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**APPENDIX D5**  
**Aquatic Resource Delineation Report**

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Aquatic Resource Delineation Report for  
The District at Jurupa Valley Project Site  
Jurupa Valley, California

Prepared for  
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June 9, 2023

A handwritten signature in black ink that reads "Gerry Scheid".

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A handwritten signature in black ink that reads "JR Sundberg".

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## Acronyms and Abbreviations

APT	Antecedent Precipitation Tool
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
GPS	global positioning system
NWI	National Wetland Inventory
OHWM	ordinary high water mark
Review Area	The District at Jurupa Valley Project Site
RWQCB	Regional Water Quality Control Board
SR-60	State Route 60
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geographic Survey



## 1.0 Site Description and Landscape Setting

The District at Jurupa Valley project site (Review Area) is located within the city of Jurupa Valley of the county of Riverside, California (Figure 1; all figures referenced in this report are located in Attachment 1). The Review Area is located within a portion of the Jurupa (Rubidoux) Land Grant area on the U.S. Geological Survey (USGS) 7.5-minute topographical maps Fontana and Riverside West, California quadrangles (Figure 2). The Review Area lies to the south of State Route 60 (SR-60), north of 34th Street, and east of Rubidoux Boulevard at approximately 34.0 decimal degrees latitude and -117.39 decimal degrees longitude (Figure 3). The Santa Ana River is located immediately to the east of the Review Area.

The approximately 248.3-acre Review Area is currently undeveloped with smaller developed parcels within its boundaries. Topographically, the Review Area consists of a flat area that slopes off to the southeast towards the Santa Ana River with an elevated area in the northern part near 30th Street and Hall Avenue. Berms that separate portions of the site and re-direct surface runoff are present (see Figure 3). The berms generally contain flows and direct the flows in the shortest direction to drain into the Santa Ana River. The eastern portion of the site adjacent to the Santa Ana River is designated as being an "Area with reduced Flood Risk Due to Levee" (Zone X) as mapped by the Federal Emergency Management Agency (FEMA 2022). The remainder of the site is designated as "Area of Minimal Flood Hazard" (Zone X).

The majority of the Review Area is actively maintained and is devoid of significant vegetation. Areas that have the most vegetation are associated with the lower portion of the Jurupa Ditch and the plant species are comprised of predominantly non-native annual and perennial species.

The Jurupa Ditch is a man-made irrigation canal and is managed through the Jurupa Ditch Company (JDC), a California corporation that falls under California Corporations Code Section 14300, giving it the same status as a mutual water company. The JDC was formed in 1902 to "take, acquire, appropriate, buy, own, hold and lease water, water rights and privileges for the purposes of delivering water to the stockholders for irrigation and domestic use..." The JDC has a right to delivery of 300 inches of water (approximately 5000 acre-feet of water per year) at the "mouth of the ditch," which has been deemed to occur at the JDC intake structure upstream of the project area. That delivery is controlled by the JDC for ultimate delivery to shareholders that are located along the Jurupa Ditch.

Historically, the Jurupa Ditch has continued to supply water to its shareholders and to the Louis Rubidoux Nature Center. However, itinerant communities along the Jurupa Ditch have illegally accessed the Jurupa Ditch and water losses have been documented. The JDC has now received grant funds to improve delivery of water to its shareholders and the project scope includes putting as much of the Jurupa Ditch underground as possible. The grant funds must be used by 2026. As part of the infrastructure improvements planned by JDC, water will be supplied at Sunnyslope Creek, for use as habitat uptake or for aquatic resources.

The applicant will accompany the U.S. Army Corps of Engineers (USACE) on all site visits. The applicant has requested that the USACE contact the applicant prior to visiting the site. The contact information for the applicant is:

Property Owner: EM Ranch Owner LLC  
484 S. San Vicente Blvd.  
Los Angeles, CA 90048

Applicant: EM Ranch Owner LLC

Primary Contact: Jennifer Brooks

Telephone: (949) 922-2456

## 2.0 Site Alterations, Current and Past Land Use

This area has been altered by small developments and past and current land use activities that maintain the vegetation within the Review Area. These past and current property maintenance activities have altered the soil surface and native vegetation. Presently, clearing, mowing, and disking of the remaining vegetation occurs periodically. Some dirt paths and paved roads cross the site allowing access for limited off-road vehicle activity.

The Review Area is bisected by Wallace Street and a portion of 30th Street and Hall Avenue cross the site in the northwest corner. Small inclusions of developed parcels occur within the Review Area.

A man-made agricultural ditch was excavated on the site decades ago and is still present. The Jurupa Ditch is a perennial ditch that is used to provide water for irrigation purposes. Water is pumped into the ditch from a well located to the north of SR-60. The northern half of the on-site portion of the ditch is underground within a pipe that is located within an embankment. The Jurupa Ditch is above ground, near the center of the site where the pipe reaches the surface and empties into a concrete-lined v-ditch (Photographs 1–3; all photographs referenced in this report are located in Attachment 5). This concrete v-ditch becomes an earthen channel a short distance to the south (Photographs 4 and 5) where it remains as such until it leaves the site.

A second drainage channel enters the Review Area near the northeast corner via a large box culvert under SR-60 (Photographs 6–8). The channel goes underground into pipes until it surfaces at a road culvert (Photograph 9) and enters an earthen channel between two berms that drains to the southwest (see Figure 3; Photograph 10). The channel veers to the southeast near its southern terminus and eventually discharges into the Santa Ana River located off-site and beyond the river levee (Photograph 11).

## 2.1 Soils

Information on the soil types sampled in the Review Area is summarized from the Soil Survey for Western Riverside Area California (U.S. Department of Agriculture 1971) and Hydric Soils list obtained from the Natural Resource Conservation Service (2014).

Eight soil types are mapped on the Review Area: Delhi fine sand, Dello loamy sand, Grangeville loamy fine sand, Greenfield sandy loam, Ramona sandy loam, Tujunga loamy sand and gravelly loamy sand, Terrace escarpments, and Riverwash soils (Figure 4; Table 1; all tables referenced in this report are located in Attachment 2). Ramona sandy loam and Tujunga sandy loam are represented by two soil mapping units.

Three of these soil types appear on the hydric soils list when special conditions exist: Delhi fine sand, Dello loamy sand, and Riverwash. Delhi fine sand can exhibit hydric soil indicators when found within in depressions that are frequently ponded. Dello loamy sand mapping unit can exhibit hydric indicators when found on floodplains and has components that belong in the Aquic suborder. Riverwash can exhibit hydric indicators within channels when frequently ponded and the mapping unit can contain Aquic components. However, none of these special conditions are present on-site and thus no hydric soils are considered to be present.

There is some observable evidence that the soils on the site were disturbed in the past. Soil surface variations can be observed where the ground was compacted, berms were constructed, existing dirt roads/paths, and where vegetation clearing has taken place. Trash and other debris is common on the surface and below the soil surface throughout the site.

## 2.2 Hydrology

The natural hydrology of the Review Area is largely intact (i.e., primary inputs remain seasonal precipitation) and consists of storm water runoff. Features that have altered the hydrology of the site include the man-made Jurupa Ditch and associated embankment, other berms, and existing paved and dirt roads, all of which may impede surface sheet flows that may occur after heavy rainfall events, although ponding is unlikely due to the rapid drainage of most of the site. The mostly man-made earthen channel on the eastern portion of the site directs surface flows to the southeast towards the Santa Ana River. Flows within the Jurupa Ditch are supplied by pumping well water from off-site to the north.

## 2.3 Vegetation

The Review Area is devoid of significant areas of native vegetation. As noted above, the Review Area is mostly devoid of vegetation and where vegetation occurs it is dominated by non-native plants comprised of exotic annual and perennial grasses and weeds. Scattered remnant individuals of native plant species occur sporadically across the site, but in relatively low numbers.

## 2.4 Past Land Use

Based on review of historic aerials, the Review Area has been subject to a variety of past land uses including livestock paddocks, horse racing, irrigated agriculture, residential, flood control, and dumping. The two stream channels appear to have existed on site since records exist, although some historical hydrological alterations include the construction of flood control levies along the Santa Ana River and across the Review Area along smaller drainages. The construction of SR-60 during the 1960s fixed the location of the inlet of an ephemeral drainage to the culvert undercrossing.

## 3.0 Climate and Typical Year Analysis

The general climate for the region that contains the Review Area is discussed below in Section 3.1. In addition, a Typical Year Analysis was conducted using the Antecedent Precipitation Tool (APT). The results of this analysis along with a general discussion of the hydrology of the Review Area is provided below in Section 3.2.

### 3.1 Climate and Growing Season

Southern California climate is characterized as a Mediterranean climate that is typically comprised of a cool winter, a mild spring and fall, and a hot summer. Average annual air temperature is 63 degrees Fahrenheit. The growing season is nearly year-round, with optimal conditions lasting for approximately 32 to 44 weeks (USDA 1971).

### 3.2 Wetland Hydrology and Typical Year Analysis

The Review Area contains a man-made irrigation ditch (Jurupa Ditch) and a mostly channelized drainage channel. The source of the water for the Jurupa Ditch is from a well located to the north of SR-60. The source of water for the other drainage channel is primarily from natural rainfall flows from north of the site and local runoff from the surrounding land. The Jurupa Ditch drains off-site to the southwest and the other drainage channel drains into the Santa Ana River which is located off-site to the east.

The Typical Year analysis involved the APT, which was used to analyze the 30-day rolling total and the 30-year normal range of precipitation data for the nearest recording weather stations to the Review Area. The analysis was run for the date when field observations and data used in this delineation were collected. The date (December 17, 2021) occurred during the wet season. The data presented in the APT results graphic is provided in Attachment 3.

