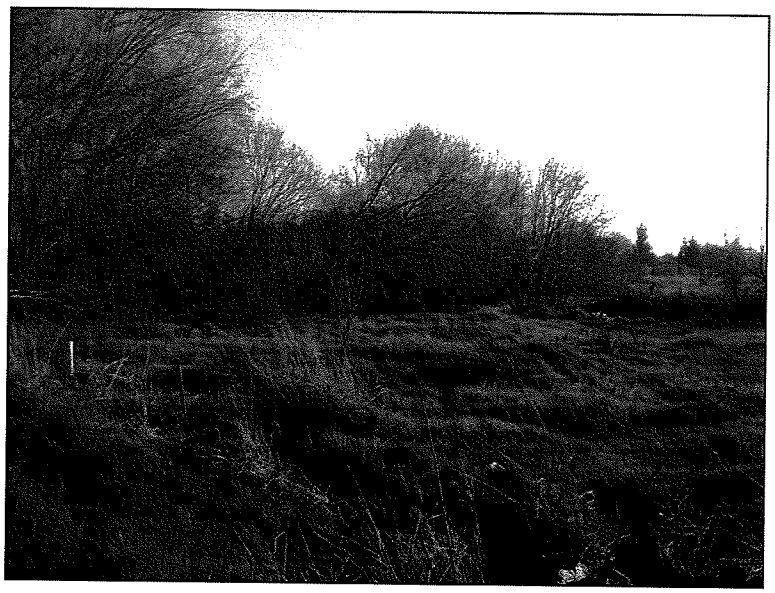
# DRAFT
# DELINEATION OF WATERS OF THE UNITED STATES
## Riverfront Development
## Oroville, Butte County, CA

April 2005



*Prepared for:*

**Valliwide Financial**
**2360 Oro Quincy Highway**
**Oroville, CA 95966**

*Prepared by:*

Gallaway
Consulting, Inc.
7 Sierra Nevada Ct., Chico, CA 95928
(530) 343-8327 / (530) 342-1882 fax

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# DELINEATION OF WATERS OF THE UNITED STATES

Riverfront Development
City of Oroville, Butte County, CA

## Introduction and Project Location

As requested, Gallaway Consulting Inc. performed a delineation of Waters of the United States in Oroville, CA on 13 April 2005. The approximately 37-acre site is located in the Fernandez Land Grant in proximity to Section 7, T19N, R4E of the Oroville USGS quadrangle (**Figure 1**). The site is bordered by 14th Street on the west, by Grand Avenue on the North, by Highway 70 on the east and the Feather River on the south. Residential development is planned for the location. Jody Gallaway, wildlife biologist, conducted the field surveys, which included an examination of botanical resources, soils, and hydrologic features. Determination of wetland characteristics was based on the US Army Corps of Engineers Wetlands Delineation Manual (1987).

This report addresses the nature, jurisdictional status, and landscape position of the wetlands on the site. It does not provide information suitable for structural analysis of soils for construction purposes, flood plain delineation, or other purposes not expressly stated. Wetland acreages presented in this report should be considered preliminary and subject to review and modification by the US Army Corps of Engineers (COE) during the wetland delineation verification process.

## Site Conditions

The project site is located in Oroville, California in the northern Sacramento Valley. The assessment area is comprised of gently undulating topography ranging from 140-220 feet above sea level. The site consists of a disturbed annual grassland, with vegetation consisting mainly of introduced and native grasses and forbs, blue oak woodland and valley foothill riparian habitat. The site has a history of being used for gravel extraction. The survey was conducted in spring, during the flowering season.

The primary soil series that occur within the project site are the Thompsonflat-Oroville Complex and the Xerorthents Tailings soils. The Thompsonflat-Oroville Complex occurs on dissected rolling intermediate terraces and has fine sandy loam soils. The Xerorthents Tailings soils occur on highly disturbed soils that resulted from gravel mining on the site. Soil series descriptions are presented in **Appendix A**.

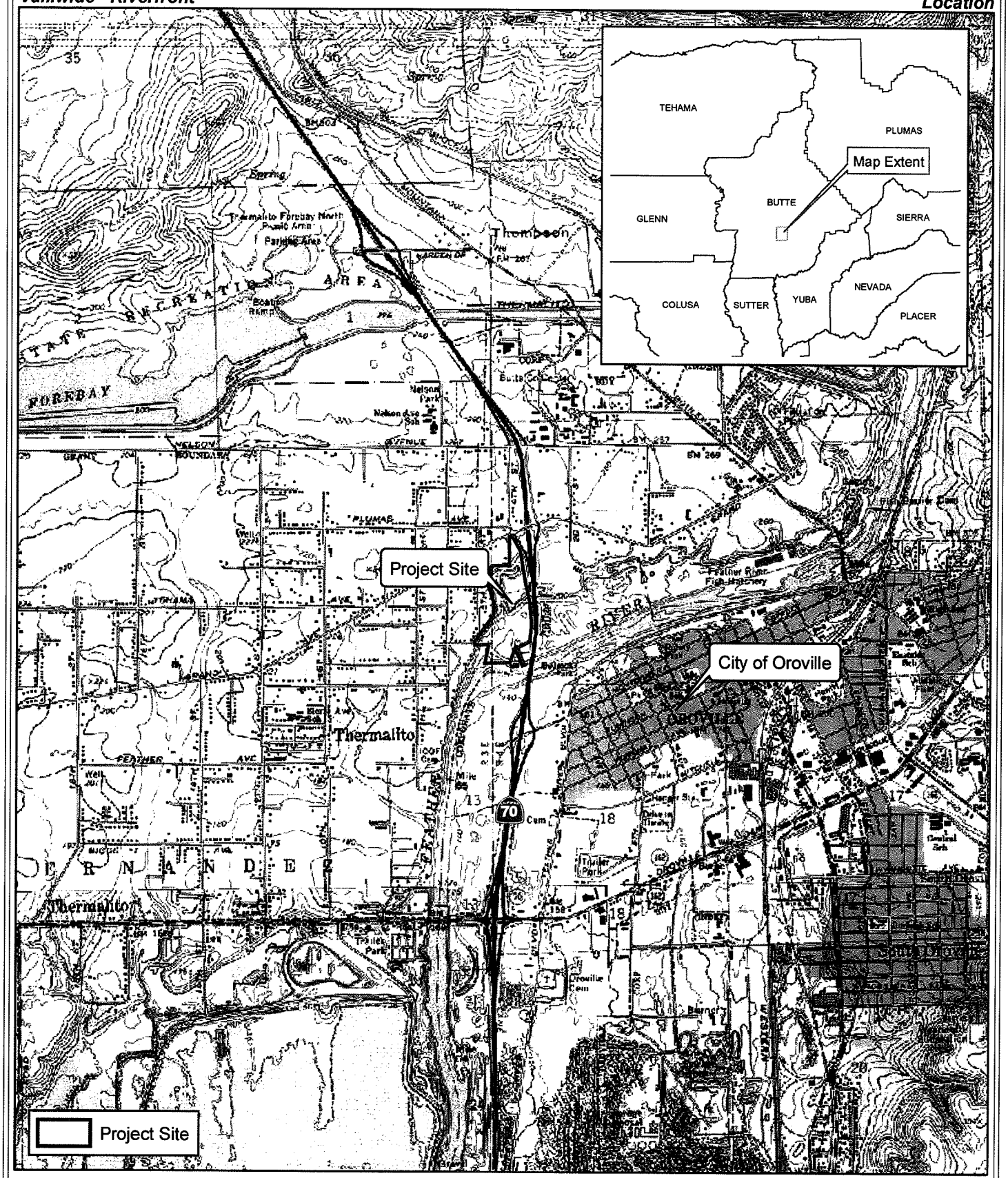
Valliwide - Riverfront
Location
TEHAMA
PLUMAS
Map Extent
BUTTE
GLENN
SIERRA
COLUSA
SUTTER
YUBA
NEVADA
PLACER
Project Site
City of Oroville
Thermalito
FORBAY
Project Site
City of Oroville, Butte County, CA
Map Date March, 30 2005
0 0.25 0.5 Miles
GALLAWAY CONSULTING, INC.

