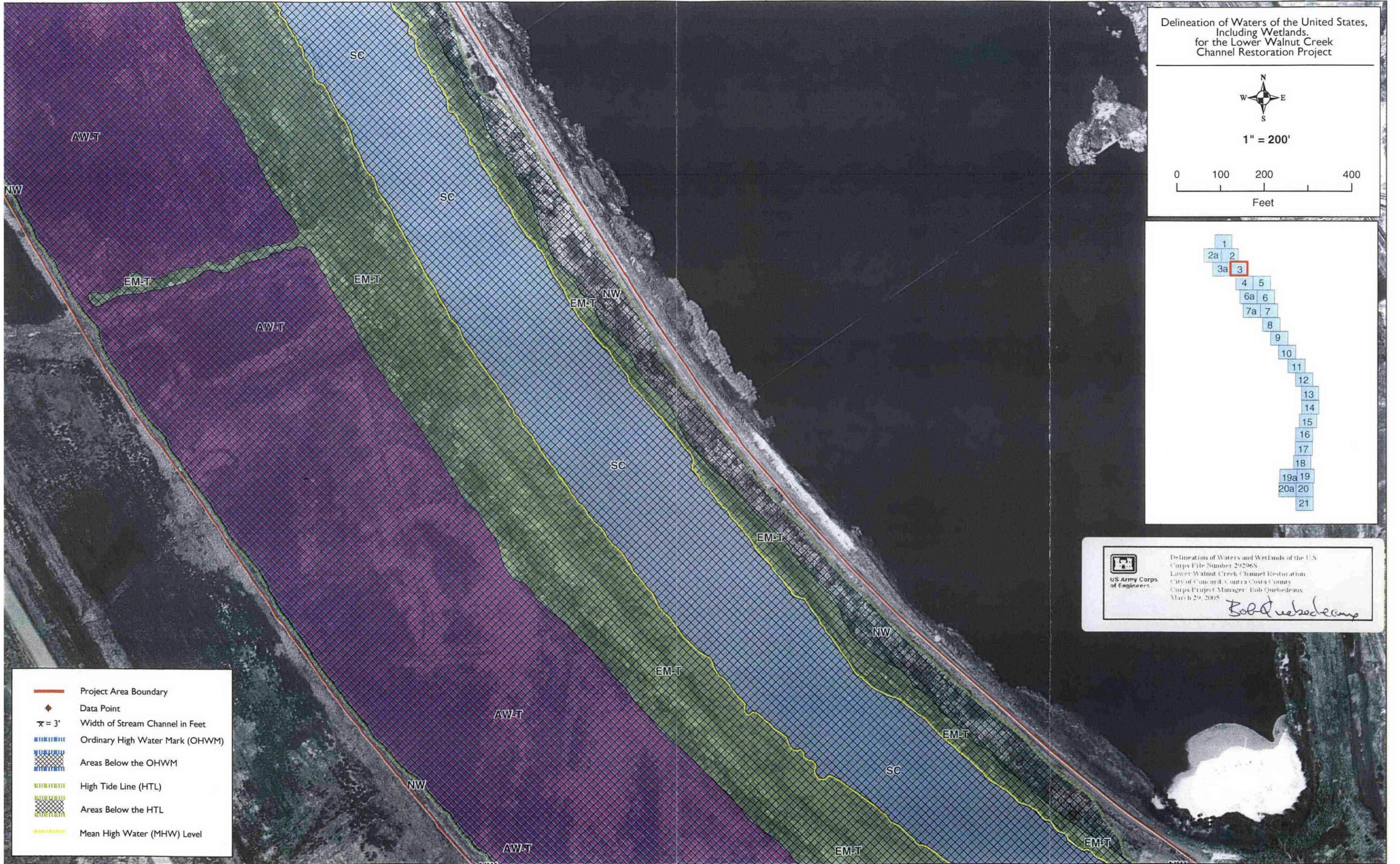
US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292965  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

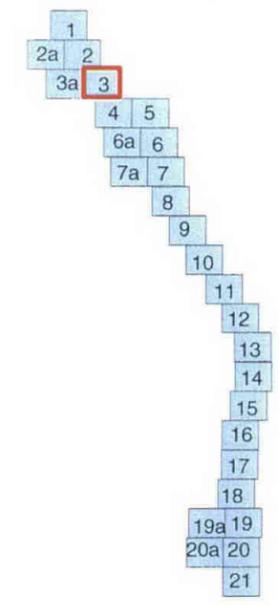
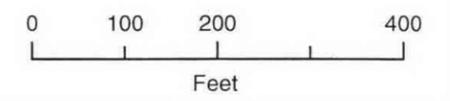




Delineation of Waters of the United States, Including Wetlands, for the Lower Walnut Creek Channel Restoration Project



1" = 200'



Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292968  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005

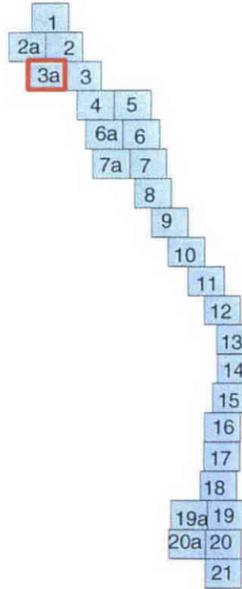
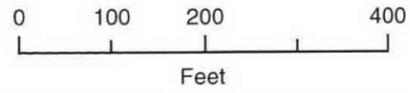
*Bob Quebedeaux*

- Project Area Boundary
- Data Point
- Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292965  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