As indicated from the APT results, data collection for the delineation occurred during a Typical Year as the Antecedent Condition Calculation indicated normal conditions. The drought index for December 2021 was characterized as extreme drought. However, recent rainfall events earlier in the month improved local conditions to normal when considering the 30-year normal range of precipitation.

## 4.0 Investigation Methods

A routine aquatic resource delineation, following the guidelines set forth by USACE (1987, 2008a, 2008b), was performed on December 17, 2021 to gather field data for potential aquatic resource features in the Review Area. RECON Environmental, Inc. biologist JR Sundberg conducted the aquatic resource delineation fieldwork.

## 4.1 Wetland Parameters

### 4.1.1 Hydrophytic Vegetation

The Review Area was surveyed by walking throughout the site and recording observations of those areas exhibiting characteristics of wetland or non-wetland waters. Vegetation units with potential wetlands were evaluated, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on USACE ordinary high water mark (OHWM) datasheet's provided in the 2008 Arid Supplement (USACE 2008a). The percent absolute cover of each species present was visually estimated and recorded.

The wetland indicator status of each species recorded at a sample point was determined by using the list of wetland plants for California provided by USACE (2018). Plant species nomenclature follows that contained in the Jepson eFlora (Jepson Flora Project 2021). Dominant species with an indicator status of "NI" (not indicated) or not listed in the USACE 2018 list were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats that are characteristic in southern California.

### 4.1.2 Hydric Soils

Sample points were selected within potential wetland areas and where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation and topography. Soil pits were dug to a depth of at least 12 to 18 inches to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (e.g., mottling, gleying, and sulfidic odor).

### 4.1.3 Wetland Hydrology

The presence of wetland hydrology indicators confirm that inundation or saturation has occurred on a site, but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (USACE 2008a).

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrologic indicators in the field. The wetland hydrology criterion is considered fulfilled at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface at some time during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample point, the sample point indicates the presence of wetland hydrology.

## 4.2 Pre-Field Review

Prior to conducting the delineation, aerial photographs and USGS topographic maps of the site were examined and areas of potential interest with respect to the presence of jurisdictional waters were preliminarily noted. A map with an overlay of the National Wetland Inventory (NWI) data for the Review Area was also reviewed (Figure 5).

## 4.3 On-site Wetland Investigation

Once on-site, potential wetland and non-wetland waters within the Review Area were evaluated according to regulatory guidance and methodology stated earlier in this report and their extent delineated. Data sheet information is provided in Attachment 4: Wetland Determination Data Forms. Drainages were assessed for an OHWM using the Arid West Ephemeral and Intermittent Streams OHWM Datasheet (USACE 2008b).

## 5.0 Description of All Wetlands and Other Non-wetland Waters

The aquatic resource features delineated within the Review Area as part of this study do not support a predominance of hydrophytic vegetation, nor have indicators of hydric soils, and have mostly secondary indicators of wetland hydrology. A summary of the aquatic resources and location of these resources in relation to the Review Area boundary are provided in Table 2 and on Figure 6, respectively.

### 5.1 Wetlands

No areas were identified on the site that meet the three criteria for a wetland per the USACE guidelines (USASCE 1987, 2008a). Wetland Determination Data Forms were completed for six sample locations across the site (Attachment 4). Sample locations were selected based on proximity to a channel, low landscape position, or the presence of distinct vegetation. Two of the sample locations exhibited hydrophytic vegetation but they were disturbed and dominated by non-native species.

Soil pits were dug at each of the six sample locations. None of the pits had features which met the criteria for any accepted hydric soil indicators. Although some redox features were observed at Sample Point 5 (see Attachment 4), it did not meet the criteria of the depleted matrix indicator because the redox feature occurred too deep and were insufficient in density for the fine soil texture. No dark surface or gleyed matrix features were observed in any soil pit.

Wetland hydrology indicators were lacking at most sample locations. Secondary indicators such as sediment and drift deposits were the most common. The only sample location with wetland hydrology indicators was sample point 5, which is associated with the artificial hydrology of the Jurupa Ditch. Three other sample points only had one secondary hydrology indicator and were not considered to have wetland hydrology, as two secondary indicators are required.

## 5.2 Non-wetland Waters

Two non-wetland water features were delineated within the Review Area: the reach of the Jurupa Ditch that is exposed on the ground surface and an unnamed drainage channel within the eastern portion of the site. Both of these features exhibited an OHWM, which indicates some level of water flow recurring on a regular interval. The Jurupa Ditch can be characterized as perennial due to the consistent flows provided by well water pumped from off-site to the north. The eastern drainage channel appears to be ephemeral, flowing only after seasonal precipitation events. This drainage has a physical connection to the Santa Ana River at the southeastern edge of the site. Indicators of hydrology observed included sediment deposits and drift deposits.

## 6.0 Deviation from National Wetland Inventory

The aquatic resources delineated within the Review Area generally coincide with the NWI overlay. The NWI characterizes the Jurupa Ditch and other drainage channel as riverine. Deviations from the NWI mapping occur along the eastern drainage course which has been altered by having portions placed underground and establishment of a channel extension at the southern end of the drainage that allows water to enter the Santa Ana River off-site to the east.

## 7.0 Mapping Method

The maps of the delineated aquatic resources within the Review Area are based on the use of recent aerial photography, topographic maps, and Global Position System (GPS) data. Aerial photography taken in September 2021 were all reviewed with respect to the pre-survey analysis and for the location of the delineated features. The boundary of each aquatic resource was determined by a combination of the following: (1) a distinct change in topographic elevation that defined the edges; (2) by the extent of the hydrophytic vegetation and observed wetland hydrology (i.e., ponded water), and using the information gathered for the upland sample nearest the particular feature. GPS data, collected at sub-meter resolution during the on-site delineation, was then gathered to delineate the boundary of the particular jurisdictional water feature in the field. GIS mapping software (ArcMap) was used to produce the graphical maps contained in this report.

## 8.0 Potential Jurisdictional Waters

This section provides a discussion of the potential for on-site aquatic resources to be considered waters under the jurisdiction of three agencies: USACE, Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). The regulatory framework of each agency is discussed below.

## 8.1 Regulatory Framework

### 8.1.1 Waters of the U.S.

In accordance with Section 404 of the Clean Water Act (CWA), USACE regulates the discharge of dredged or fill material into waters of the U.S. The definition of waters of the U.S. is currently being revised by the USACE and in the interim the pre-2015 definition is to be used.

Per the Federal Register (40 Code of Federal Regulations 230.3[s]):

The term waters of the United States means:

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:
  - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.



## 8.1.2 Waters of the State

The California State Water Resource Control Board regulates Waters of the State per the Porter–Cologne Water Quality Control Act, which protects water quality and the beneficial uses of water. Compliance with the Porter-Cologne Act Water Quality Control Act is required to obtain a CWA Section 401 certification. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code Section 13050[e]). Waters of the State include all waters of the U.S., all surface waters that are not waters of the U.S., groundwater, and territorial seas.

## 8.1.3 California Fish and Game Code

Pursuant to Section 1602 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW jurisdiction extends to riparian habitats associated with watercourses. A Streambed Alteration Agreement (California Fish and Game Code Section 1602 et seq.) is required for impacts on jurisdictional resources, including streambeds and associated riparian habitat.

## 8.2 Potential USACE Waters of the U.S.

The location areas of that are potentially Waters of the U.S. within the Review Area include the non-wetland waters as shown in Figure 6.

The mapped aquatic resources have been numbered (Figure 6) and a summary of these features is provided in Table 2.

Jurupa Ditch (NWW-5 and NWW-6 in Figure 6; Table 2) appears to contain perennial flow based on the presence of algae and sediment sorting. It flows out of the Review Area to the northwest and eventually into the Santa Ana River, a Traditional Navigable Water. However, the source of the water is pumped groundwater along the Jurupa Ditch and is subject to sudden cessation of flow.

The eastern drainage (NNW-1 through 4 in Figure 6; Table 2) may be a tributary to the Santa Ana River and exhibits ephemeral water flow. This feature flows out of the Review Area south and eastward and into the Santa Ana River.

The extent of these two features within the Review Area totals 3.10 acres and 4,462 linear feet and could be considered Waters of the U.S. under the jurisdiction of the USACE (see Figure 6; Table 2). However, as the Jurupa Ditch appears to have been excavated in a historic upland area and conveys water used for agricultural purposes, it may be exempt as a water of the U.S. upon review by the USACE.

The disturbed riparian areas occurring along Jurupa Ditch would likely be excluded from USACE jurisdiction because they occur outside the active floodplain of any drainage and do not meet the USACE definition of a wetland.

## 8.3 Potential RWQCB Waters of the State

Wetland waters of the state is defined as follows (State Water Resources Control Board 2021):

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Non-wetland waters of the state include aquatic features considered to be a surface water within the boundaries of the state. These can include unvegetated streambeds that convey surface flows and their adjacent riparian areas.

All Waters of the U.S. described above fall within the CWA Section 401 authority of the RWQCB and may be considered Waters of the State. In addition, the RWQCB may exercise jurisdiction over the 1.43-acre disturbed riparian habitat along the Jurupa Ditch, as this area meets the hydrophytic vegetation criteria. Potential RWQCB jurisdiction within the Review Areas totals 1.43 acres of Wetland Waters of the State and 3.10 acres and 4,462 linear feet of Non-wetland Waters of the State. However, the Jurupa Ditch is used and is being maintained for agricultural purposes and therefore may be exempt as a water of the state upon review by the RWQCB.