Figure 1.

## Survey Methodology

Many of the terms used throughout this report have specific meanings relating to the federal wetland delineation process. Term definitions are based on the COE 1987 delineation manual (Environmental Laboratory 1987). The terms defined below have specific meaning relating to the delineation of waters of the United States as prescribed by Section 404 of the Clean Water Act (CWA).

*Terminology*

**Atypical situation (significantly disturbed).** In an atypical (significantly disturbed) situation, recent human activities or natural events have created conditions where positive indicators for hydrophytic vegetation, hydric soil, or wetland hydrology are not present or observable.

**Facultative Plants (FAC).** Plants with a similar chance (approximately 33%-67% probability) of occurring in both wetlands and non-wetlands under natural conditions.

**Facultative Upland Plants (FACU).** Plants that almost always (approximately 67%-99% of the time) occur in non-wetlands under natural conditions.

**Facultative Wetland Plants (FACW).** Plants that occur usually (approximately 67%-99% of the time) in wetlands, but also occurs (approximately 1%-33% of the time) in non-wetlands under natural conditions.

**Growing season.** The growing season is the portion of the year when soil temperatures are above biologic zero (41° F) as defined by soil taxonomy.

**Hydric soil.** Soil is hydric when it is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-depleted) conditions in its upper part (i.e., within the shallow rooting zone of herbaceous plants).

**Jurisdictional wetland.** Sites that meet the definition of wetland provided below and that fall under Corps regulations pursuant to Section 404 of the CWA are considered jurisdictional wetlands.

**Normal Circumstances.** This term refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed.

**Obligate Plants (OBL).** A plant species that almost always (approximately 99% of the time) occurs in wetlands under natural conditions.

**Obligate Upland Plants (UPL).** Plants that rarely (approximately 1% of the time) occur in wetlands under natural conditions.

**Other Waters of the United States (Other Waters).** Other Waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

**Ponded.** Ponding is a condition in which free water covers the soil surface (e.g., in a closed depression) and is removed only by percolation, evaporation, or transpiration.

**Problem site.** Problem sites are those where one or more wetland parameters may be lacking because of normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events.

**Waters of the United States.** This is the encompassing term for sites under federal jurisdiction pursuant to Section 404 of the CWA. Waters of the United States are divided into "wetlands" and "Other Waters of the United States".

**Wetland.** Wetlands are defined as "sites that are inundated or saturated by surface or ground water 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 under federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

*Determination of Hydrophytic Vegetation*

The presence of hydrophytic vegetation was determined using the methods outlined in the COE 1989 manual (Federal Interagency Committee for Wetland Delineation 1989), a method approved by the COE for use in conjunction with the 1987 manual. Under this method, sites are considered to have positive indicators of hydrophytic vegetation if 50% or more of the dominant plant species present are OBL, FACW, or FAC on lists of plant species that occur in wetlands.

*Determination of Hydric Soils*

Soil survey information was reviewed for the site and representatives from the Natural Resources Conservation Service (NRCS) in Chico, California were consulted on the local soil conditions. Field samples were evaluated using the Munsell soil color chart, hand texturing, and assessment of soil features (e.g., oxidized root channels, evidence of hardpan, Mn and Fe concretions). Information regarding local soil and series descriptions and mapping are provided in **Appendix A.**

*Determination of Wetland Hydrology*

Wetland hydrology was determined to be present if a site supported one or more of the following characteristics:

- Landscape position and surface topography (e.g., position of the site relative to an up-slope water source, location within a distinct wetland drainage pattern, and concave surface topography),
- Inundation or saturation for a long duration either inferred based on field indicators or observed during repeated site visits, and
- Residual evidence of ponding or flooding resulting in field indicators such as scour marks, sediment deposits, algal matting, and drift lines.

The presence of water or saturated soil for approximately 12 days during the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow and the types of soils that develop (Wetland Training Institute 1995).

*Jurisdictional Boundary Determination and Acreage Calculation*

The wetland-upland boundary was determined based on the presence or inference of positive indicators of all mandatory criteria. Soil samples were taken within wetland and upland sites. When boundary identification between wetland and upland could not be made visually using vegetative community boundaries, additional soil sampling was performed to further define the boundary between wetland (hydric soils) and upland communities. The site was traversed on foot to identify wetlands. Field data forms (**Appendix B**) were used to describe plants, soils, and hydrological characteristics. Gallaway Consulting Inc. performed the field delineation, mapping, and acreage calculations (**Table 1** and **Figure 2**). The spatial data obtained during the preparation of this wetland delineation was collected using a Trimble GeoXT GPS Receiver on 13 April 2005. The maximum PDOP (position dilution of precision) during data collection was 7.5. No readings were taken with fewer than 5 satellites. Point data locations were recorded for 25 seconds at a rate of 1 position per second. Site and line data was recorded at a rate of 1 position per second while walking at a slow pace. All GPS data were differentially corrected for maximum accuracy using the National Geodetic Survey's Chico CORS Station.

Surveys were conducted in spring, during the flowering season. Therefore, optimal conditions for wetland determinations existed. Wetland indicators such as hydrophytic vegetation and wetland feature inundation are the most recognizable and abundant during early spring to mid-summer.

## Results

Sites qualifying as wetlands (WF) and Other Waters of the US (OW) are described below. There were a total of 2.912 acres of jurisdictional features delineated onsite including 0.108 acres of seasonal wetlands, 1.099 acres of riparian and 1.007 acres of ponds (**Table 1**). Jurisdictional features were mapped at a 1": 200' scale and are presented in **Figure 2**. Wetland acreages presented in this report should be considered preliminary, subject to review and modification by the COE during the wetland delineation verification process. A description of the wetlands, the data collected and methods of interpretation used to delineate their jurisdictional boundaries are described below.