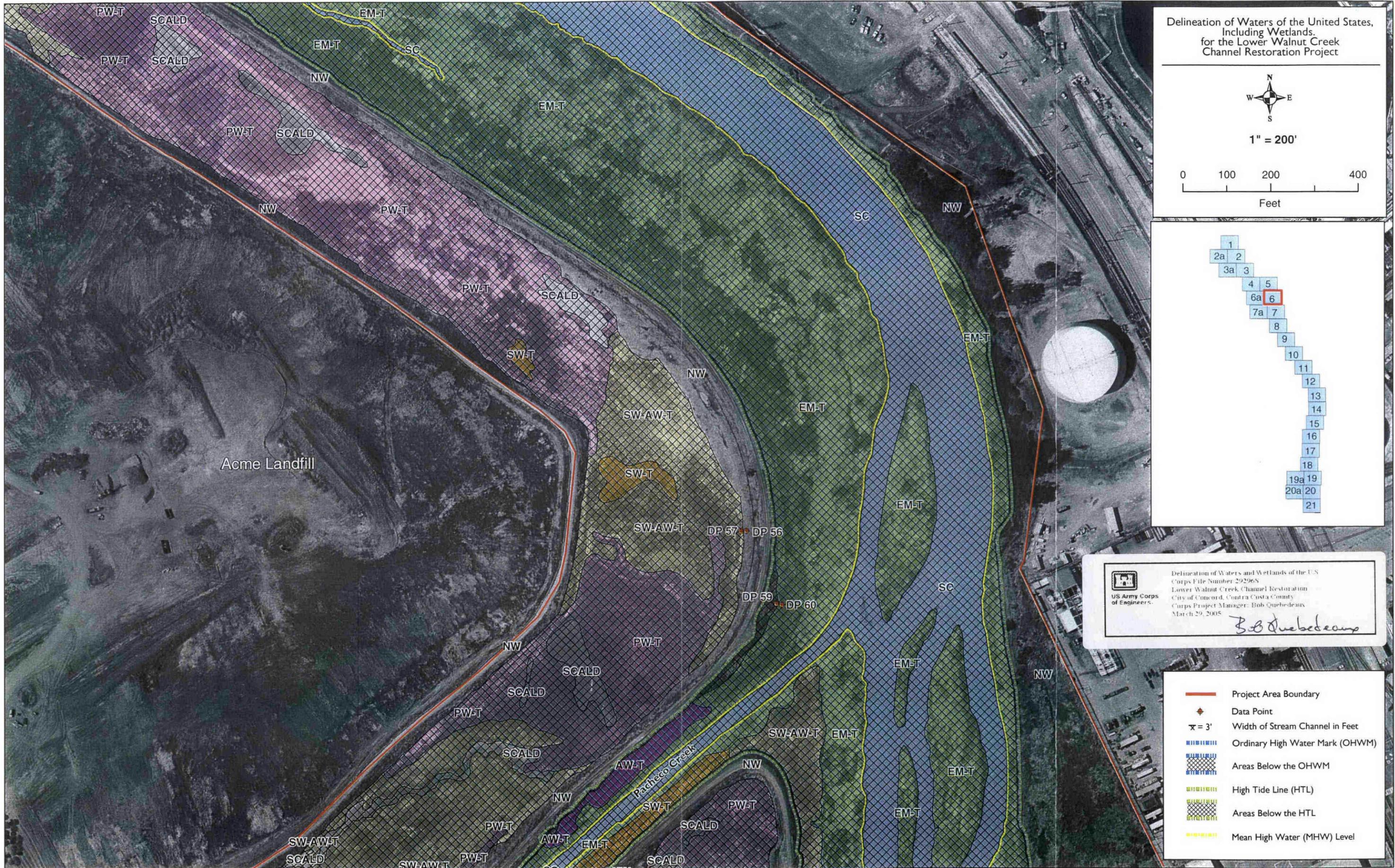
*Bob Quebedeaux*

- Project Area Boundary
- Data Point
- Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level

SC  
AW-T  
NW  
EM-T  
AW-T  
EM-T



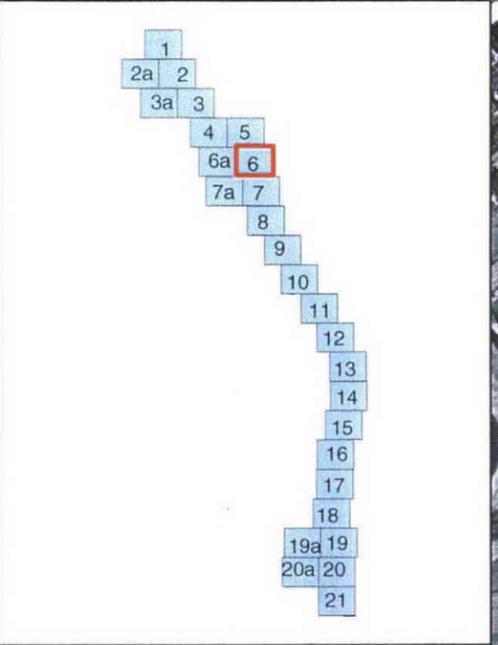
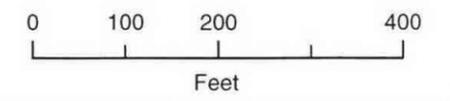




Delineation of Waters of the United States, Including Wetlands, for the Lower Walnut Creek Channel Restoration Project



1" = 200'




 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 29296S  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

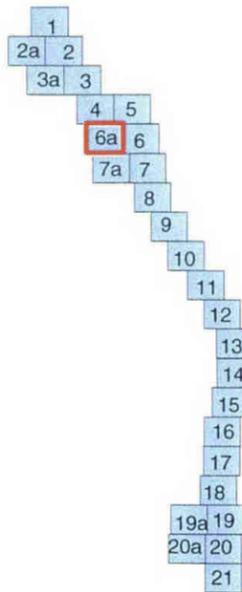
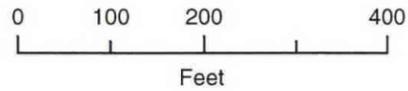
-  Project Area Boundary
-  Data Point
-   $x = 3'$  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



- Project Area Boundary
- Data Point
- $\bar{x} = 3'$  Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level

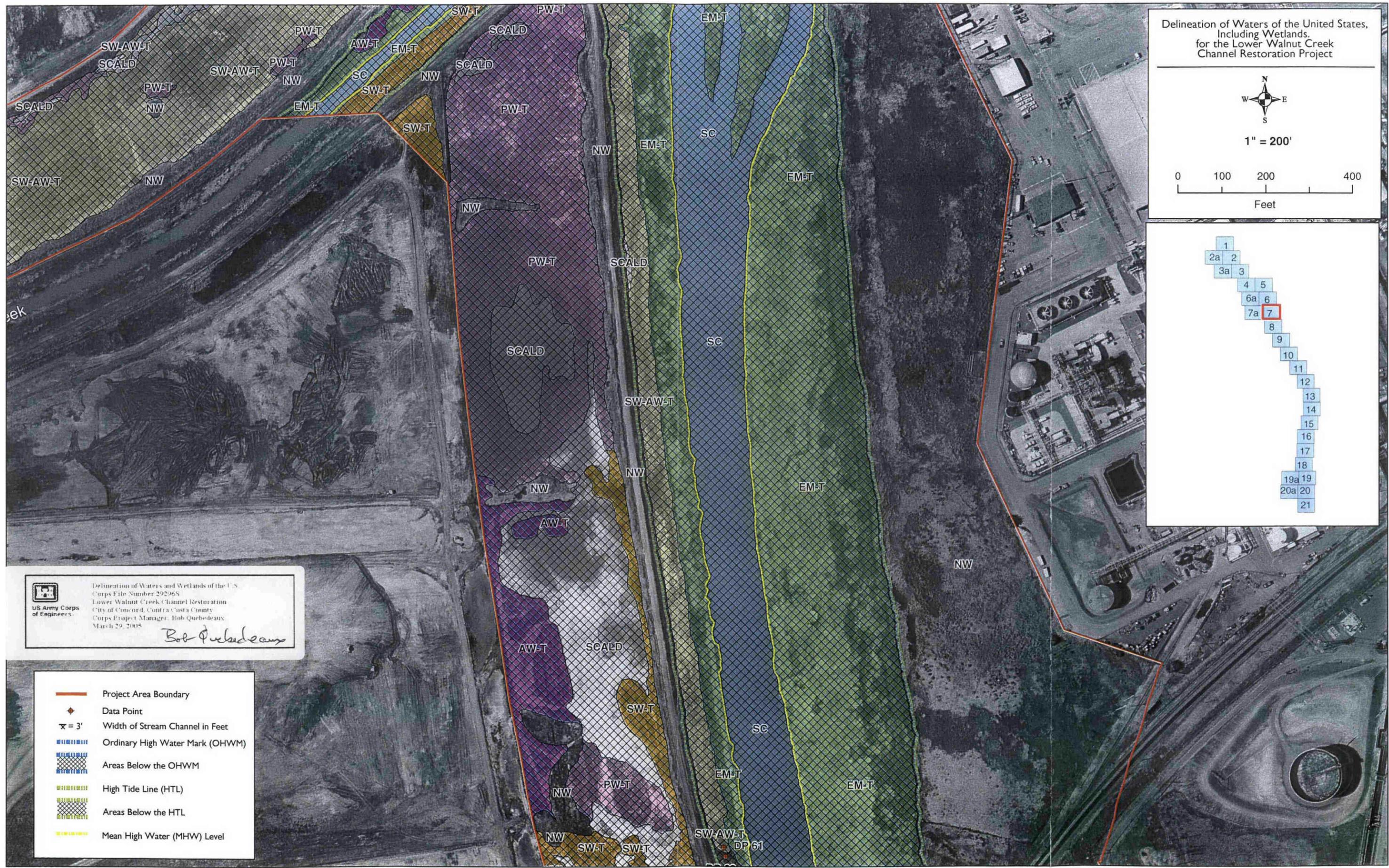
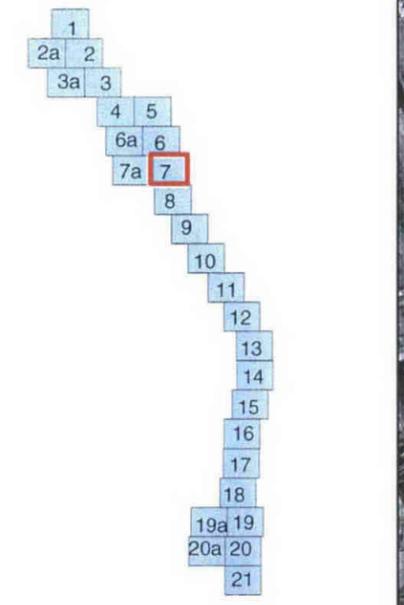
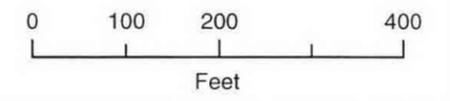
Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 29296S  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