## 8.4 Potential CDFW Jurisdictional Waters

Within the Review Area, areas potentially under the jurisdiction of CDFW include those Non-wetland Waters of the State and the disturbed riparian vegetation described above. These areas could be considered CDFW Streambed, and CDFW Riparian, respectively. Potential on-site CDFW jurisdiction totals 3.10 acres and 4,462 linear feet of CDFW streambed 1.43 acres of CDFW Riparian.

## 9.0 Results and Conclusions

Non-wetland waters and riparian areas were delineated within the Review Area. These features total 4.53 acres. Of this total, USACE could potentially take jurisdiction up to a total of 3.10 acres and 4,462 linear feet as (a)(2) tributary Waters of the U.S., the RWQCB could potentially take jurisdiction up to a total of 3.10 acres and 4,462 linear feet as Non-wetland Waters of the State and 1.43 acres of riparian as Wetland Waters of the State, and the CDFW could potentially take jurisdiction of a total of 3.10 acres and 4,462 linear feet as CDFW Streambed, and 1.43 acres as CDFW Riparian.

## 10.0 Disclaimer Statement

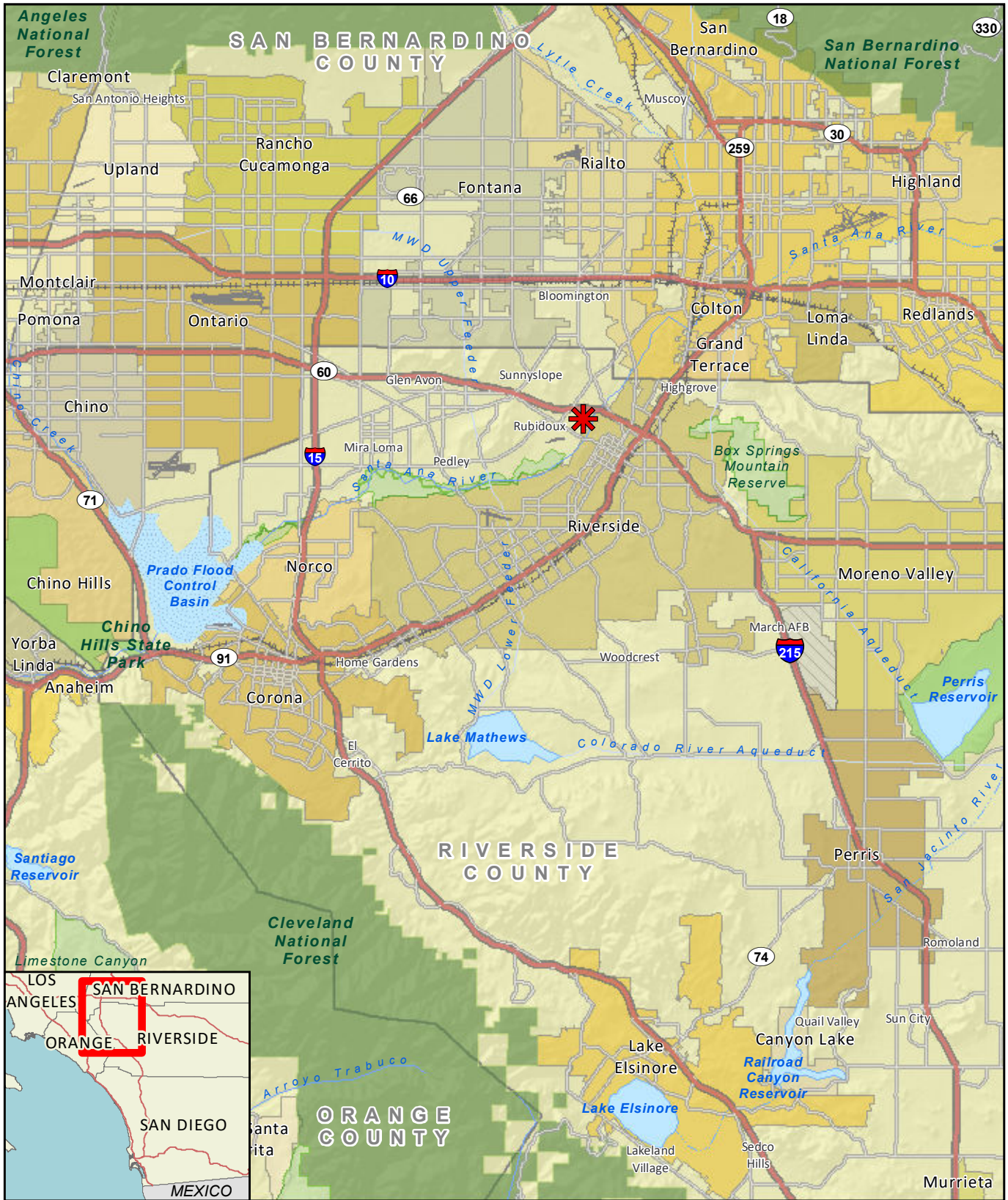
This report describes the results of an aquatic resource delineation conducted within the Review Area comprised of The District at Jurupa Valley project site. The aquatic resource delineation is used to identify and map the extent of the wetland and non-wetland waters as defined by the USACE. The purpose of this study was to identify and map the limits of any aquatic resource features to provide

necessary background information for analysis by USACE in making a jurisdictional determination. The USACE would review the content of this report and ultimately make a determination of federal jurisdiction for any waters of the U.S. that may be present in the Review Area. State agencies (i.e., RWQCB and CDFW) would also need to review the delineation report findings and a make a determination of jurisdiction.