**Table 1. Identification, type and area of jurisdictional features delineated on the Riverfront Development, Oroville, CA.**

| Label | Type | Length (ft.) | Average Width (ft.) | Area (sq.ft.) | Acres |
|---|---|---|---|---|---|
| WF01 | Seasonal Wetland | n/a | n/a | 4724.8 | 0.108 |
| WF02 | Pond | n/a | n/a | 23290.9 | 0.535 |
| WF03 | Riparian | n/a | n/a | 8189.3 | 0.188 |
| WF04 | Riparian | n/a | n/a | 12161.9 | 0.279 |
| WF05 | Pond | n/a | n/a | 9141.7 | 0.210 |
| WF06 | Riparian | n/a | n/a | 23364.0 | 0.536 |
| WF07 | Riparian | n/a | n/a | 2434.8 | 0.056 |
| WF08 | Riparian | n/a | n/a | 1717.3 | 0.039 |
| WF09 | Pond | n/a | n/a | 11445.4 | 0.263 |
| | | | **Seasonal Wetland Totals =** | **4724.8** | **0.108** |
| | | | **Riparian Totals =** | **47867.3** | **1.099** |
| | | | **Pond Totals =** | **43878.0** | **1.007** |
| | | | **All Wetland Features Totals =** | **96470.0** | **2.215** |
| OW01 | Other Waters of the U.S. | 1882.3 | 8 | 15058.6 | 0.346 |
| OW02 | Other Waters of the U.S. | n/a | n/a | 15330.4 | 0.352 |
| | **OWOTUS Totals =** | **1882.3** | n/a | **30389.0** | **0.698** |
| | **Total of All Features =** | **1882.3** | n/a | **126859.0** | **2.912** |

*Jurisdictional Wetlands*

One (1) seasonal wetland, five (5) riparian features and three (3) ponds were delineated within the survey area. Wetland features within the Riverfront project are not isolated due to the presence of subsurface flows to the Feather River.

*Riparian*

There are five (5) riparian features on the project site. Riparian zones are transitional zones along streambanks between Other Waters of the U.S. and upland vegetation zones. The overstory canopy is dominated by cottonwood (*Populus fremontii*) and black locust (*Robinia pseudoacacia*) with a midstory of California button-willow (*Cephananthus occidentalis*). Understory species include but are not limited to: California wild grape (*Vitis californica*), Italian ryegrass (*Lolium multiflorum*), yellow-nut sedge (*Cyperus esculentus*), Himalayan blackberry (*Rubus discolor*), willow (*Salix sp.*), and mild water-pepper (*Polygonum hydropiperoides*). Wetland Feature 03 is found adjacent to WF 02, a pond. Both features receive runoff from the hillside to the west. Wetland Feature 03 has Himalayan blackberry, yellow-nut sedge, California wild grape, and California button-willow. Both WF 03 and WF 04 are found in the southwest quadrant of the property. Wetland Feature 04 is adjacent to WF 05, and both of these features

also receive runoff from the hillside. Wetland Feature 06 and WF 07 are found along the eastern border of the property, occur in borrow pits and are considered atypical due to the lack of hydric soils. The soils have been disturbed by the past gravel extaction activity thus the hydric soil parameter was assumed. Vegetation within WF 06 and WF 07 was marginal. Wetland 06 has California wild grape, willow and cottonwood. Wetland feature 07 has California wild grape, willow and black locust. Wetland feature 08 is found on the southeast border of the property and is associated with WF 09. Wetland feature 08 has Italian ryegrass, willow, Himalayan blackberry, yellow-nut sedge, and mild water-pepper. Wetland Feature 09 has duckweed (*Lemna sp.*), willow, yellow-nut sedge, and Himalayan blackberry.

*Seasonal Wetlands*

Within the project site there is one (1) seasonal wetland (WF 01). This area allows water to pond for a long enough period of time to support hydrophytic vegetation and hydric soils. Seasonal wetlands support hydrophytic species that require longer inundation periods for success. Wetland Feature 01 is found along the western border of the property and is supported by overflow from OW 01.

*Other Waters of The United States*

Other Waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology-33 CFR 328.4). There were two (2) Other Waters observed within the assessment area. Other Waters 01 is an intermittant stream channel that runs near the northern and western borders of the property and runs from north to south. Other Waters 02 is the Feather River, which is found on the southern border of the property.

*Soils*

The primary soil series that occur within the project site are the Thompsonflat-Oroville Complex and the Xerorthents Tailings soils. The Thompsonflat-Oroville Complex occurs on dissected rolling intermediate terraces and has fine sandy loam soils. The Xerorthents Tailings soils occur on highly disturbed soils that resulted from gravel mining on the site. Both soils types are not found on the Hydric Soils of Butte County List. At WF 01 and WF 03 we assumed the presence of hydric soils based on the presence of dominant hydrophytic vegetation and observed soil characteristics. Soil series descriptions are presented in **Appendix A**.

*Vegetation*

Wetland vegetation present within the seasonal wetland and riparian includes but is not limited to the following taxa: California buckeye (*Aesculus californica*) (NL), pipevine (*Aristolochia californicum*) (NL), fringe pod (*Athysanus pusillus*) (NL), wild mustard (*Brassica sp.*) (NL), California button-willow (*Cephananthus occidentalis*) (OBL), poison hemlock (*Conium*

*maculatum*) (FAC), yellow-nut sedge (FACW), blue dicks (*Dichelostemma capitatum*) (FAC+), barnyard grass (*Echinochloa crus-galli*) (FACW), edible fig (*Ficus carica*) (NL), duckweed (*Lemna sp.*) (OBL), trefoil (*Lotus wrangelianus*) (NL), broad-leaved lupine (*Lupinus latifolius*) (NL), wild cucumber (*Marah sp.)* (NL), knotgrass (*Paspalum distichum*) (OBL), popcorn flower (*Plagiobothrys sp.*) (FACW), mild water-pepper (OBL), pondweed (*Potamogeton sp* ) (OBL), blue oak (*Quercus douglasii*) (NL), California black oak (*Quercus kelloggii*) (NL), interior live oak (*Quercus wislizinii*) (NL), wild turnip (R*apistrum rugosum*) (NL), Himalayan blackberry (FAC+), willow (FACW), poison oak (*Toxicodendron diversilobum*) (NL), and California wild grape (FACW). Upland and wetland boundaries were clearly distinguishable by the presence of willow, yellow-nut sedge, blue dicks, barnyard grass, duckweed, mild water-pepper, pondweed, and California wild grape. Copies of field data sheets are presented in **Appendix B**. For further explanation of field notes, please contact Jody Gallaway at (530) 343-8327.