SW-AW-T  
SCALD

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



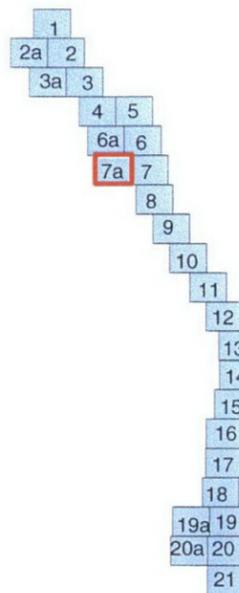
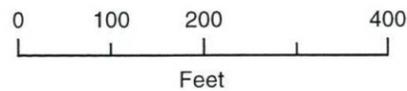

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292965  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-   $x = 3'$  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



Acme Landfill

Pacheco Creek

SCALD DP 55



U.S. Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corpus File Number 292968  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corpus Project Manager: Bob Quebedeaux  
March 29, 2005

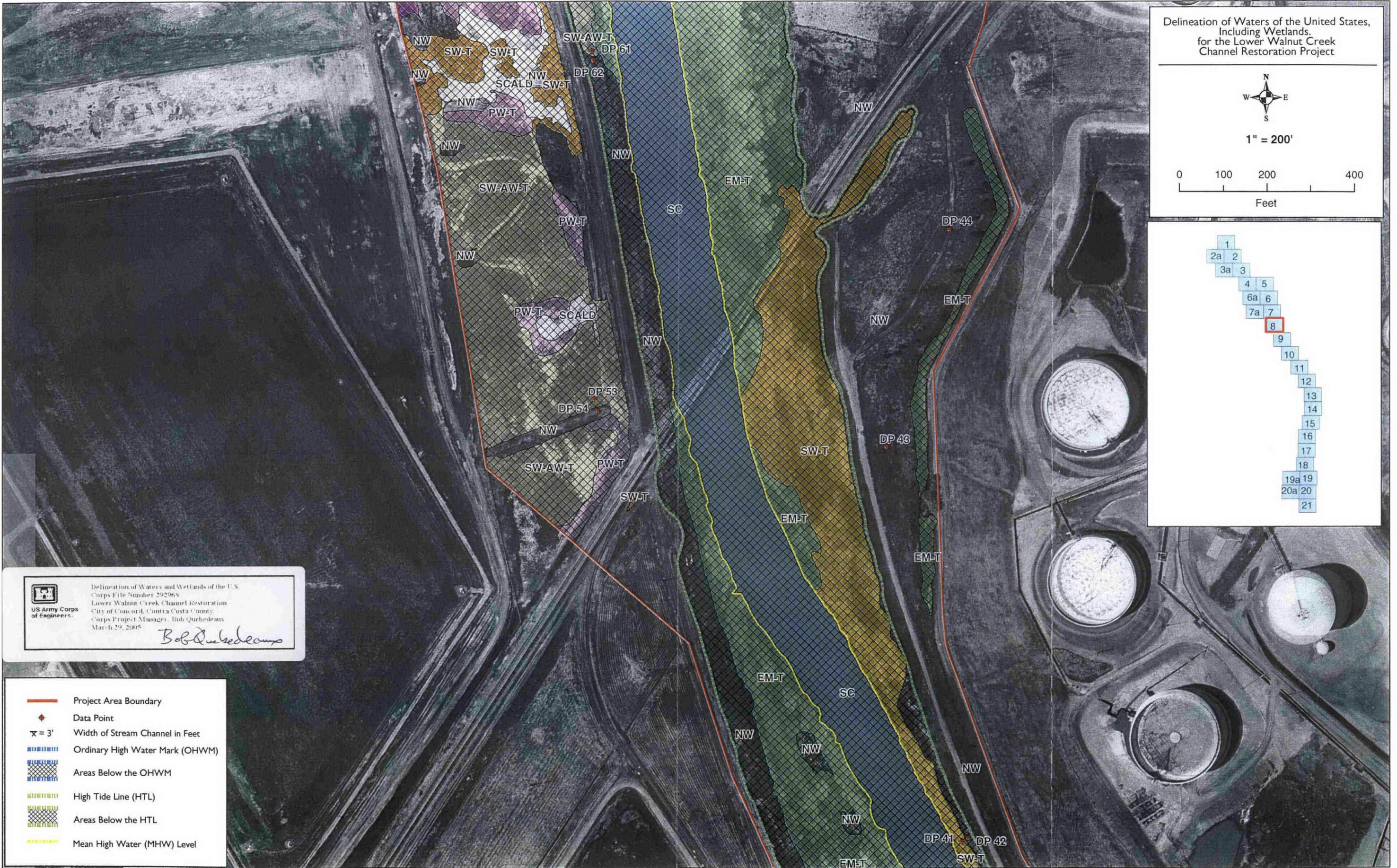
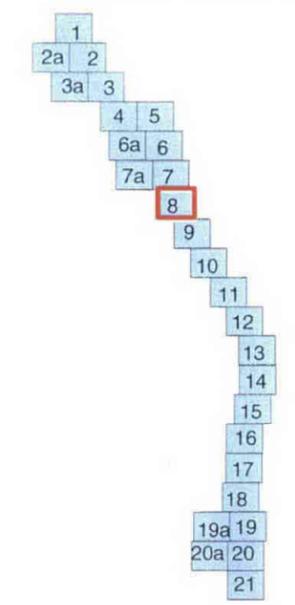
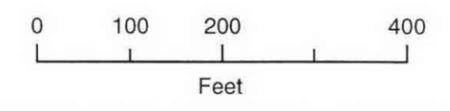
*Bob Quebedeaux*

- Project Area Boundary
- Data Point
- $\pi = 3'$  Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