## ATTACHMENTS

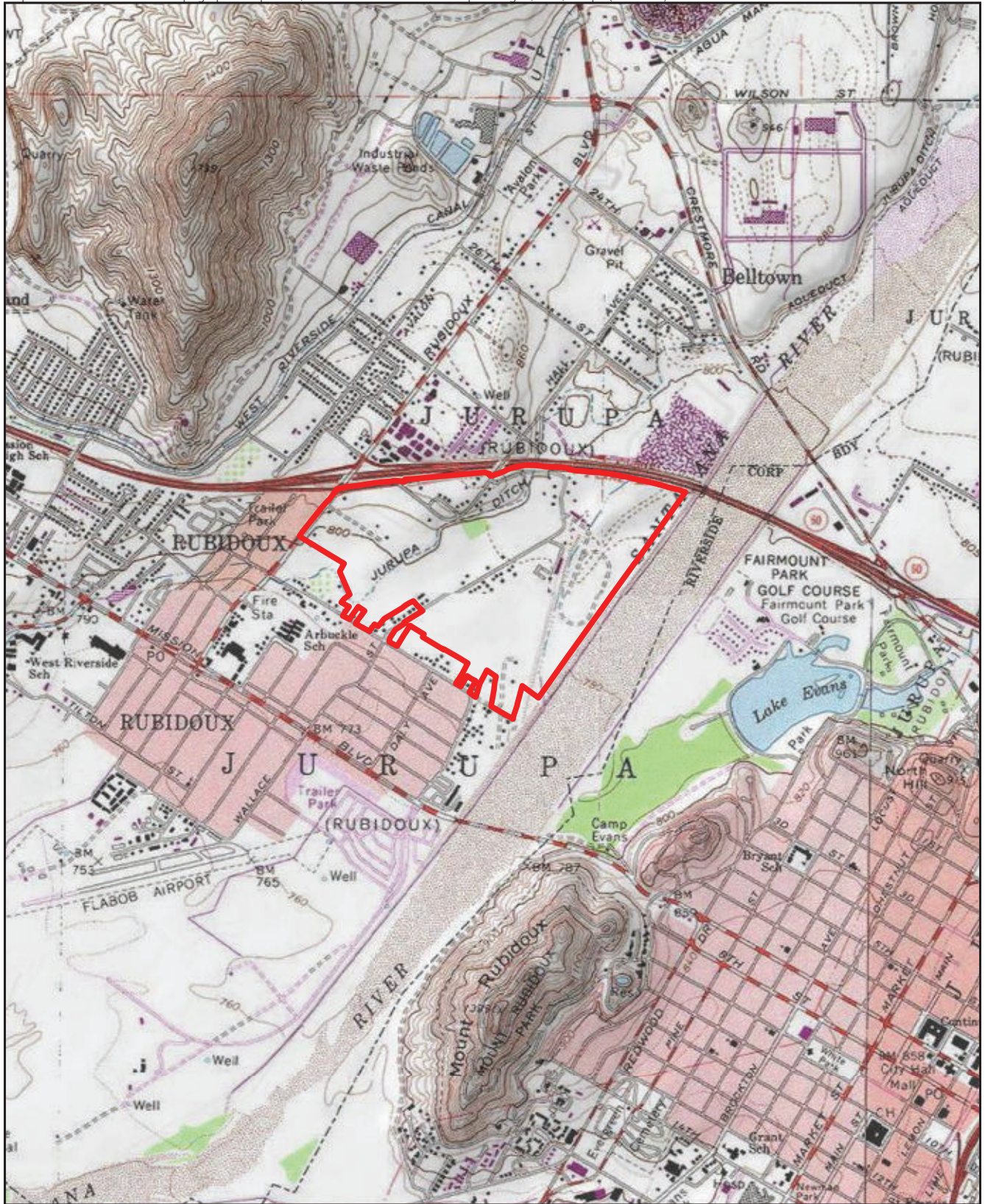
# ATTACHMENT 1

## Maps



 Project Location





 Review Area



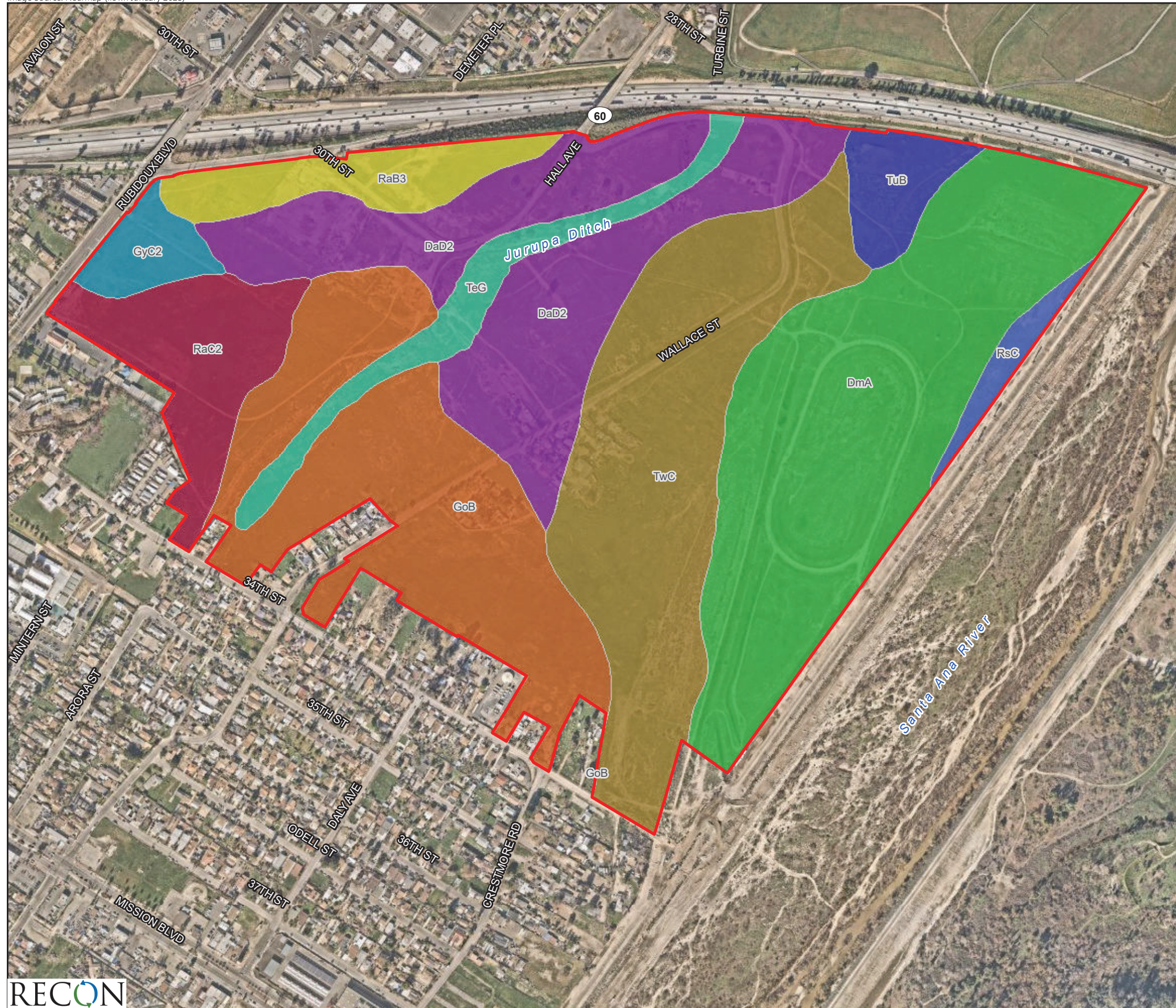


Review Area

Berm

FIGURE 3  
Project Location on Aerial Photograph





- Review Area
- Soil Survey Geographic Database (SSURGO) Soil Type (Web Soil Survey, NRCS 2022)**
- DaD2 | Delhi fine sand, 2 to 15 percent slopes, wind-eroded
- DmA | Dello loamy sand, poorly drained, 0 to 2 percent slopes
- GoB | Grangeville loamy fine sand, drained, 0 to 5 percent slopes
- GyC2 | Greenfield sandy loam, 2 to 8 percent slopes, eroded
- RaB3 | Ramona sandy loam, 0 to 5 percent slopes, severely eroded
- RaC2 | Ramona sandy loam, 5 to 8 percent slopes, eroded
- TuB | Tujunga loamy sand, 0 to 5 percent slopes
- TwC | Tujunga gravelly loamy sand, 0 to 8 percent slopes
- TeG | Terrace escarpments
- RsC | Riverwash



FIGURE 4  
Soil Types





- Review Area
- National Wetland Inventory Type**
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Riverine



FIGURE 5  
National Wetland Inventory Map





- Review Area
- Berm
- Wetland Determination Sample Point
- OHWM Transect
- USACE -RWQCB / CDFW**
- Non-wetland Waters (Waters ID)
- CDFW**
- Riparian

OHWM Transect		
#	Lat	Long
1	33.99767	-117.39124
2	34.00368	-117.38853
3	33.99957	-117.39960
4	34.00087	-117.39818
5	34.00164	-117.39689

Wetland Determination Sample Point		
#	Lat	Long
1	34.00457	-117.38740
2	34.00448	-117.38741
3	34.00027	-117.40027
4	33.99952	-117.39968
5	34.00129	-117.39757
6	34.00121	-117.39762



FIGURE 6  
Location of Aquatic Resources



## ATTACHMENT 2

### Tables

Table 1 Soils Present within the Review Area			
Map Unit	Soil Unit Name	Hydric Status, Landscape Position	Hydric Indicators
DaD2	Delhi fine sand, 2 to 15 percent slopes, wind-eroded	Yes, depressions	2, 3
DmA	Dello loamy sand, poorly drained, 0 to 2 percent slopes	Yes, floodplains	2
GoB	Grangeville loamy fine sand, drained, 0 to 5 percent slopes	No	None
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	No	None
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely eroded	No	None
RaC2	Ramona sandy loam, 5 to 8 percent slopes, eroded	No	None
TuB	Tujunganga loamy sand, 0 to 5 percent slopes	No	None
TwC	Tujunganga gravelly loamy sand, 0 to 8 percent slopes	No	None
TeG	Terrace escarpments	No	None
RsC	Riverwash	Channels	2, 4

SOURCE: NRCS 2014

2 = Map unit components in Aquic suborders, great groups, or subgroups; Albolls suborder; Historthels great group, Histoturbels great group; or Andic, Cumulic, Pachic, or Vitrandic subgroups that, based on the range of characteristics for the soil series, will at least in part meet one or more field indicators of hydric soils in the U.S. or show evidence that the soil meets the definition of a hydric soil.

3 = Map unit components that are frequently ponded for a long duration or very long duration during the growing season that, based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of hydric soils in the U.S. or show evidence that the soil meets the definition of a hydric soil.

4 = Map unit components that are frequently flooded for a long duration or very long duration during the growing season that, based on the range of characteristics for the soil series, will at least in part meet one or more field indicators of hydric soils in the U.S. or show evidence that the soils meet the definition of a hydric soil.

**Table 2**  
**Summary of Aquatic Resources**

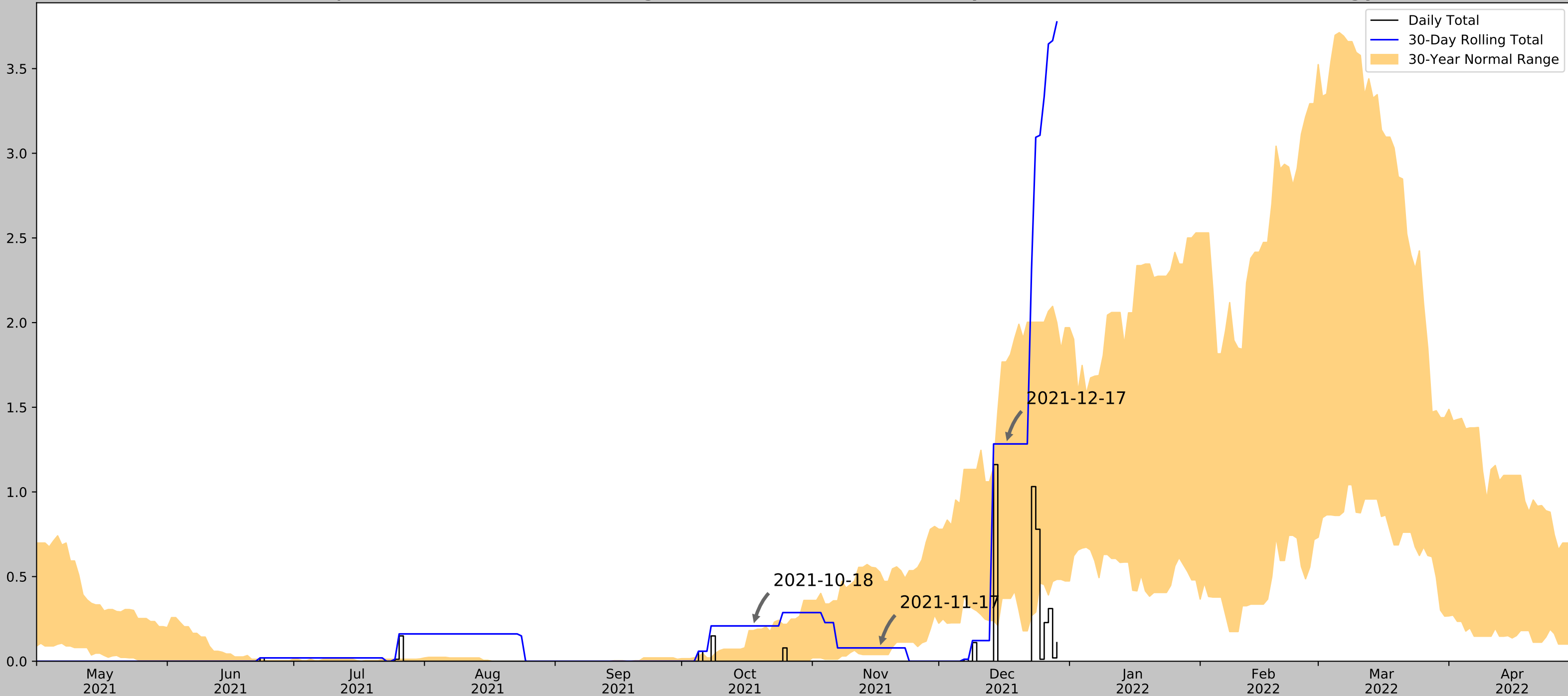
Waters ID	Cowardin Code	HGM Code	Area (acre)	Linear Feet	Waters Type	Latitude (dd NAD83)	Longitude (dd NAD83)	Local Waterway	Dominant Vegetation
NWW-1	R4	Riverine	0.22	574	NRPW	34.0	-117.39	Un-named drainage	<i>Sambucus nigra, Ricinus communis, Bromus diandrus, Populus fremontii</i>
NWW-2	R4	Riverine	0.011	75	NRPW	34.0	-117.39	Un-named drainage	Un-vegetated
NWW-3	R4	Riverine	0.024	52	NRPW	34.0	-117.39	Un-named drainage	Un-vegetated
NWW-4	R4	Riverine	2.58	2,216	NRPW	34.0	-117.39	Un-named drainage	Un-vegetated
NWW-5	R2	Riverine	0.015	184	RPW	34.0	-117.40	Jurupa Ditch	Un-vegetated (concrete v-ditch)
NWW-6	R2	Riverine	0.25	1,361	RPW	34.0	-117.40	Jurupa Ditch	Un-vegetated
Other									
Riparian	RP	Riverine	1.18	n/a	n/a	34.0	-117.40	Adjacent to Jurupa Ditch	<i>Arundo donax, Ricinus communis, Paspallum dialatum, Vitis girdiana</i>
R2 = Riverine perennial; R4 = Riverine intermittent; RP = Riparian; HGM = hydrogeomorphic; RPW= Relatively Permanent; Water NRPW = Non-Relatively Permanent Water; n/a = not applicable									