*Hydrology*

There is one (1) major drainage within the project area. Other Waters 01 runs near the northern and western borders of the property and runs from north to south, draining into WF 02. Copies of field data sheets are presented in **Appendix B**. For further explanation of field notes please contact Jody Gallaway at (530) 343-8327.

| Label | Type | Length (ft.) | Average Width (ft.) | Area (sq.ft.) | Acres |
|---|---|---|---|---|---|
| WF01 | Seasonal Wetland | n/a | n/a | 4724.8 | 0.108 |
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| WF05 | Pond | n/a | n/a | 9141.7 | 0.210 |
| WF06 | Riparian | n/a | n/a | 23364.0 | 0.536 |
| WF07 | Riparian | n/a | n/a | 2434.8 | 0.056 |
| WF08 | Riparian | n/a | n/a | 1717.3 | 0.039 |
| WF09 | Pond | n/a | n/a | 11445.4 | 0.263 |
| | | | **Seasonal Wetland Totals =** | **4724.8** | **0.108** |
| | | | **Riparian Totals =** | **47867.3** | **1.099** |
| | | | **Pond Totals =** | **43878.0** | **1.007** |
| | | | **All Wetland Features Totals =** | **96470.0** | **2.215** |
| OW01 | Other Waters of the U.S. | 1882.3 | 8 | 15058.6 | 0.346 |
| OW02 | Other Waters of the U.S. | n/a | n/a | 15330.4 | 0.352 |
| | **OWOTUS Totals =** | **1882.3** | n/a | **30389.0** | **0.698** |
| | **Total of All Features =** | **1882.3** | n/a | **126859.0** | **2.912** |


The information contained in this figure shall be considered preliminary until written verification by the USACE.
Extent of project site provided by City of Oroville.
Date of Aerial Photo March 2002
Map date April 15, 2005

0 100 200 400 Feet

GALLAWAY CONSULTING, INC.

Figure 2.

## Wetland Photos

**Looking north at Water Feature 02**

**Looking north at WF 06 and WF 07**

**Looking at WF 09**

**Looking at WF 05**

## References

Environmental Laboratory. 1987. U.S. Army Corps of Engineers wetlands delineation manual. (Technical Report Y-87-1). U.S. Army Waterways Experiment Station. Vicksburg, MS.

Federal Interagency Committee for Wetland Delineation. 1989. Federal manual for identifying and delineating jurisdictional wetlands. (Cooperative Technical Publication). U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Soil Conservation Service. Washington, DC.

Reed, P.B., Jr. 1987. National list of plant species that occur in wetlands: California (Region 0). US. Fish and Wildl. Serv. Biol. Rep. 88(26.10) 135pp.

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

# Appendix A
Pertinent Soils Information

***318--Thompsonflat-Oroville Complex, 0 To 9 Percent Slopes

Map Unit Setting

General location: Central Butte County
Major uses: Livestock grazing, wildlife habitat, homesite development and olive orchards
MLRA: 17 - Sacramento and San Joaquin Valleys
Map unit landscape: Eastside terraces in the Sacramento valley
Landscape setting: Upper portion of the intermediate terrace adjacent to high terrace
Elevation: 120 to 255 feet (37 to 79 meters)
Mean annual precipitation: 22 to 30 inches (559 to 762 millimeters)
Mean annual air temperature: 61 to 63 degrees F. (16 to 17 degrees C.)
Frost-free period: 250 to 260 days

Map Unit Composition
**Thompsonflat fine sandy loam--50 percent
**Oroville gravelly fine sandy loam--40 percent
Minor components: 10 percent

---

Major Component Description

*Thompsonflat fine sandy loam and similar soils
Slope: 0 to 9 percent
Aspect: None noted
Landform: Disected rolling intermediate terrace
Parent material: Loamy alluvium over clayey alluvium over sandy and gravelly alluvium derived from igneous and metamorphic rock
Typical vegetation: Annual grasses and forbs

Selected Properties and Qualities of Thompsonflat fine sandy loam

Surface features: Some areas leveled for homesite development
Surface pH: 6.0
Surface area percent covered by coarse fragments: 0 to 2 well rounded cobbles, 0 to 10 coarse well rounded gravel
Depth to restrictive feature: None noted
Slowest permeability class: Slow
Salinity: Not saline
Sodicity: Not sodic
Available water capacity to 60 inches: About 4.1 inches (Low)
Shrink-swell Potential: Low (LEP <3)

Selected Hydrologic Properties of Thompsonflat fine sandy loam

Present annual flooding: None
Present annual ponding: None
Surface runoff: High
Current water table: Present
Natural drainage class: Moderately well drained
Hydrologic Soil Group: C

California Land Use Interpretive Groups
Land capability irrigated: 3e-3
Land capability nonirrigated: 3e-3
Storie Index: 83.3
Farmland Classification: Farmland of statewide importance
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

Typical Profile

**A--0 to 3 inches; fine sandy loam
**Bt1--3 to 7 inches; fine sandy loam
**Bt2--7 to 11 inches; sandy clay loam
**Bt3--11 to 15 inches; sandy clay
**2Bt4--15 to 22 inches; gravelly sandy clay
**3Btq1--22 to 35 inches; extremely gravelly sandy clay loam
**3Btq2--35 to 45 inches; extremely gravelly coarse sandy loam
**3Btq3--45 to 53 inches; extremely gravelly coarse sandy loam
**3Btq4--53 to 66 inches; extremely gravelly coarse sandy loam
**3Btq5--66 to 80 inches; extremely gravelly coarse sandy loam

*Oroville gravelly fine sandy loam and similar soils
Slope: 0 to 9 percent
Aspect: None noted
Landform: Swale on highly dissected intermediate terrace
Parent material: Loamy and gravelly alluvium over clayey and gravelly alluvium over cemented loamy and extremely gravelly alluvium derived from igneous and metamorphic rock
Typical vegetation: Annual grasses and forbs

Selected Properties and Qualities of Oroville gravelly fine sandy loam

Surface pH: 6.0
Surface area percent covered by coarse fragments: 5 to 20 coarse well rounded gravel
Depth to restrictive feature: Duripan--20 to 40 inches
Slowest permeability class: Impermeable
Salinity: Not saline
Sodicity: Not sodic
Available water capacity to 60 inches: About 2.7 inches (Low)
Shrink-swell Potential: Moderate (LEP 3 to <6)

Selected Hydrologic Properties of Oroville gravelly fine sandy loam

Present annual flooding: None
Present annual ponding: Frequent
Surface runoff: Medium
Current water table: Present
Natural drainage class: Poorly drained
Hydrologic Soil Group: C

California Land Use Interpretive Groups
Land capability irrigated: 4e-3
Land capability nonirrigated: 4e-3
Storie Index: 6.8
Farmland Classification: Farmland of statewide importance
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

Typical Profile
**A--0 to 2 inches; gravelly fine sandy loam
**BAt--2 to 6 inches; gravelly sandy loam
**Bt1--6 to 13 inches; gravelly clay loam
**2Bt2--13 to 17 inches; gravelly clay
**2Btg--17 to 23 inches; gravelly sandy clay
**3Bqm1--23 to 31 inches; cemented extremely gravelly material
**3Bqm2--31 to 60 inches; cemented extremely gravelly material

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Minor Components

****Fernandez and similar soils
Composition: About 5 percent

Slope: 0 to 9 percent
Landform: Disected rolling intermediate terrace
Typical vegetation: None assigned
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Loamy, Shallow To Duripan and similar soils
Composition: About 3 percent
Slope: 0 to 5 percent
Landform: Inter-connected swale on highly dissected intermediate terrace
Typical vegetation: None assigned
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Fine-Loamy, Deep To Densic Contact and similar soils
Composition: About 2 percent
Slope: 0 to 9 percent
Landform: Disected rolling intermediate terrace
Typical vegetation: None assigned
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

See "Chemical Properties of Soils" Report and the "Physical Properties of Soils" Report for component horizon data.
For additional component horizon data, see the "Soil Properties" section of this publication.
A typical soil description with range in characteristics is included, in alphabetical order in the "Classification of the Soils" section.