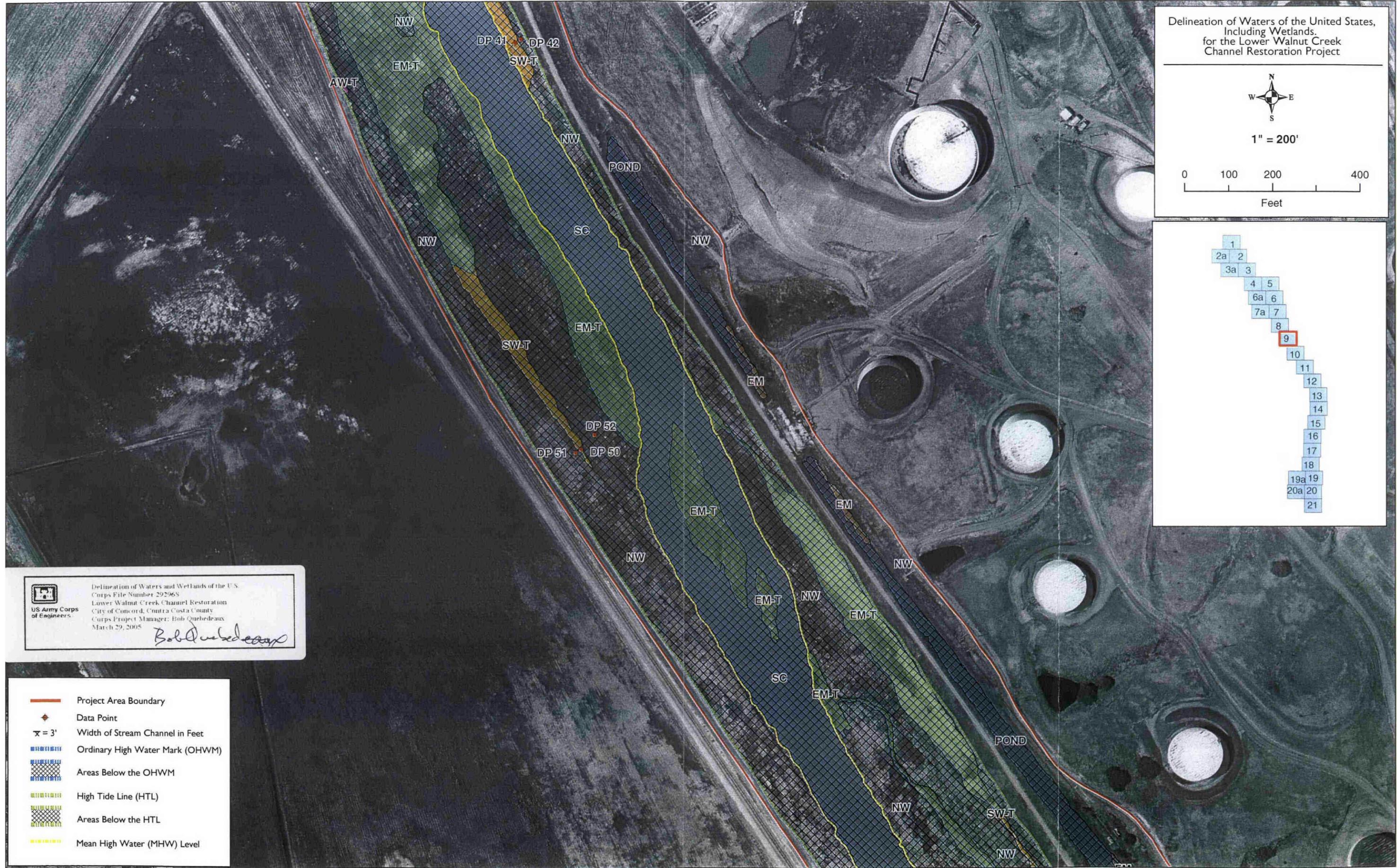
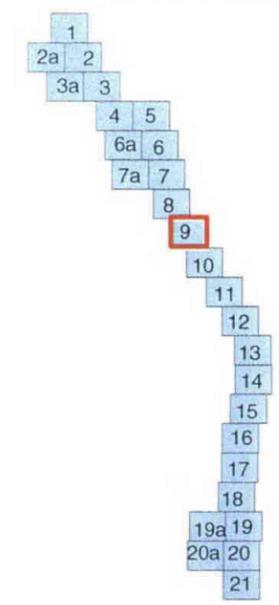
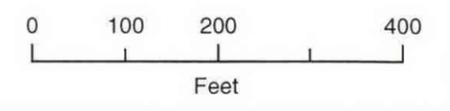

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292968  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



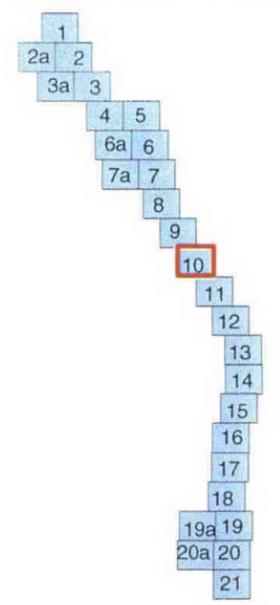
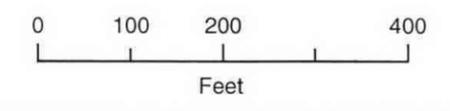

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 29296S  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Oubedraux  
 March 29, 2005  
*Bob Oubedraux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project

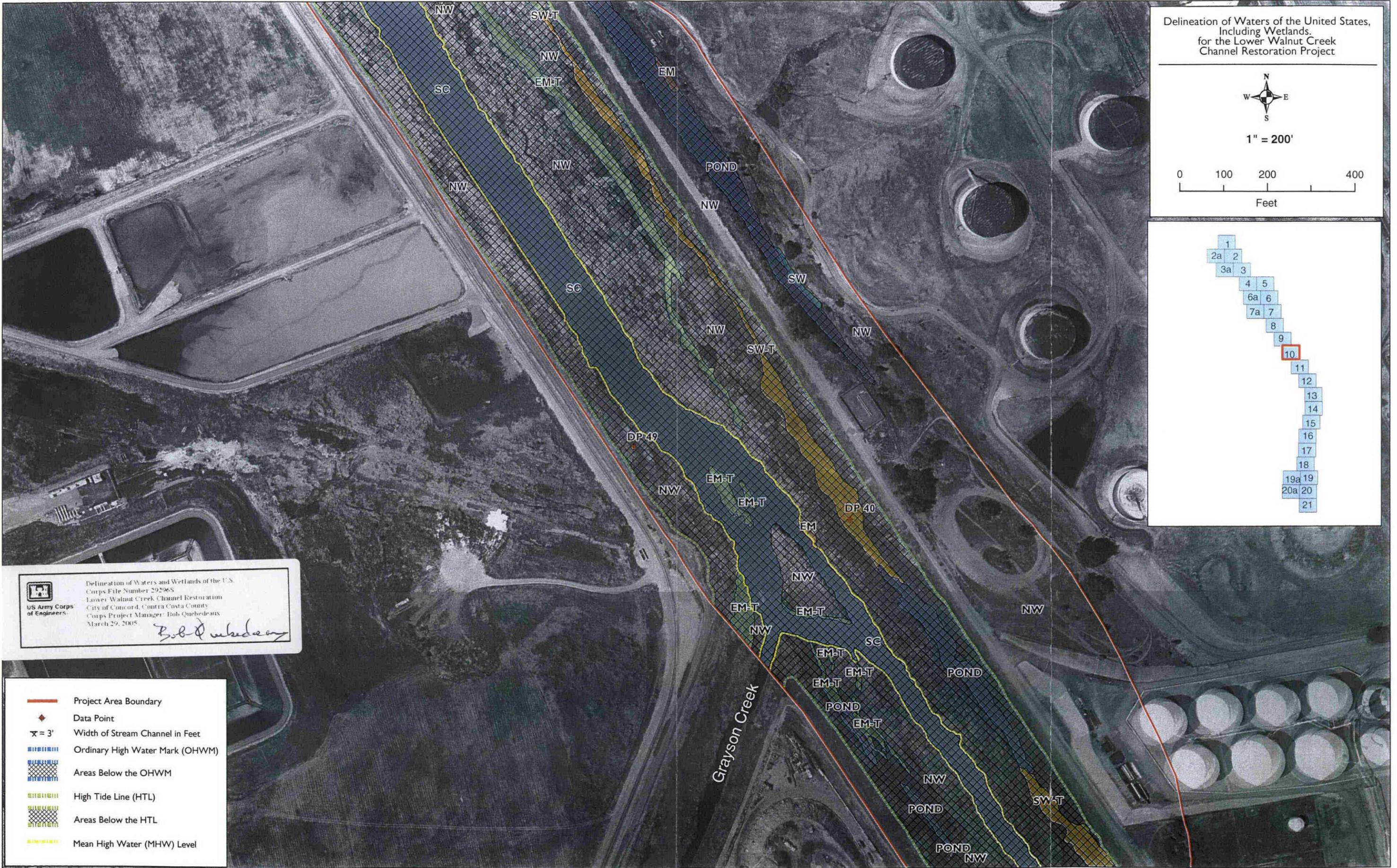


1" = 200'