## ATTACHMENT 3

### Antecedent Precipitation Tool Graphic Results

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



Coordinates	34.0, -117.39
Observation Date	2021-12-17
Elevation (ft)	778.32
Drought Index (PDSI)	Extreme drought (2021-11)
WebWIMP H <sub>2</sub> O Balance	Wet Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-12-17	0.37126	1.767717	1.283465	Normal	2	3	6
2021-11-17	0.03937	0.526772	0.07874	Normal	2	2	4
2021-10-18	0.0	0.181102	0.208661	Wet	3	1	3
Result							Normal Conditions - 13

Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
RIVERSIDE MUNI AP	33.9519, -117.4386	805.118	4.336	26.798	2.067	8115	90
RIVERSIDE 3.9 NNE	33.9926, -117.3721	883.858	1.146	105.538	0.637	1	0
RIVERSIDE FIRE STN 3	33.9511, -117.3881	839.895	3.38	61.575	1.729	3180	0
RIVERSIDE CITRUS EXP	33.9669, -117.3614	985.892	2.813	207.572	1.85	53	0
RIVERSIDE 3.8 NW	33.9793, -117.4541	840.879	3.941	62.559	2.02	4	0



**ATTACHMENT 4**  
Wetland Field Data Forms

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

Project/Site: Rubidoux 9949.1 City/County: Jurupa Valley, Riverside Sampling Date: 2021 Dec 17  
 Applicant/Owner: E.M. Ranch Owner LLC State: CA Sampling Point: 1  
 Investigator(s): S.R. Sundberg Section, Township, Range: Jurupa Land Grant, Unsectioned  
 Landform (hillslope, terrace, etc.): Low terrace Local relief (concave, convex, none): Convex Slope (%): 2  
 Subregion (LRR): LRR-C Lat: 34.004566 Long: -117.387403 Datum: NAD 83  
 Soil Map Unit Name: Tujunga loamy sand TuB NWI classification: Canal/Ditch  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Near two storm drain channels, on a terrace at the confluence. Area disturbed by construction of ditches, roadway, and dumping. Area is not a wetland.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Sambucus nigra</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____				
Total Cover: <u>5</u>				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. <u>Ricinus communis</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species <u>10</u> x 4 = <u>40</u>
Total Cover: _____				UPL species <u>25</u> x 5 = <u>125</u>
				Column Totals: <u>35</u> (A) <u>165</u> (B)
				Prevalence Index = B/A = <u>4.71</u>
Herb Stratum				Hydrophytic Vegetation Indicators:
1. <u>Bromus diandrus</u>	<u>20</u>	<u>Yes</u>	<u>NI</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Centaurea melitensis</u>	<u>5</u>	<u>No</u>	<u>NI</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>25</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present?
1. <u>NA</u>				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>75</u>		% Cover of Biotic Crust <u>0</u>		

Remarks: Vegetation not hydrophytic. No recent vegetation cutting or disking.

**SOIL**

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-18	7.5YR4/3	100					Fine loamy Sand No redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: None  
 Depth (inches): \_\_\_\_\_

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

Remarks:

Consistent texture and color. No redox features  
 Soil may have disturbed to construct ditch years ago.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Secondary Indicators (2 or more required)**

**Primary Indicators (any one indicator is sufficient)**

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

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

**Field Observations:**

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

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

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

Remarks:

Recent brown through area. Not likely to pond. Some drift observed along ditch edge, includes organic materials and plastic litter.

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

Project/Site: Rubidoux 9949.1 City/County: Imperial Valley, Riverside Sampling Date: 2021 Dec 17  
 Applicant/Owner: E.M. Ranch Owner LLC State: CA Sampling Point: 2  
 Investigator(s): J.R. Sundberg Section, Township, Range: Imperial Land Grant, Unsectioned  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): LRR-C Lat: 34.004484 Long: -117.387407 Datum: NAD83  
 Soil Map Unit Name: Tujunga loamy sand TuB NWI classification: Canal/Ditch  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Sample located in a ditch fed by storm drain channels coming off the nearby freeway. Dominated by upland vegetation. Hydrology indicators imply short duration flooding. Area not a wetland.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Populus fremontii</u>	<u>20</u>	<u>Yes</u>	<u>NI</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____				
Total Cover: <u>20</u>				
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Ricinus communis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species <u>10</u> x 4 = <u>40</u>
Total Cover: <u>10</u>				UPL species <u>50</u> x 5 = <u>250</u>
				Column Totals: <u>60</u> (A) <u>290</u> (B)
				Prevalence Index = B/A = <u>4.83</u>
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Hirschfeldia incana</u>	<u>10</u>	<u>Yes</u>	<u>NI</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Bromus diandrus</u>	<u>10</u>	<u>Yes</u>	<u>NI</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
3. <u>Cerculus pycnocephalus</u>	<u>10</u>	<u>Yes</u>	<u>NI</u>	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>30</u>				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum <u>70</u>		% Cover of Biotic Crust <u>0</u>		Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Vegetation not hydrophytic. No recent disturbance.

**SOIL**

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-16	10YR 3/2	100	No redox			Sandy loam	trash in soil
16-20	7.5YR 4/3	100	No redox			Sand	living roots

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: None  
 Depth (inches): \_\_\_\_\_

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

Remarks: Debris through profile. Living roots with no redox features.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

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

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

Remarks: Despite recent rain no saturation but soil moist, Only secondary riverine hydrology indicators observed. Sediment deposits occurred in lower part of ditch.

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

Project/Site: Rubidoux 9949.1 City/County: Surupa Valley, Riverside Sampling Date: 2021 Dec 17  
 Applicant/Owner: E. M. Ranch Owner LLC State: CA Sampling Point: 3  
 Investigator(s): J. R. Sundberg Section, Township, Range: Surupa Land Grant, Unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR): LRR-C Lat: 34.000268 Long: -117.400271 Datum: NAD83  
 Soil Map Unit Name: Ramona sandy loam RaCZ NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Sample located near irrigation ditch fed by pumped groundwater. Area maintained by cutting back arundo reeds away from ditch. Does not meet wetland criteria.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>/</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. <u>/</u>				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. <u>/</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. <u>/</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Arundo donax</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>/</u>				
3. <u>/</u>				
4. <u>/</u>				
Total Cover: <u>20</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<b>Herb Stratum</b>				
1. <u>/</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. <u>/</u>				
3. <u>/</u>				
4. <u>/</u>				
5. <u>/</u>				
6. <u>/</u>				
7. <u>/</u>				
8. <u>/</u>				
Total Cover: _____				
<b>Woody Vine Stratum</b>				
1. <u>/</u>				
2. <u>/</u>				
Total Cover: _____				
% Bare Ground in Herb Stratum <u>10</u>		% Cover of Biotic Crust <u>0</u>		

Remarks: Arundo mulch covers most of ground. Appears dense arundo was cut in past year.

**SOIL**

Sampling Point: 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	7.5 YR 4/3	100	No	redox			Fine sandy loam	Consistent soil

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: None  
 Depth (inches): \_\_\_\_\_

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

Remarks: Soil consistent texture and color with no redox features.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (2 or more required)</b>
<b>Primary Indicators (any one indicator is sufficient)</b>		<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
<b>(includes capillary fringe)</b>		

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

Remarks: No hydrology indicators, suspect groundwater due to surface water just off site. No groundwater or saturation within 18" of surface.