Use and Management
For information about management, see the "Use and Management" section of this publication.

***118--Xerorthents, Tailings, 0 To 50 Percent Slopes

Map Unit Setting

General location: Central Butte County
MLRA: 17
Map unit geomorphic setting: Flood plains in the Sacramento valley, Butte creek canyon bottoms in foothills
Elevation: 85 to 1335 feet (26 to 408 meters)
Mean annual precipitation: 21 to 50 inches (533 to 1270 millimeters)
Mean annual air temperature: 57 to 63 degrees F. (14 to 17 degrees C.)
Frost-free period: 240 to 260 days

Map Unit Composition
**Xerorthents tailings--80 percent
Minor components: 20 percent

---

Major Component Description

*Xerorthents tailings
Component geomorphic setting: Linear shaped spoil pile on flood plain
Parent material: Dredged spoil piles from sandy and gravelly alluvium derived from igneous, metamorphic and sedimentary rock
Typical vegetation: Barren to scattered valley oak, cottonwood, sycamore, willow, poison oak, blackberry, annual grasses and forbs and in
the Butte creek canyon area stands of foothill pine, and interior live oak.

Component Properties and Qualities

Slope: 0 to 50 percent
Runoff: Very low
Surface features: Surface consists of mounded ridge like linear piles from 5 to 40 feet in height with widely spaced depressional areas that are often wet. some areas have been leveled.
Percent area covered by surface coarse fragments: 10 to 100 well rounded cobbles, 5 to 100 coarse well rounded gravel, 0 to 50 subrounded stones
Depth to restrictive feature: None noted
Slowest permeability class: Moderately rapid
Salinity: Not saline
Sodicity: Not sodic
Available water capacity: About 3.5 inches (Low)

Component Hydrologic Properties

Present flooding: Occasional
Present ponding: None
Current water table: Present
Natural drainage class: Somewhat excessively drained
Altered hydrology: Prior to dam and levee construction, these areas were frequently flooded for long duration

Interpretive Groups
Land capability irrigated: 4e-7
Land capability nonirrigated: 4e-7
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

Typical Profile
**A--0 to 3 inches; very gravelly sandy loam
**AC--3 to 8 inches; extremely gravelly sandy loam
**C1--8 to 21 inches; loamy sand

**C2--21 to 26 inches; loamy sand
**C3--26 to 35 inches; loamy sand
**C4--35 to 48 inches; loamy coarse sand
**C5--48 to 59 inches; loamy sand
**C6--59 to 81 inches; loamy sand

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Estimated Minor Components

****Riparian Areas
Composition: 5 percent
Slope: 0 to 2 percent
Component geomorphic setting: Spoil pile on flood plain
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Water-Filled Pits
Composition: 5 percent
Slope: 0 to 2 percent
Component geomorphic setting: Spoil pile on flood plain
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Xerofluvents tailings and similar soils
Composition: 3 percent
Slope: 0 to 2 percent
Component geomorphic setting: Spoil pile on flood plain
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Xeropsamments tailings and similar soils
Composition: 3 percent
Slope: 0 to 50 percent
Component geomorphic setting: Spoil pile on flood plain
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Haploxeralfs terrace and similar soils
Composition: 2 percent
Slope: 0 to 8 percent
Component geomorphic setting: Stream terrace
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

****Unnamed Soils With Duripans and similar soils
Composition: 2 percent
Slope: 0 to 8 percent
Component geomorphic setting: Leveled spoil pile on flood plain
Ecological site: Not Assigned
Other Vegetative Classification: Not Assigned

Additional Component Properties

See "Chemical Properties of Soils" Report and the "Physical Properties of Soils" Report for component horizon data.
For additional component horizon data, see the "Soil Properties" section of this publication.
A typical soil description with range in characteristics is included, in alphabetical order in the "Classification of the Soils" section.

Use and Management

Major uses: Construction material, recreation, wildlife habitat and homesite development
For information about management, see the "Use and Management" section of this publication.

# Appendix B
Field Data Forms

SOILS

Map Unit Name (Series and Phase): Thompsonflat - Oraille Complex - Thompson flat series

Drainage class: mod. well draining

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type X Yes __No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| -8 | B | 5YR/4/4 | ø | ø | Loam/sandy 50 sand 40 gravel 10 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks:

No mottle, concretions
< 10% clay

Wetland Determination

| | | |
|---|---|---|
| Hydrophytic Vegetation Present | Yes | (No) |
| Wetland Hydrology Present | Yes | (No) |
| Hydric Soils Present | Yes | (No) |

Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | Riverfront | | | Date: | 4/7/2005 |
| Application/Owner: | VALLI-WIDE | | | County: | BUTE |
| Investigator: | JODY GALLAWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | | (yes) | | Community ID: | WFO1 |
| Is the site significantly disturbed (Atypical Situation)? | | | (no) | Transect ID: | |
| Is the area a potential Problem Area? | | | (no) | Plot ID: | U01 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Ava sp. (40%) | herb | UP | 9. | | | |
| 2. | Beia minor (10) | herb | UP | 10. | | | |
| 3. | Lupinus latifolius (40) | herb | UP | 11. | | | |
| 4. | Datisca glomerata | herb | UP | 12. | | | |
| 5. | | | | 13. | | | |
| 6. | | | | 14. | | | |
| 7. | Quercus kelloggii | overstory | UP | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 0

Remarks: Percent dominance shown in parentheses.

Ava sp. = 40%

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>____ Inundated (nearby)<br>____ Saturated in Upper 12 inches<br>____ Water Marks<br>____ Drift Lines<br>____ Sediment Deposits<br>____ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>____ Oxidized Root Channels in Upper 12 inches<br>____ Water-Stained Leaves<br>____ Local Soil Survey Data<br>____ FAC-Neutral Test<br>____ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |

Remarks: upslope of drainage channel, sample taken out of micro-[illegible]

SOILS

Map Unit Name (Series and Phase): Thompsonflat - Oeoville Complex Thompson Flat series

Drainage class: Moderately well-drained

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type X Yes __No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| 8" | B | 5YR/5/4 | 7.5/3/3 | few/small | SAND 50% Loam 10% cobble 40% |
| 9-12" | B | 5YR 5/6 | 2.5 YR/4/4 | few | cemented duripan |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks: Marginal hydric soils at margin of intermittent stream zone.