 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292965  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

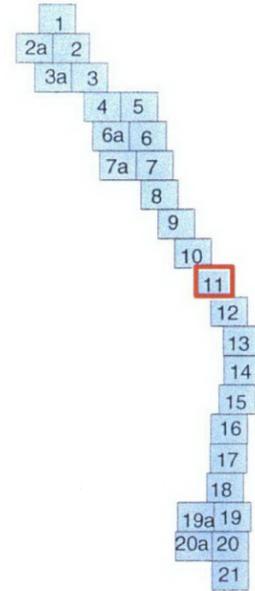
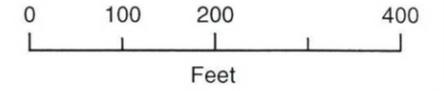
-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292968  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

*Bob Quebedeaux*

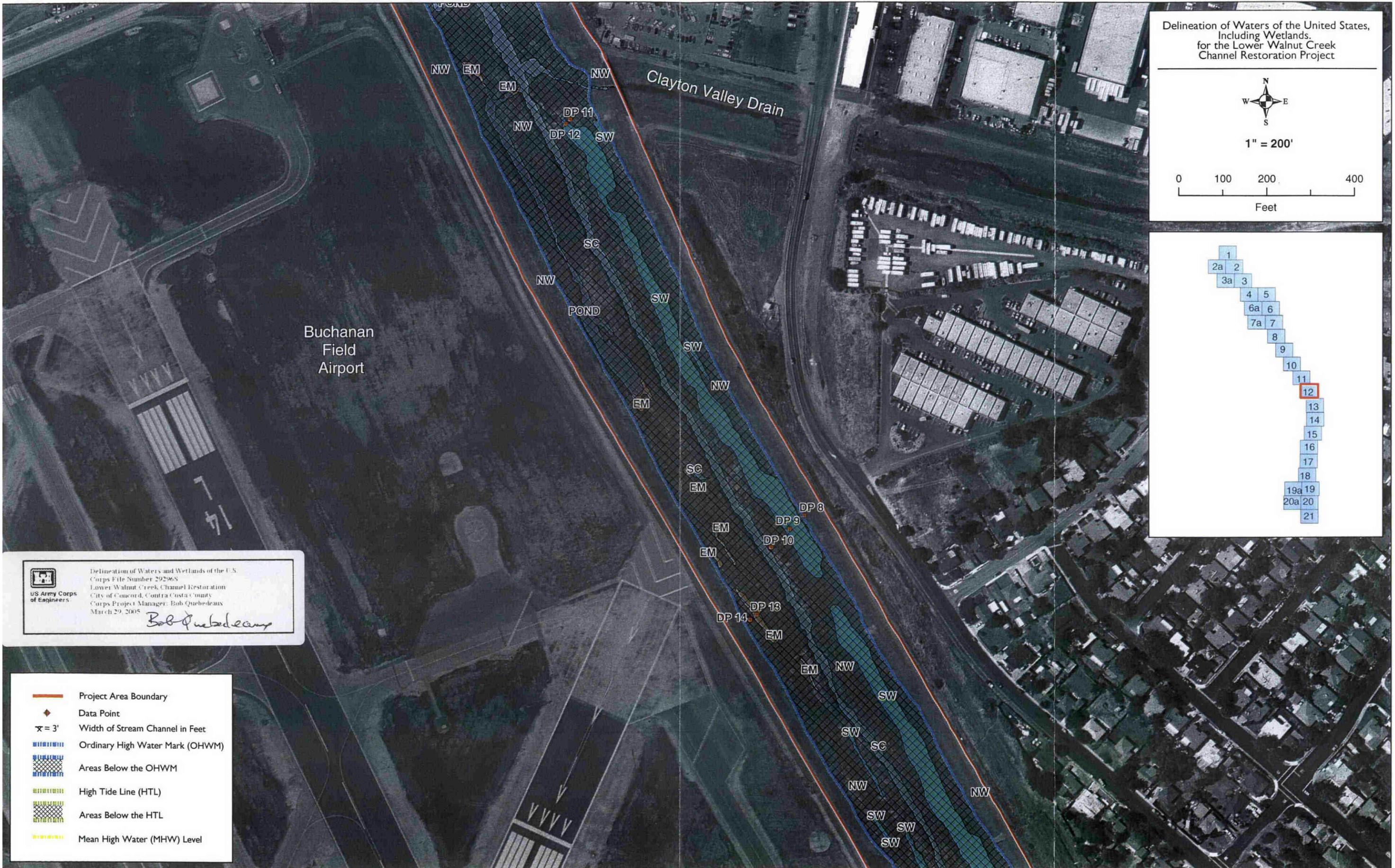
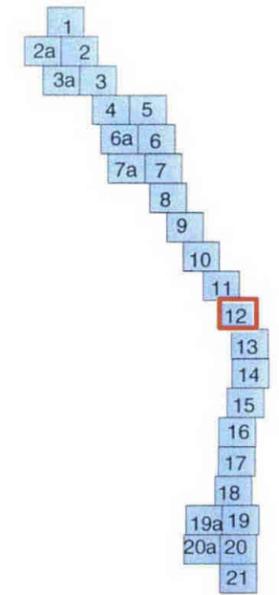
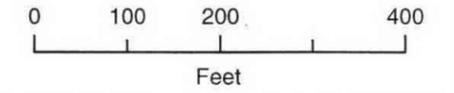
-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



US Army Corps of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number: 292965  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

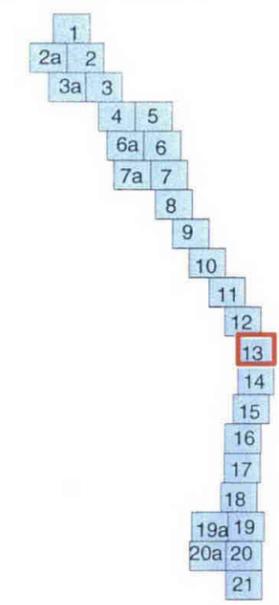
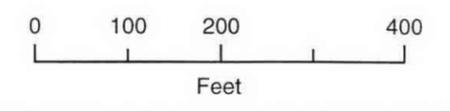
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