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

Project/Site: Rubidoux 9949.1 City/County: Surupa Valley, Riverside Sampling Date: 2021 Dec 17  
 Applicant/Owner: E.M. Ranch Owner LLC State: CA Sampling Point: 4  
 Investigator(s): J. R. Sundberg Section, Township, Range: Surupa Land Grant, Unsectioned  
 Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR): IRR-C Lat: 33.999518 Long: -117.399683 Datum: NAD83  
 Soil Map Unit Name: Ramona sandy loam RaC2 NWI classification: Canal/Ditch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Sample located adjacent to irrigation ditch fed by pumped groundwater. Vegetation maintained to keep ditch clear. Does not meet wetland criteria.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <del>_____</del>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
2. <del>_____</del>				
3. <del>_____</del>				
4. <del>_____</del>				
Total Cover: <u>0</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Koeleria communis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: <u>10</u>				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cyperus eragrostis</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Paspalum dilatatum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Echinochloa crus-galli</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>20</u>				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Vitis girdiana</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				
Total Cover: <u>10</u>				
% Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust <u>0</u>				

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Area recently grubbed. Groundcover includes mounds of plant litter.



**SOIL**

Sampling Point:   4  

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-3	10YR 3/2	100					Sandy loam	
3-18	10YR 4/4	100	No Redox				Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: None  
 Depth (inches): \_\_\_\_\_

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

Remarks: No redox features observed. First few inches may have been disturbed during grubbing but no recent disturbance deeper. Not hydric soil

**HYDROLOGY**

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

**Field Observations:**

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

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

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

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

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

Remarks: Some drift deposit due to recent flow in nearby ditch. No other wetland hydrology indicators.

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

Project/Site: Rubidoux City/County: Surupa Valley, Riverside Sampling Date: 2021 Dec 17  
 Applicant/Owner: E.M. Ranch Owner LLC State: CA Sampling Point: 5  
 Investigator(s): J. R. Sundberg Section, Township, Range: Surupa Land Grant, Unsectioned  
 Landform (hillslope, terrace, etc.): ditch embankment Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): LRR-C Lat: 34.001294 Long: -117.397566 Datum: NAD83  
 Soil Map Unit Name: Grangerville loamy fine sand GgB NWI classification: Canal/Ditch  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Sample located in ditch fed by pumped groundwater. Ditch is maintained clear of vegetation and obstructions to flow. Area subject to dumping. Not a wetland.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <del>_____</del>				
2. _____				
3. _____				
4. _____				
Total Cover: <u>0</u>				
Sapling/Shrub Stratum				
1. <u>Ricinus communis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Salix laevigata</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
Total Cover: <u>15</u>				
Herb Stratum				
1. <u>Cortaderia seloana</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>10</u>				
Woody Vine Stratum				
1. <u>Vitis girdiana</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				
Total Cover: <u>15</u>				
% Bare Ground in Herb Stratum <u>20</u>		% Cover of Biotic Crust <u>0</u>		

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species 5 x 2 = 10  
 FAC species 15 x 3 = 45  
 FACU species 20 x 4 = 80  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: 40 (A) 135 (B)  
 Prevalence Index = B/A = 3.38

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Strashed salix sp. in area - area recently grubbed. Surface has a mix of vegetative litter and anthropogenic litter.

**SOIL**

Sampling Point: 5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-9	10YR 4/3	100					Sandy loam	
9-18	10YR 3/2	98	10YR 4/6	2	C	M	Sandy loam	Begins too deep for S5

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: None  
 Depth (inches): \_\_\_\_\_

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

Remarks: *Some redox features were observed beginning at 9 inches. This is below the threshold for S5 (at 6 inches) and the texture qualifies as fines. Contrast and density were too low to meet F3. Not hydric soil due to poor indicators.*

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): 16  
 (includes capillary fringe)

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

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

*Topographic maps, irrigation plans*

Remarks: *Water source is pumped groundwater flowing in a maintained earthen ditch. Some water infiltrates the earthen bottom and keeps a linear area saturated.*

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

Project/Site: Rubidoux 9949.1 City/County: Surupa Valley, Riverside Sampling Date: 2021 Dec 17  
 Applicant/Owner: E.M. Ranch Owner LLC State: CA Sampling Point: 6  
 Investigator(s): S. R. Sundberg Section, Township, Range: Surupa Land Grant, Unvegetated  
 Landform (hillslope, terrace, etc.): Slope of ditch Local relief (concave, convex, none): Convex Slope (%): 4  
 Subregion (LRR): LRR-C Lat: 34.001207 Long: -117.397618 Datum: NAD 83  
 Soil Map Unit Name: Grangeville loamy fine sand GoB NWI classification: Canal / Ditch  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Sample located in area maintained as an irrigation ditch.</u> <u>The area is subject to dumping and soil disturbance to maintain the berm.</u> <u>Not a wetland.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>/</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>/</u>				Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. <u>/</u>				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40%</u> (A/B)
4. <u>/</u>				Total Cover: <u>0</u>	
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <u>Ricinus communis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Total % Cover of:	Multiply by:
2. <u>Salix laevigata</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	OBL species <u>5</u> x 1 = <u>5</u>	FACW species <u>5</u> x 2 = <u>10</u>
3. <u>/</u>				FAC species <u>20</u> x 3 = <u>60</u>	FACU species <u>20</u> x 4 = <u>80</u>
4. <u>/</u>				UPL species <u>0</u> x 5 = <u>0</u>	Column Totals: <u>45</u> (A) <u>150</u> (B)
5. <u>/</u>				Prevalence Index = B/A = <u>3.33</u>	
Total Cover: <u>15</u>				Hydrophytic Vegetation Indicators:	
Herb Stratum				<input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
1. <u>Hordeum murinum</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
2. <u>Cortaderia seloana</u>	<u>3</u>	<u>Yes</u>	<u>FACU</u>		
Total Cover: <u>10</u>				Hydrophytic Vegetation Present?	
Woody Vine Stratum				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
1. <u>Vitis girdiana</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>		
2. <u>/</u>					
Total Cover: <u>20</u>					
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust <u>0</u>					
Remarks: <u>Area recently grubbed. Surface has vegetative litter and anthropogenic litter.</u>					

**SOIL**

Sampling Point: 6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	7.5YR4/3	100	No	Redox			Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: None  
 Depth (inches): \_\_\_\_\_

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

Remarks: No redox features. Soil consistent texture and color. Not a hydric soil.

**HYDROLOGY**

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

**Field Observations:**

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

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

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

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

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

Remarks: No wetland hydrology indicators observed.

# Arid West Ephemeral and Intermittent Streams OHWM Datasheet

1

<b>Project:</b> Rubidoux <b>Project Number:</b> 9949.1 <b>Stream:</b> Unnamed <b>Investigator(s):</b> J.R. Sundberg	<b>Date:</b> 2021 Dec 17 <b>Time:</b> 836 <b>Town:</b> Turupa Valley <b>State:</b> CA <b>Photo begin file#:</b> <b>Photo end file#:</b>
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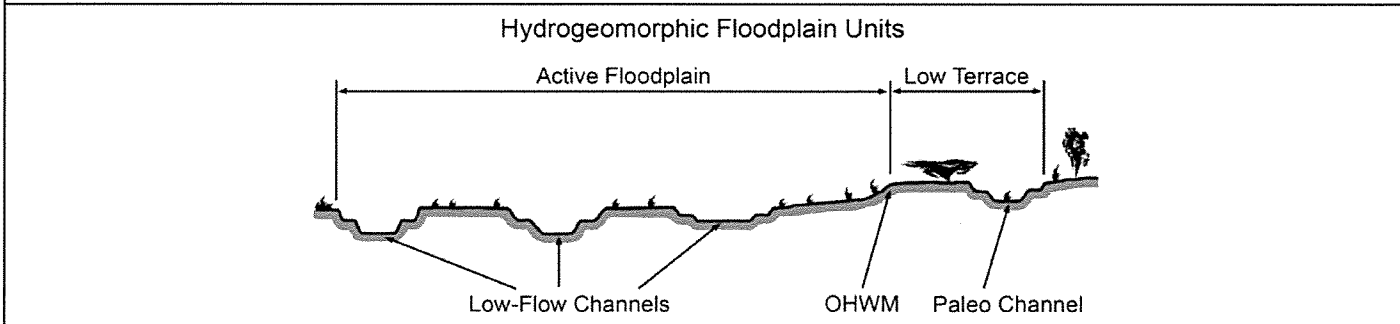
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?  Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> Lower part of stormwater ditch  <b>Projection:</b> State Plane <b>Datum:</b> NAD83 <b>Coordinates:</b> 33.997668 -117.391239
--	---

**Potential anthropogenic influences on the channel system:** Water source is storm water run off from adjacent free way and developed areas. Area is disturbed and subject to dumping.

**Brief site description:** Drainage channel bounded by earthen levees.

**Checklist of resources (if available):**

<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
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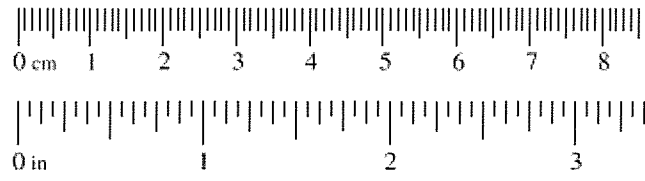


- Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
    - a) Record the floodplain unit and GPS position.
    - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
    - c) Identify any indicators present at the location.
  4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
  5. Identify the OHWM and record the indicators. Record the OHWM position via:
 

<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

### Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class
10.08	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
0.079	2.00	Granule
0.039	1.00	Very coarse sand
0.020	0.50	Coarse sand
1/2	0.0098	Medium sand
1/4	0.005	Fine sand
1/8	0.0025	Very fine sand
1/16	0.0012	Coarse silt
1/32	0.00061	Medium silt
1/64	0.00031	Fine silt
1/128	0.00015	Very fine silt
	0.0039	Clay



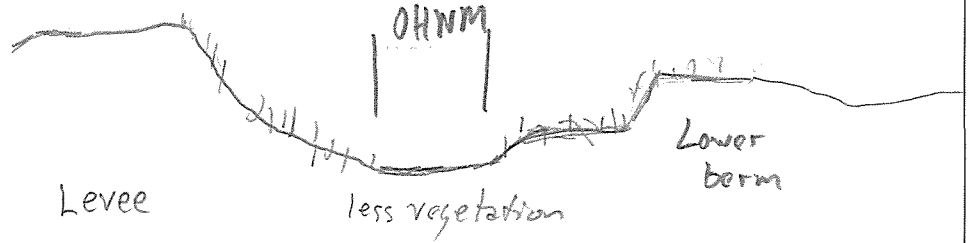
Project ID: 9949.1

Cross section ID: 1

Date: 2021 Dec 17

Time: 8:30

**Cross section drawing:**



**OHWM**

GPS point: 33.997668 - 117.391239

**Indicators:**

- Change in average sediment texture
- Change in vegetation species
- Change in vegetation cover
- Break in bank slope
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

Recent flow deposited thin layer of sediment.  
 Change in vegetation cover is the most clear indicator of the OHWM.