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | |
| Wetland Hydrology Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Hydric Soils Present | Yes | (No) | |

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/2005 |
| Application/Owner: | VALLI-WIDE | | | County: | BUTTE |
| Investigator: | JODY GALLAWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | (yes) | | | Community ID: | WF01 |
| Is the site significantly disturbed (Atypical Situation)? | | (no) | | Transect ID: | Seasonal wet |
| Is the area a potential Problem Area? | | (no) | | Plot ID: | W01 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Mimulus guttatus (10%) | herb | OBL | 9. | | | |
| 2. | Lolium multiflorum (40%) | herb | FACW | 10. | | | |
| 3. | Rumex C (10) | herb | FACW- | 11. | | | |
| 4. | Lupinus latifolius (5) | herb | FAC | 12. | | | |
| 5. | | | | 13. | | | |
| 6. | Salix [illegible] | shrub | FACW | 14. | | | |
| 7. | laevigata (5) | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 80%

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks): | Wetland Hydrology Indicators: |
| Stream, Lake or Tide Gauge | Primary Indicators: |
| x Aerial Photographs | ___ Inundated (nearby) |
| Other (Soil Survey) | X Saturated in Upper 12 inches |
| No Recorded Data Available | X Water Marks |
| Field Observations: | X Drift Lines |
| Depth of Water Surface: ___ (in.) | X Sediment Deposits |
| Depth of Free Water in Pit: ___ (in.) | X Drainage Patterns in Wetlands |
| Depth to Saturated Soil: ___ (in.) | Secondary Indicators (2 or more required): |
| | ___ Oxidized Root Channels in Upper 12 inches |
| | X Water-Stained Leaves |
| | ___ Local Soil Survey Data |
| | ___ FAC-Neutral Test |
| | ___ Other (Explain in Remarks) |

Remarks: seasonal wetland @ downslope end of drainage source

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/2005 |
| Application/Owner: | VALLI-WIDE | | | County: | BUTTE |
| Investigator: | Jody Gonzalez | | | State: | CA |
| Do Normal Circumstances exist on the site? | (yes) | | | Community ID: | WF02 |
| Is the site significantly disturbed (Atypical Situation)? | | (no) | | Transect ID: | Pond (OPEN WATER) |
| Is the area a potential Problem Area? | | (no) | | Plot ID: | NO WETLAND SAMPLE |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Lemna sp | herb. | OBL | 9. | | | |
| 2. | Potamogeton sp | herb | OBL | 10. | | | |
| 3. | | | | 11. | | | |
| 4. | Pond Margin | | | 12. | | | |
| 5. | Echinochloa crusgalli | | OBL | 13. | | | |
| 6. | Paspalum distichum | | OBL | 14. | | | |
| 7. | Cyperus esculentus | | OBL | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ).

Remarks: Percent dominance shown in parentheses.
Pond dominated by floating hydrophytes

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs ✗<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>X Inundated (nearby)<br>X Saturated in Upper 12 inches<br>X Water Marks<br>X Drift Lines<br>X Sediment Deposits<br>X Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>___ Oxidized Root Channels in Upper 12 inches<br>___ Water-Stained Leaves<br>___ Local Soil Survey Data<br>___ FAC-Neutral Test<br>___ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: 7 feet<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |

Remarks: Pond features easily identified by viewing aerial photographs

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____ _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type __ Yes __No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks: ~~hydrophytic~~ hydric soils are assumed

Wetland Determination

| | | |
|---|---|---|
| Hydrophytic Vegetation Present | Yes | No |
| Wetland Hydrology Present | Yes | No |
| Hydric Soils Present | Yes | No |

Is this Sampling Point Within a Wetland? Yes No

Remarks: Artifical Pond, Borrow Pit created from past construction of nearby Roadway

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/2005 |
| Application/Owner: | VALLI - WIDE | | | County: | BUTTE |
| Investigator: | JEDY GALLOWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | (yes) | | | Community ID: | WF03 |
| Is the site significantly disturbed (Atypical Situation)? | | (no) | | Transect ID: | seasonal wet |
| Is the area a potential Problem Area? | | (no) | | Plot ID: | W04 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Rubus discolor (40%) | herb | FAC | 9. | | | |
| 2. | Cyperus esculatus (5) | herb | FACW | 10. | | | |
| 3. | Vitis californica (5) | herb | FACW | 11. | | | |
| 4. | | | | 12. | | | |
| 5. | Near Water edge | | | 13. | | | |
| 6. | Cephalanthus | shrub | OBL | 14. | | | |
| 7. | occidentalis | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 75%

Remarks: Percent dominance shown in parentheses.

wetland boundy determined by extent of Rubus and landscape position.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks): | Wetland Hydrology Indicators: |
| Stream, Lake or Tide Gauge | Primary Indicators: |
| x Aerial Photographs | X Inundated (nearby) |
| Other (Soil Survey) | X Saturated in Upper 12 inches |
| No Recorded Data Available | X Water Marks |
| Field Observations: | X Drift Lines |
| Depth of Water Surface: __ (in.) | X Sediment Deposits |
| Depth of Free Water in Pit: __ (in.) | X Drainage Patterns in Wetlands |
| Depth to Saturated Soil: 14 (in.) | Secondary Indicators (2 or more required): |
| | ____ Oxidized Root Channels in Upper 12 inches |
| | ____ Water-Stained Leaves |
| | ____ Local Soil Survey Data |
| | ____ FAC-Neutral Test |
| | ____ Other (Explain in Remarks) |

Remarks: wetland boundary near inundated pond

SOILS

Map Unit Name (Series and Phase): 118 XEROPSAMMENTS - TAILINGS

Drainage class: well to poor depending on disturbance regime

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type X Yes No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| 0-4 | A | | ∅ | ∅ | |
| 5-12 | B | 7.5YR/4/4 | 7.5YR 5/3 | faint, few | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks:

Alluvial deposit of fine sand, loam deposit
Soil moist @ 12, saturated @ 14"

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | |
| Wetland Hydrology Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Hydric Soils Present | (Yes) | No | |

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | | | County: | BUTTE |
| Investigator: | JODY GALLAWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | | (yes) | | Community ID: | WF03 |
| Is the site significantly disturbed (Atypical Situation)? | | | (no) | Transect ID: | upland |
| Is the area a potential Problem Area? | | | (no) | Plot ID: | 404 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Ca. rose | shrb | UP | 9. | (5) | | |
| 2. | ~~Hesperocnide tenella~~ | ~~herb~~ | ~~UP~~ | 10. | | | |
| 3. | | | | 11. | | | |
| 4. | Urtica dioica | herb | FACW | 12. | (10) | | |
| 5. | Vicia americana | | FAC U | 13. | (10) | | |
| 6. | Bromus hordeaceus | | UP | 14. | (50) | | |
| 7. | Artemisia douglasiana | | FAC + | 15. | (5) | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 10%

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>____ Inundated (nearby)<br>____ Saturated in Upper 12 inches<br>____ Water Marks<br>____ Drift Lines<br>____ Sediment Deposits<br>____ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>____ Oxidized Root Channels in Upper 12 inches<br>____ Water-Stained Leaves<br>____ Local Soil Survey Data<br>____ FAC-Neutral Test<br>____ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |
| Remarks: none | |

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____ _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type __Yes __No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks:

Wetland Determination

Hydrophytic Vegetation Present Yes (No)
Wetland Hydrology Present Yes (No)
Hydric Soils Present Yes (No)

Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | | | County: | BUTTE |
| Investigator: | JODY GALLAWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | | (yes) | | Community ID: | WF04 |
| Is the site significantly disturbed (Atypical Situation)? | | | (no) | Transect ID: | upland |
| Is the area a potential Problem Area? | | | (no) | Plot ID: | use w04 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | | | | 9. | | | |
| 2. | | | | 10. | | | |
| 3. | | | | 11. | | | |
| 4. | | | | 12. | | | |
| 5. | | | | 13. | | | |
| 6. | | | | 14. | | | |
| 7. | | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ).