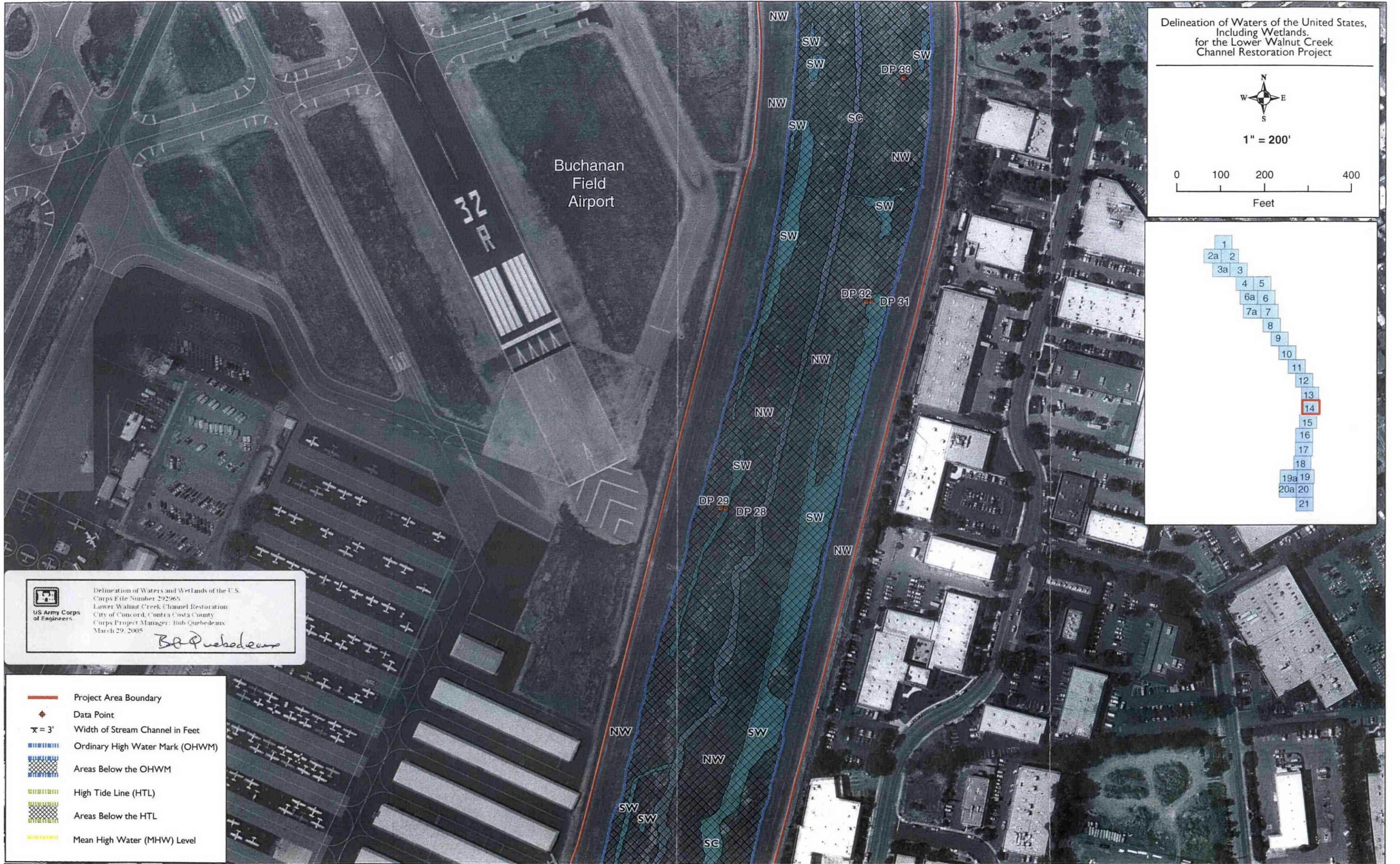
1" = 200'



Buchanan  
Field  
Airport

 Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292968  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quibedeaux  
March 29, 2005  
*Bob Quibedeaux*

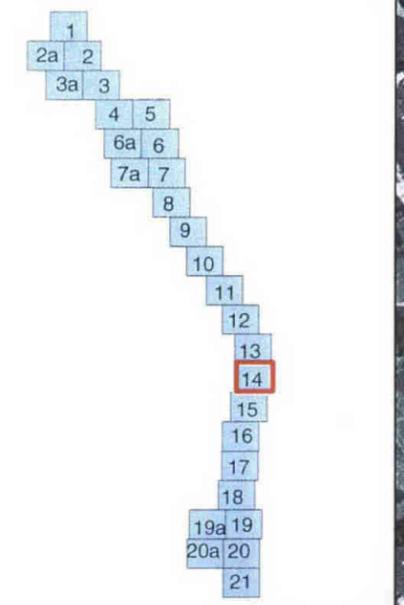
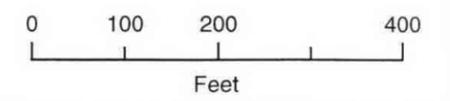
-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



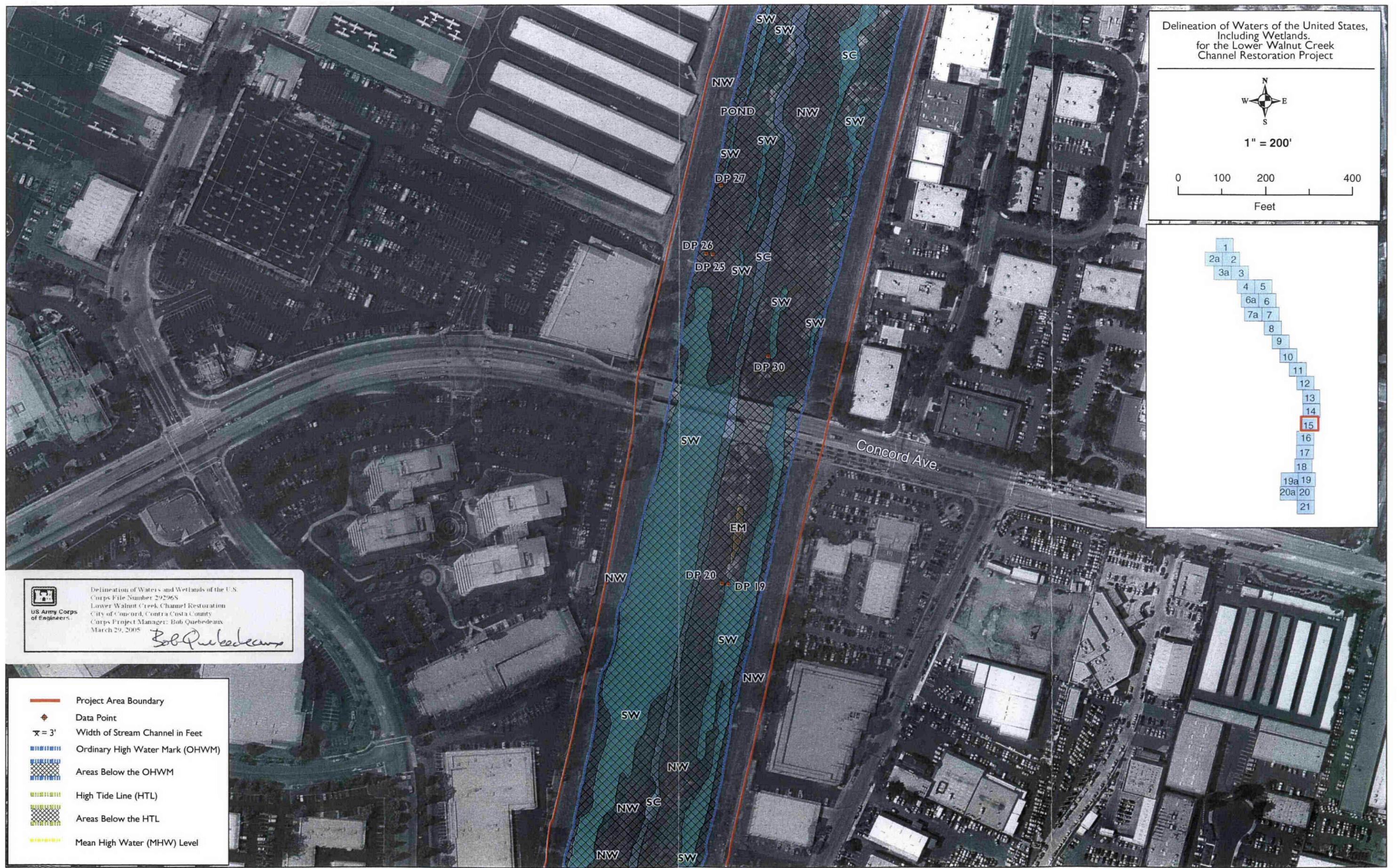
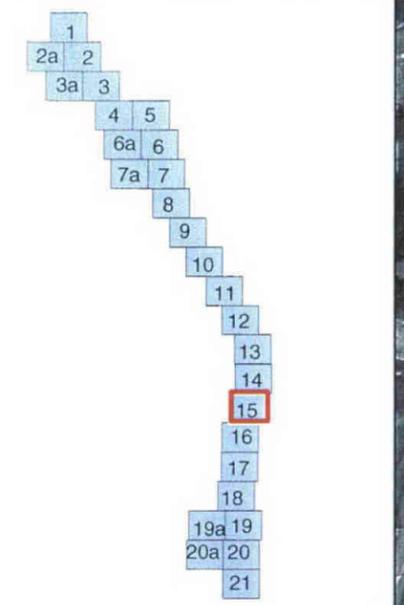
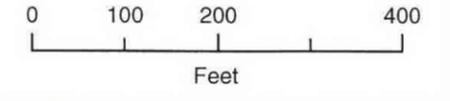