**Floodplain unit:**

- Low-Flow Channel
- Active Floodplain
- Low Terrace

GPS point: 33.997670 - 117.391240

**Characteristics of the floodplain unit:**

Average sediment texture: Sand  
 Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 10 %

**Community successional stage:**

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

Spurge herbaceous vegetation in channel including *Ambrosia acanthicarpa*, *Salsola tragus*, *Hirschfeldia incana*, and *Hordeum murinum*.



Project ID: 9949.1 Cross section ID: 1 Date: 2021 Dec 17 Time: 830

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 33.997668 -117.391239

**Characteristics of the floodplain unit:**

Average sediment texture: Sand  
Total veg cover: 30% Tree: 0% Shrub: 0% Herb: 30%  
Community successional stage:

- NA  Mid (herbaceous, shrubs, saplings)
- Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks  Soil development
- Ripples  Surface relief
- Drift and/or debris  Other: \_\_\_\_\_
- Presence of bed and bank  Other: \_\_\_\_\_
- Benches  Other: \_\_\_\_\_

Comments: Same species as low-flow channel but higher density.

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: \_\_\_\_\_  
Total veg cover: \_\_\_\_\_% Tree: \_\_\_\_\_% Shrub: \_\_\_\_\_% Herb: \_\_\_\_\_%  
Community successional stage:

- NA  Mid (herbaceous, shrubs, saplings)
- Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks  Soil development
- Ripples  Surface relief
- Drift and/or debris  Other: \_\_\_\_\_
- Presence of bed and bank  Other: \_\_\_\_\_
- Benches  Other: \_\_\_\_\_

Comments:

# Arid West Ephemeral and Intermittent Streams OHWM Datasheet

2

<b>Project:</b> Rubidoux <b>Project Number:</b> 9949.1 <b>Stream:</b> Unnamed <b>Investigator(s):</b> J. R. Sundberg	<b>Date:</b> 2021 Dec 17 <b>Time:</b> 900 <b>Town:</b> Jurupa Valley <b>State:</b> CA <b>Photo begin file#:</b> <b>Photo end file#:</b>
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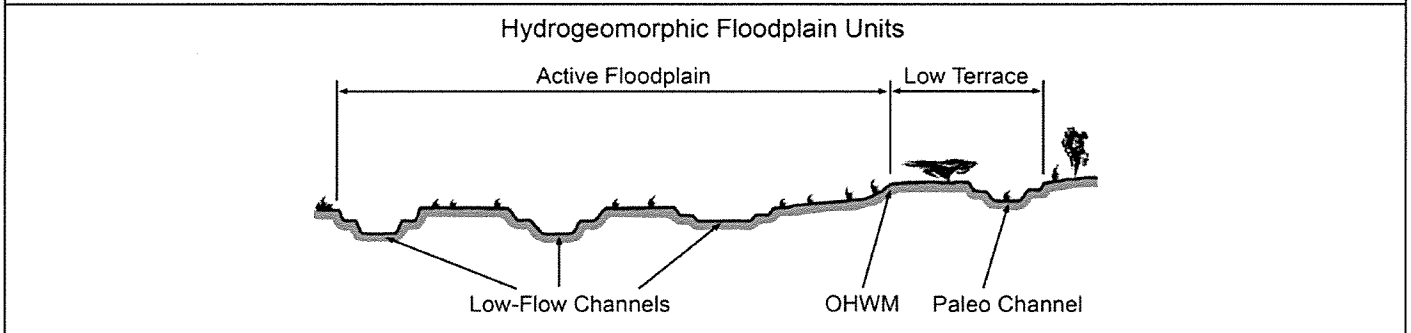
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?  Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> Upper part of stormwater ditch <b>Projection:</b> State Plane <b>Datum:</b> NAD83 <b>Coordinates:</b> 34.003677 -117.388527
--	--

**Potential anthropogenic influences on the channel system:**  
 Ditch was likely created or straightened. Water source is stormwater runoff from freeway and development. Area has fill and refuse dumping. Some adjacent areas recently disked.

**Brief site description:** Earthen drainage channel in disturbed field.

**Checklist of resources (if available):**

<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
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- Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
    - a) Record the floodplain unit and GPS position.
    - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
    - c) Identify any indicators present at the location.
  4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
  5. Identify the OHWM and record the indicators. Record the OHWM position via:
 

<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

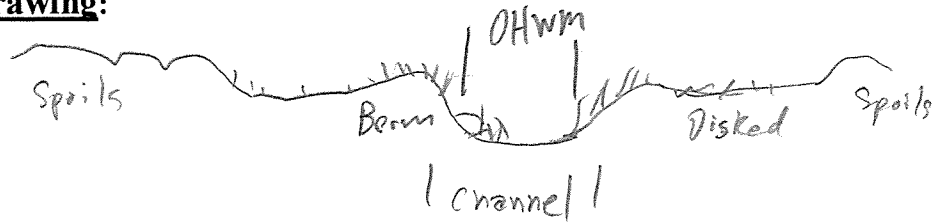
### Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class
10.08	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
0.079	2.00	Granule
0.039	1.00	Very coarse sand
0.020	0.50	Coarse sand
1/2 0.0098	0.25	Medium sand
1/4 0.005	0.125	Fine sand
1/8 0.0025	0.0625	Very fine sand
1/16 0.0012	0.031	Coarse silt
1/32 0.00061	0.0156	Medium silt
1/64 0.00031	0.0078	Fine silt
1/128 0.00015	0.0039	Very fine silt
		Clay



Project ID: 9949.1 Cross section ID: 2 Date: 2021 Dec 17 Time: 900

**Cross section drawing:**



**OHWM**

GPS point: 34.003677 -117.388527

**Indicators:**

- Change in average sediment texture
- Change in vegetation species
- Change in vegetation cover
- Break in bank slope
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

Indicators of OHWM include change in vegetation cover, and siltation

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 34.003679 -117.388526

**Characteristics of the floodplain unit:**

Average sediment texture: Sand with silt

Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 10 %

**Community successional stage:**

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

Vegetation consists of weedy species such as Centaurea melitensis, Hirschfeldia incana, and Bromus diandrus.

Project ID: 9949.1 Cross section ID: 2 Date: 2021 Dec 17 Time: 900

Floodplain unit:  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 34.003677 -117.288526

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: 30% Tree: 0% Shrub: 0% Herb: 30%

Community successional stage:

- Community successional stage options: NA, Early (herbaceous & seedlings), Mid (herbaceous, shrubs, saplings), Late (herbaceous, shrubs, mature trees)

Indicators:

- Indicators: Mudcracks, Ripples, Drift and/or debris, Presence of bed and bank, Benches, Soil development, Surface relief, Other: \_\_\_\_\_

Comments: Some spp. in surrounding uplands and lower channel. This floodplain unit is the non-silted part of the ditch.

Floodplain unit:  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

Characteristics of the floodplain unit:

Average sediment texture: \_\_\_\_\_

Total veg cover: \_\_\_\_\_% Tree: \_\_\_\_\_% Shrub: \_\_\_\_\_% Herb: \_\_\_\_\_%

Community successional stage:

- Community successional stage options: NA, Early (herbaceous & seedlings), Mid (herbaceous, shrubs, saplings), Late (herbaceous, shrubs, mature trees)

Indicators:

- Indicators: Mudcracks, Ripples, Drift and/or debris, Presence of bed and bank, Benches, Soil development, Surface relief, Other: \_\_\_\_\_

Comments:

# Arid West Ephemeral and Intermittent Streams OHWM Datasheet

3

<b>Project:</b> Rubidoux <b>Project Number:</b> 9949.1 <b>Stream:</b> Jurupa Ditch <b>Investigator(s):</b> J.R. Sundberg	<b>Date:</b> 2021 Dec 17 <b>Time:</b> 11:00 <b>Town:</b> Jurupa Valley <b>State:</b> CA <b>Photo begin file#:</b> <b>Photo end file#:</b>
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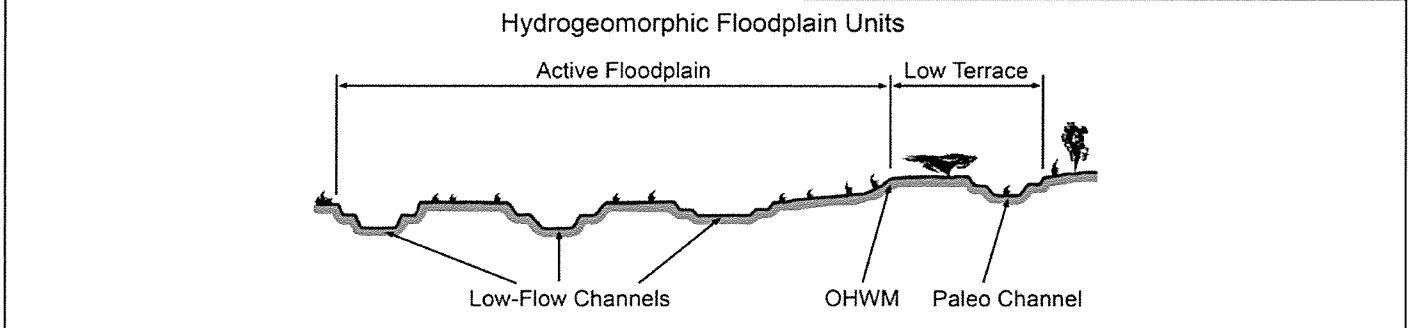
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?  Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> Lower part of irrigation ditch <b>Projection:</b> State Plane <b>Datum:</b> NAD83 <b>Coordinates:</b> 33.999565 -117.399598
--	--

**Potential anthropogenic influences on the channel system:** Channel is constructed and fed by pumped ground water. Area is disturbed and subject to trash dumping.