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>____ Inundated (nearby)<br>____ Saturated in Upper 12 inches<br>____ Water Marks<br>____ Drift Lines<br>____ Sediment Deposits<br>____ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>____ Oxidized Root Channels in Upper 12 inches<br>____ Water-Stained Leaves<br>____ Local Soil Survey Data<br>____ FAC-Neutral Test<br>____ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |
| Remarks: | |

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____ _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type __Yes __No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks:

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | Yes | No | |
| Wetland Hydrology Present | Yes | No | Is this Sampling Point Within a Wetland? Yes No |
| Hydric Soils Present | Yes | No | |

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/2005 |
| Application/Owner: | VAULT-WIDE | | | County: | BUTTE |
| Investigator: | JOY GALLOWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | (yes) | | | Community ID: | WF05 |
| Is the site significantly disturbed (Atypical Situation)? | | (no) | | Transect ID: | (OPEN WATER) |
| Is the area a potential Problem Area? | | (no) | | Plot ID: | |

VEGETATION

NO UPLAND SAMPLE

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Lemna sp | herb | OBL | 9. | | | |
| 2. | Potamogeton sp | herb | OBL | 10. | | | |
| 3. | | | | 11. | | | |
| 4. | Pond Margin | | | 12. | | | |
| 5. | | | | 13. | | | |
| 6. | Echinochloa crusgalli | herb | OBL | 14. | | | |
| 7. | Paspalum distichum | herb | OBL | 15. | | | |
| 8. | Cyperus esculentus | herb | FACW | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 100%

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

x Recorded Data (Describe in Remarks):
- Stream, Lake or Tide Gauge
- X Aerial Photographs
- Other (Soil Survey)
- No Recorded Data Available

Field Observations:
- Depth of Water Surface: 7/12 ~~(in.)~~ feet
- Depth of Free Water in Pit: ___ (in.)
- Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- X Inundated (nearby)
- X Saturated in Upper 12 inches
- X Water Marks
- X Drift Lines
- X Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: POND

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____ _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type ___ Yes ___ No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
_ High Organic Content in Surface layer in Sandy Soils
___ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: hydric soils assumed

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | |
| Wetland Hydrology Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Hydric Soils Present | (Yes) | No | |

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | |
|---|---|---|---|
| Project/Site: | RIVERFRONT | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | County: | BUTTE |
| Investigator: | JAY GALLAWAY | State: | CA |

| | | | | |
|---|---|---|---|---|
| Do Normal Circumstances exist on the site? | (yes) | | Community ID: | WF06 |
| Is the site significantly disturbed (Atypical Situation)? | (YES) | no | Transect ID: | SEASONAL WETLAND - |
| Is the area a potential Problem Area? | | (no) | Plot ID: | W03 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Vitis californica | herb | FACW | 9. | (15) | | |
| 2. | Salix [illegible] | shrub | FACW | 10. | (30) exigea | | |
| 3. | Salix [illegible] | shrub | FACW | 11. | (25) laevigata | | |
| 4. | Populus fremontii | d-shrb | FAC+ | 12. | (25) | | |
| 5. | | | | 13. | | | |
| 6. | | | | 14. | | | |
| 7. | | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ).

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>____ Inundated (nearby)<br>____ Saturated in Upper 12 inches<br>____ Water Marks<br>____ Drift Lines<br>____ Sediment Deposits<br>____ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>____ Oxidized Root Channels in Upper 12 inches<br>____ Water-Stained Leaves<br>____ Local Soil Survey Data<br>____ FAC-Neutral Test<br>____ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: __ (in.)<br>Depth of Free Water in Pit: __ (in.)<br>Depth to Saturated Soil: __ (in.) | |

Remarks: NO standing water @ time of survey, saturation assumed

SOILS

Map Unit Name
(Series and Phase): 118 XEROPSAMMENTS - TAILINGS

Drainage class: well to poor depending on disturbance regime

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type [X] Yes [ ] No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | large cobble |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks:
hydric soils assumed based on veg.
large cobble - borrow pit 10-12 feet deep

Wetland Determination water may perk relatively quickly

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | |
| Wetland Hydrology Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Hydric Soils Present | (Yes) | No | |

Remarks:
SITE IS SIGNIFICANTLY DISTURBED DUE TO PAST GRAVEL EXCAVATIONS, SITE IS A BORROW PIT.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | |
|---|---|---|---|
| Project/Site: | RICE FRONT | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | County: | BUTTE |
| Investigator: | JOY GALLAWAY | State: | CA |

| | | | | |
|---|---|---|---|---|
| Do Normal Circumstances exist on the site? | (yes) | | Community ID: | WF07 |
| Is the site significantly disturbed (Atypical Situation)? | YES | no | Transect ID: | seasonal wetland |
| Is the area a potential Problem Area? | | (no) | Plot ID: | W02 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Vitis californica | herb | FACW | 9. | (10) | | |
| 2. | Salix [illegible] | shrub | FACW | 10. | (50) exigua | | |
| 3. | Salix [illegible] | shrub | FACW | 11. | (30) laevigata | | |
| 4. | Robinia pseudo- | shrub | | 12. | (10) | | |
| 5. | acacia | | NL | 13. | | | |
| 6. | | | | 14. | | | |
| 7. | | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ).

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>___ Inundated (nearby)<br>___ Saturated in Upper 12 inches<br>___ Water Marks<br>___ Drift Lines<br>___ Sediment Deposits<br>___ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>___ Oxidized Root Channels in Upper 12 inches<br>___ Water-Stained Leaves<br>___ Local Soil Survey Data<br>___ FAC-Neutral Test<br>___ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |

Remarks: NO STANDING WATER @ time of survey – soil saturation assumed.

SOILS

Map Unit Name
(Series and Phase): 118 XEROPSAMMENTS - TAILINGS

Drainage class: well to poor

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type X Yes __ No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | large cobble |
| | | | | | w/ sandy substrate |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks:

hydric soils assumed

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Wetland Hydrology Present | (Yes) | No | |
| Hydric Soils Present | (Yes) | No | |

Remarks:

site significantly disturbed by past gravel extraction; site is a deep borrow pit

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | |
|---|---|---|---|
| Project/Site: | RIVERFRONT | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | County: | BUTTE |
| Investigator: | JOY GOLDEN | State: | CA |

| | | | | |
|---|---|---|---|---|
| Do Normal Circumstances exist on the site? | (yes) | | Community ID: | WF06 |
| Is the site significantly disturbed (Atypical Situation)? | (YES) | no | Transect ID: | UPLAND |
| Is the area a potential Problem Area? | | (no) | Plot ID: | WSE V02 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | | | | 9. | | | |
| 2. | | | | 10. | | | |
| 3. | | | | 11. | | | |
| 4. | | | | 12. | | | |
| 5. | | | | 13. | | | |
| 6. | | | | 14. | | | |
| 7. | | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ).