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292965  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



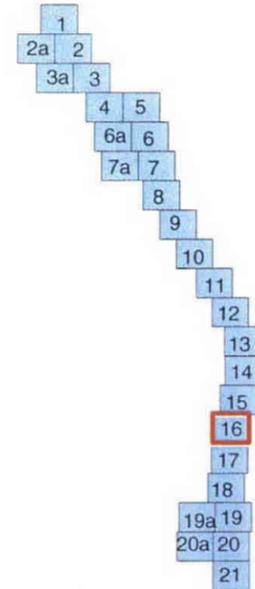
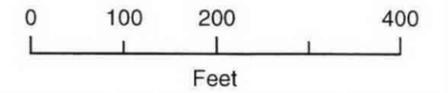

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292968  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 29296S  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quibedeaux  
March 29, 2005

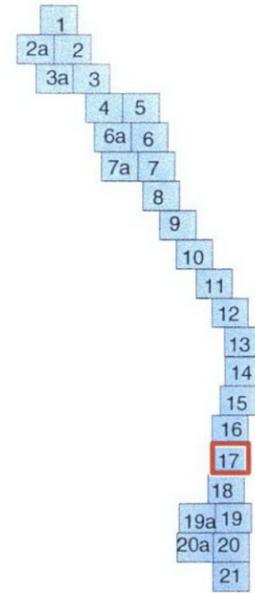
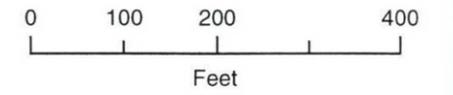
*Bob Quibedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



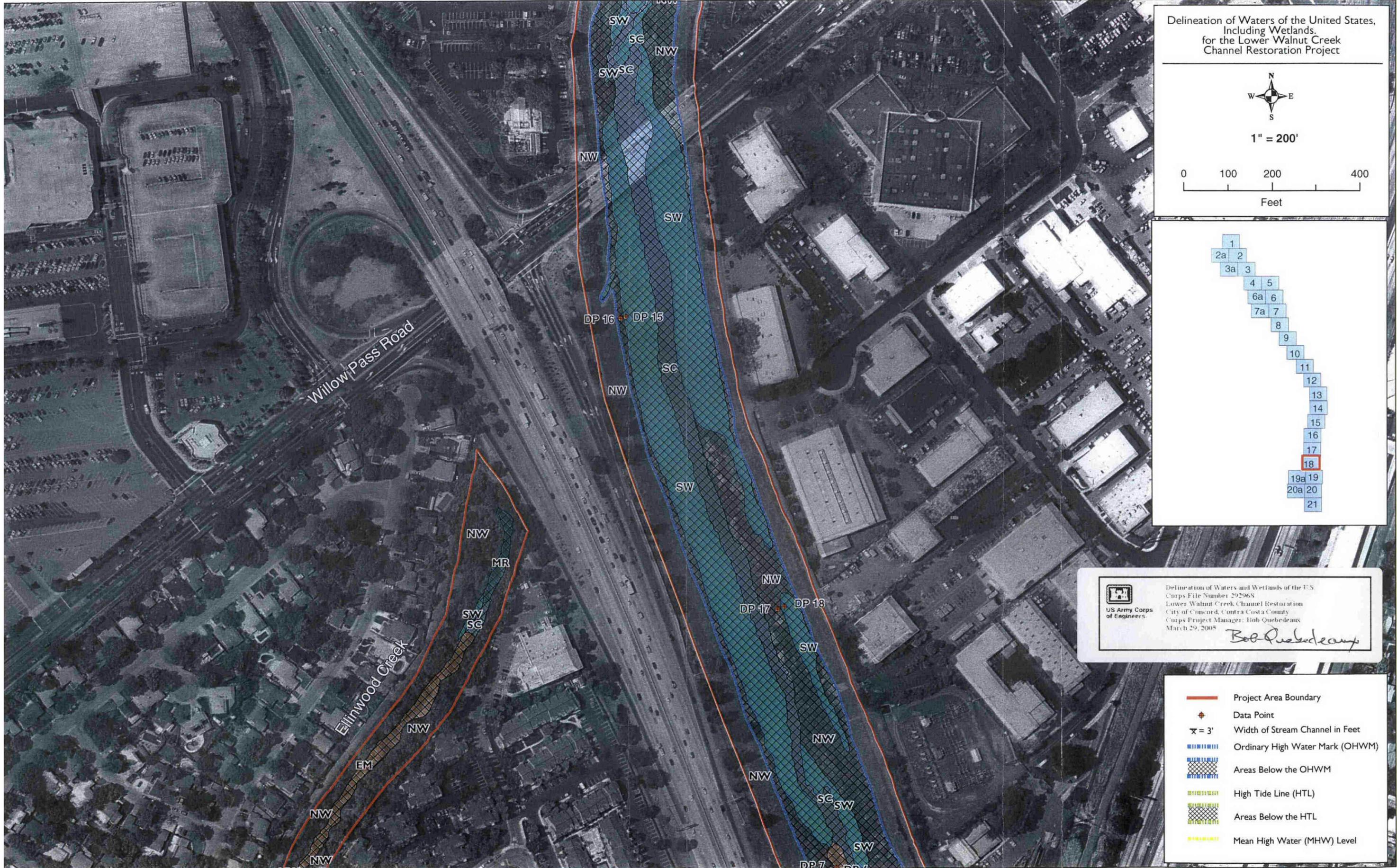
US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292965  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

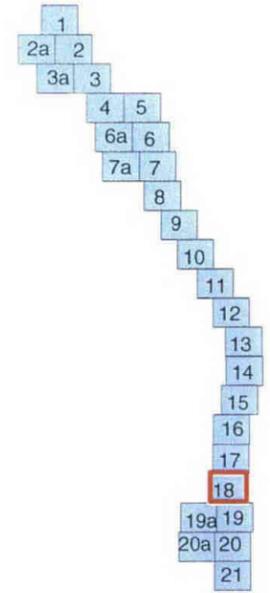
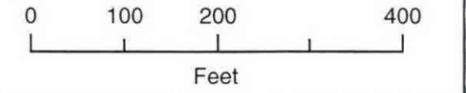




Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



US Army Corps  
of Engineers

Delineation of Waters and Wetlands of the U.S.  
Corps File Number 29296S  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005

*Bob Quebedeaux*

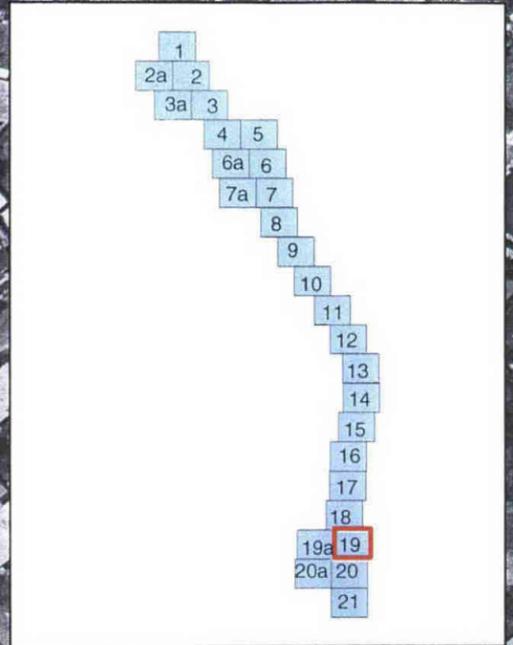
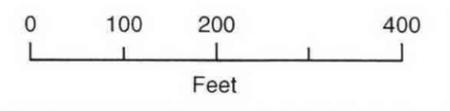
- Project Area Boundary
- Data Point
- Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level

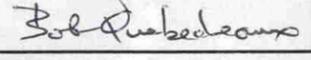


Delineation of Waters of the United States, Including Wetlands, for the Lower Walnut Creek Channel Restoration Project



1" = 200'



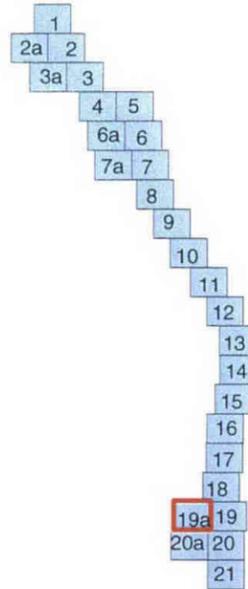
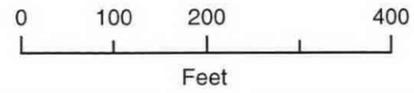

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292968  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quibedeaux  
 March 29, 2005  


-  Project Area Boundary
-  Data Point
-  Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



Delineation of Waters and Wetlands of the U.S.  
Corps File Number 29296S  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quibedeaux  
March 29, 2005

*Bob Quibedeaux*

- Project Area Boundary
- Data Point
- Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level

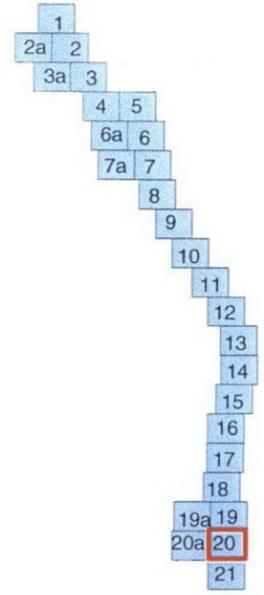
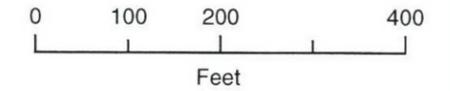




Delineation of Waters of the United States, Including Wetlands, for the Lower Walnut Creek Channel Restoration Project



1" = 200'



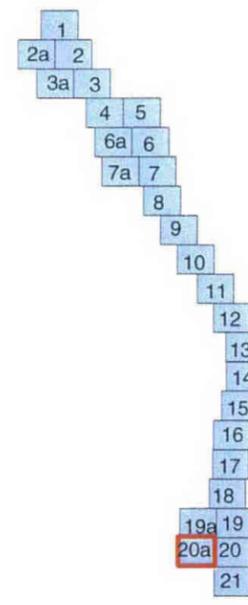
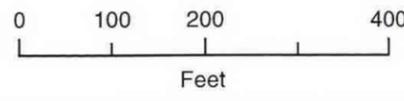

 Delineation of Waters and Wetlands of the U.S.  
 Corps File Number 292965  
 Lower Walnut Creek Channel Restoration  
 City of Concord, Contra Costa County  
 Corps Project Manager: Bob Quebedeaux  
 March 29, 2005  
*Bob Quebedeaux*

-  Project Area Boundary
-  Data Point
-  X = 3' Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  Areas Below the OHWM
-  High Tide Line (HTL)
-  Areas Below the HTL
-  Mean High Water (MHW) Level

Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



US Army Corps of Engineers  
Delineation of Waters and Wetlands of the U.S.  
Corps File Number 292965  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005  
*Bob Quebedeaux*

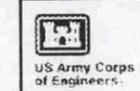
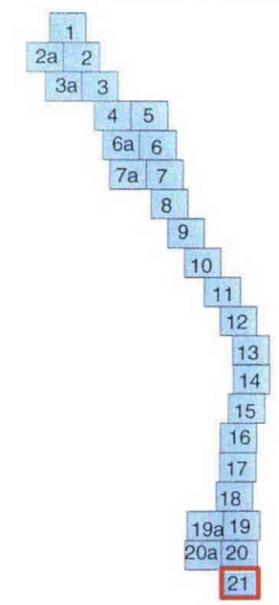
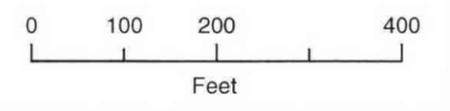
- Project Area Boundary
- Data Point
- $\bar{x} = 3'$  Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level



Delineation of Waters of the United States,  
Including Wetlands,  
for the Lower Walnut Creek  
Channel Restoration Project



1" = 200'



Delineation of Waters and Wetlands of the U.S.  
Corps File Number 29296S  
Lower Walnut Creek Channel Restoration  
City of Concord, Contra Costa County  
Corps Project Manager: Bob Quebedeaux  
March 29, 2005  
*Bob Quebedeaux*

- Project Area Boundary
- Data Point
- Width of Stream Channel in Feet
- Ordinary High Water Mark (OHWM)
- Areas Below the OHWM
- High Tide Line (HTL)
- Areas Below the HTL
- Mean High Water (MHW) Level



**EXHIBIT A  
 DELINEATION OF WATERS OF THE UNITED STATES,  
 INCLUDING WETLANDS,  
 FOR THE LOWER WALNUT CREEK CHANNEL RESTORATION PROJECT,  
 CONCORD, CALIFORNIA**

**CLEAN WATER ACT SECTION 404  
 WATERS OF THE UNITED STATES**

**WETLANDS**

Map Symbol	Habitat Type	Acres
 AW-T	Alkali Wetland -Tidal	64.34
 EM	Emergent Marsh	2.03
 EM-T	Emergent Marsh -Tidal	104.79
 MR	Mixed Riparian Woodland	0.30
 PW-T	Pickleweed Marsh -Tidal	39.85
 SW	Seasonal Wetland	24.62
 SW-AW-T	Seasonal Wetland- Alkali Wetland Complex - Tidal	31.41
 SW-T	Seasonal Wetland-Tidal	13.55
		280.89

Note: Wetlands are non-tidal, unless otherwise indicated.

**OTHER WATERS OF THE UNITED STATES**

Map Symbol	Habitat Type	Acres
 POND	Pond	3.26
 SC	Stream Channel	96.07
 SCALD	Scald	11.49
		110.82
 All Areas Below the OHWM *		111.70
 All Areas Below the HTL *		393.56
		505.26

\* Acreage includes wetlands, ponds, stream channels, and scalds.

**AREAS SUBJECT TO RIVERS AND HARBORS  
 ACT SECTION 10 JURISDICTION**

Map Symbol	Acres
 All Areas Below the MHW Level	90.94**

\*\*Acreage is included in Section 404 acreage figures.

**NON-JURISDICTIONAL AREAS**

Map Symbol	Habitat-Type	Acres
 NW	Non-Wetland	258.12

-  Project Area Boundary
-  Data Point
- $\bar{x} = 3'$  Average Width of Stream Channel in Feet
-  Ordinary High Water Mark (OHWM)
-  High Tide Line (HTL)
-  Mean High Water (MHW) Level

PREPARED FOR:

NATURAL RESOURCES MANAGEMENT  
 737 SPRUCE STREET  
 BERKELEY, CA 94707  
 CONTACT: PATRICIA BERRYHILL  
 (510) 508-7554

PREPARED BY:

JONES & STOKES  
 2600 V STREET  
 SACRAMENTO, CA  
 CONTACT: JOEL BUTTERWORTH  
 (916) 737-3000

JANUARY 2005