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>____ Inundated (nearby)<br>____ Saturated in Upper 12 inches<br>____ Water Marks<br>____ Drift Lines<br>____ Sediment Deposits<br>____ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>____ Oxidized Root Channels in Upper 12 inches<br>____ Water-Stained Leaves<br>____ Local Soil Survey Data<br>____ FAC-Neutral Test<br>____ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |
| Remarks: | |

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type ___ Yes ___ No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
_ High Organic Content in Surface layer in Sandy Soils
___ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

Wetland Determination

| | | |
|---|---|---|
| Hydrophytic Vegetation Present | Yes | No |
| Wetland Hydrology Present | Yes | No |
| Hydric Soils Present | Yes | No |

Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | |
|---|---|---|---|
| Project/Site: | RIVERFRONT | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | County: | BUTTE |
| Investigator: | JODY GALLAWAY | State: | CA |

| | | | | |
|---|---|---|---|---|
| Do Normal Circumstances exist on the site? | (yes) | | Community ID: | WF07 |
| Is the site significantly disturbed (Atypical Situation)? | YES | no | Transect ID: | UPLAND |
| Is the area a potential Problem Area?: | | (no) | Plot ID: | U02 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Bromus hordeaceus | herb | up | 9. | 25 | | |
| 2. | Bromus diandrus | herb | up | 10. | 25 | | |
| 3. | Bromus madritensis | herb | up | 11. | 25 | | |
| 4. | Lupinus bicolor | herb | up | 12. | 25 | | |
| 5. | | | | 13. | | | |
| 6. | | | | 14. | | | |
| 7. | | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 0

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>____ Inundated (nearby)<br>____ Saturated in Upper 12 inches<br>____ Water Marks<br>____ Drift Lines<br>____ Sediment Deposits<br>____ Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>____ Oxidized Root Channels in Upper 12 inches<br>____ Water-Stained Leaves<br>____ Local Soil Survey Data<br>____ FAC-Neutral Test<br>____ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |
| Remarks: NONE | |

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____ _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type __Yes __No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks: Cobble / gravel - Area highly disturbed due to gravel extraction.

Wetland Determination

| | | |
|---|---|---|
| Hydrophytic Vegetation Present | Yes | No |
| Wetland Hydrology Present | Yes | No |
| Hydric Soils Present | Yes | No |

Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Atypical - highly disturbed area due to past gravel extraction

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | |
|---|---|---|---|
| Project/Site: | RIVERFRONT | Date: | 4/7/05 |
| Application/Owner: | VALLI-WIDE | County: | BUTTE |
| Investigator: | JODY GALLOWAY | State: | CA |

| | | | | |
|---|---|---|---|---|
| Do Normal Circumstances exist on the site? | (yes) | | Community ID: | WF08 |
| Is the site significantly disturbed (Atypical Situation)? | | (no) | Transect ID: | seasonally WET |
| Is the area a potential Problem Area? | | (no) | Plot ID: | W06 |

VEGETATION

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Lolium multiflorum | herb | FAC | 9. | (25) | | |
| 2. | Salix | shrub | FAC | 10. | (10) | | |
| 3. | Rubus discolor | | FAC | 11. | (25) | | |
| 4. | Cyperus eseulentus | | FACW | 12. | (10) | | |
| 5. | Polygonum hydropiper | herb | OBL | 13. | (30) | | |
| 6. | | | | 14. | | | |
| 7. | | | | 15. | | | |
| 8. | | | | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 100%

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

| | |
|---|---|
| x Recorded Data (Describe in Remarks):<br>Stream, Lake or Tide Gauge<br>x Aerial Photographs<br>Other (Soil Survey)<br>No Recorded Data Available | Wetland Hydrology Indicators:<br>Primary Indicators:<br>X Inundated (nearby)<br>X Saturated in Upper 12 inches<br>X Water Marks<br>X Drift Lines<br>X Sediment Deposits<br>X Drainage Patterns in Wetlands<br>Secondary Indicators (2 or more required):<br>___ Oxidized Root Channels in Upper 12 inches<br>___ Water-Stained Leaves<br>___ Local Soil Survey Data<br>___ FAC-Neutral Test<br>___ Other (Explain in Remarks) |
| Field Observations:<br>Depth of Water Surface: ___ (in.)<br>Depth of Free Water in Pit: ___ (in.)<br>Depth to Saturated Soil: ___ (in.) | |
| Remarks: | |

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____ _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type __ Yes __ No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
_ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
_ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks: hydric soils assumed

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | |
| Wetland Hydrology Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Hydric Soils Present | (Yes) | No | |

Remarks:

seasonal wetland boundary surrounding pond
varies given precip levels

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | RIVERFRONT | | | Date: | 4/7/05 |
| Application/Owner: | VARI-WIDE | | | County: | BUTTE |
| Investigator: | JOEY GALLOWAY | | | State: | CA |
| Do Normal Circumstances exist on the site? | (yes) | | | Community ID: | WF09 |
| Is the site significantly disturbed (Atypical Situation)? | | (no) | | Transect ID: | (OPEN WATER) |
| Is the area a potential Problem Area? | | (no) | | Plot ID: | |

VEGETATION

NO UPLAND SAMPLE

| | Dominant Plant Species | Stratum | Indicator | | Dominant Plant Species | Stratum | Indicator |
|---|---|---|---|---|---|---|---|
| 1. | Lemna sp | | OBL | 9. | | | |
| 2. | | | | 10. | | | |
| 3. | | | | 11. | | | |
| 4. | | | | 12. | | | |
| 5. | Pond Margin | | | 13. | | | |
| 6. | Salix sp | | FAC | 14. | | | |
| 7. | Cyperus esculentus | | FACW | 15. | | | |
| 8. | Rubus discolor | | FAC+ | 16. | | | |

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC - ). 100% OBL w/in Pond (OHWM)

Remarks: Percent dominance shown in parentheses.

HYDROLOGY

x Recorded Data (Describe in Remarks):
- Stream, Lake or Tide Gauge
- x Aerial Photographs
- Other (Soil Survey)
- No Recorded Data Available

Field Observations:
- Depth of Water Surface: ___ (in.)
- Depth of Free Water in Pit: ___ (in.)
- Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- X Inundated (nearby)
- X Saturated in Upper 12 inches
- X Water Marks
- X Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase): _____

Drainage class: _____

Taxonomy (Subgroup): _____ Field Observations

Confirm Mapped Type Yes No

Profile Description:

| Depth (inches) | Horizon | Matrix Color (Munsell Moist) | Mottle Colors (Munsell Moist) | Mottle Abundance/Contrast | Texture, Concretions Structures, etc. |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hydric Soil Indicators:

__ Histosol
__ Histic Epipedon
__ Sulfidic Odor
__ Aquic Moisture Regime
__ Reducing Conditions
__ Gleyed or Low-Chroma Colors
__ Concretions
__ High Organic Content in Surface layer in Sandy Soils
__ Organic Streaking in Sandy Soils
__ Listed on Local Hydric Soils List
__ Listed on National Hydric Soils List
__ Other (Explain in Remarks)

Remarks: hydric soils assumed

Wetland Determination

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present | (Yes) | No | |
| Wetland Hydrology Present | (Yes) | No | Is this Sampling Point Within a Wetland? (Yes) No |
| Hydric Soils Present | (Yes) | No | |

Remarks:

# Attachment A

Electronic Copy of Report on CD