**Brief site description:** Constructed irrigation ditch. Ditch is regularly cleared to maintain flow.

**Checklist of resources (if available):**

<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input checked="" type="checkbox"/> Other studies <i>Engineer provided data on water source</i>	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
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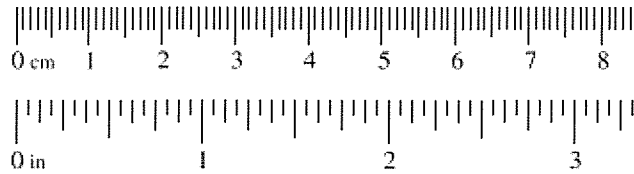


- Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
    - a) Record the floodplain unit and GPS position.
    - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
    - c) Identify any indicators present at the location.
  4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
  5. Identify the OHWM and record the indicators. Record the OHWM position via:
 

<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

### Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class
10.03	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
0.079	2.00	Granule
0.039	1.00	Very coarse sand
0.020	0.50	Coarse sand
1/2 0.0098	0.25	Medium sand
1/4 0.005	0.125	Fine sand
1/8 0.0025	0.0625	Very fine sand
1/16 0.0012	0.031	Coarse silt
1/32 0.00061	0.0156	Medium silt
1/64 0.00031	0.0078	Fine silt
1/128 0.00015	0.0039	Very fine silt
		Clay

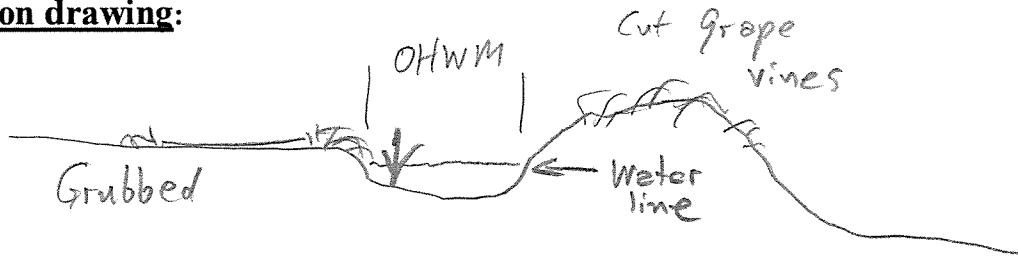




Project ID: 9949.1 Cross section ID: 3

Date: 2021 Dec 17 Time: 1100

**Cross section drawing:**



**OHWM**

GPS point: 33.999565 -117.399598

**Indicators:**

- Change in average sediment texture
- Change in vegetation species
- Change in vegetation cover
- Break in bank slope
- Other: Water
- Other: \_\_\_\_\_

Comments: OHWM indicated by flowing water, break in slope, and change in vegetation.

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 33.999563 -117.399597

**Characteristics of the floodplain unit:**

Average sediment texture: Sand

Total veg cover: 5 % Tree: 0 % Shrub: 0 % Herb: 5 %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

Comments: Low-flow channel has water, and sparse emergent vegetation.

Project ID: 9949.1 Cross section ID: 3

Date: 2021 Dec 17 Time: 1100

Floodplain unit:  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 33.999565 -117.399600

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 30% Tree: 0% Shrub: 0% Herb: 30%

Community successional stage:

- Community successional stage:  NA  Early (herbaceous & seedlings)  Mid (herbaceous, shrubs, saplings)  Late (herbaceous, shrubs, mature trees)

Indicators:

- Indicators:  Mudcracks  Soil development  Ripples  Surface relief  Drift and/or debris  Other:  Presence of bed and bank  Other:  Benches  Other:

Comments:

Grasses and cyperus line water's edge.

Floodplain unit:  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture:

Total veg cover: % Tree: % Shrub: % Herb: %

Community successional stage:

- Community successional stage:  NA  Mid (herbaceous, shrubs, saplings)  Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

Indicators:

- Indicators:  Mudcracks  Soil development  Ripples  Surface relief  Drift and/or debris  Other:  Presence of bed and bank  Other:  Benches  Other:

Comments:

**Arid West Ephemeral and Intermittent Streams OHWM Datasheet** 4

<b>Project:</b> Rubidoux <b>Project Number:</b> 9949.1 <b>Stream:</b> Surupa Ditch <b>Investigator(s):</b> S.R. Sundberg	<b>Date:</b> 2021 Dec 17 <b>Time:</b> 1120 <b>Town:</b> Surupa Valley <b>State:</b> CA <b>Photo begin file#:</b> <b>Photo end file#:</b>
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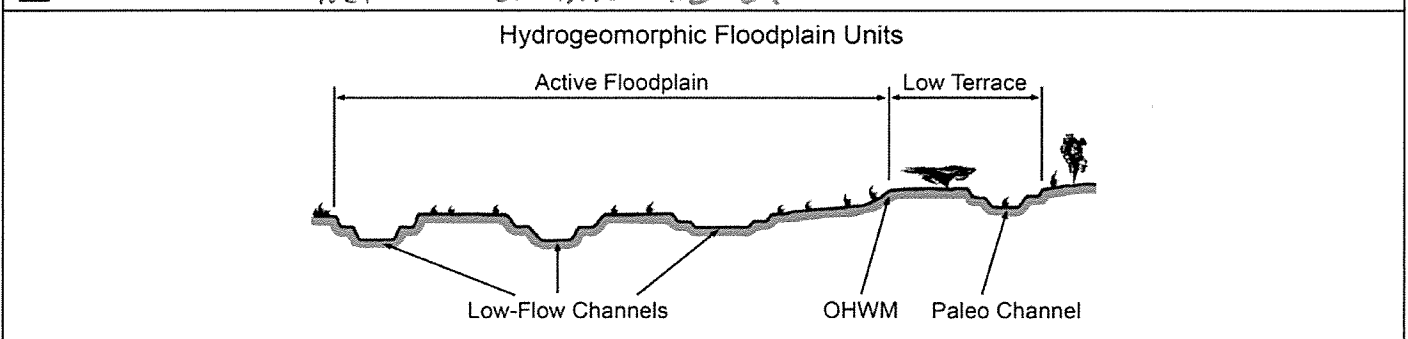
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?  Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> Upper part of irrigation ditch <b>Projection:</b> State Plane <b>Datum:</b> NAD83 <b>Coordinates:</b> 34,000869 -117.398178
--	--

**Potential anthropogenic influences on the channel system:** Channel is constructed and fed by pumped ground water. Surrounding area is disturbed by filling, dumping, and ditch maintenance.

**Brief site description:**  
Upper part of Surupa Ditch - earthen bottomed

**Checklist of resources (if available):**

<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input checked="" type="checkbox"/> Other studies <i>Water source information</i>	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
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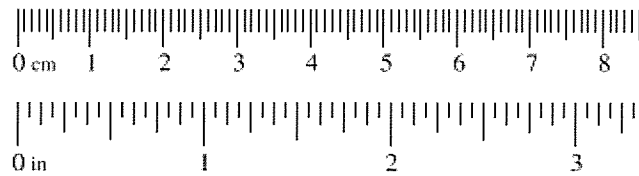
**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
  - a) Record the floodplain unit and GPS position.
  - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
  - c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
 

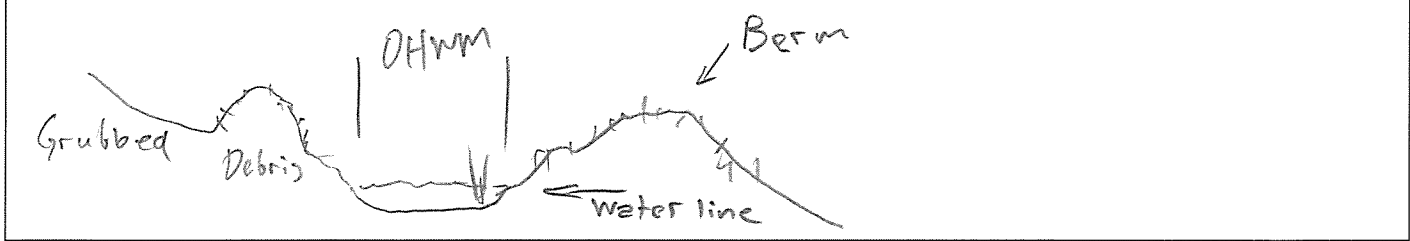
<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

### Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class
10.08	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
0.079	2.00	Granule
0.039	1.00	Very coarse sand
0.020	0.50	Coarse sand
1/2 0.0098	0.25	Medium sand
1/4 0.005	0.125	Fine sand
1/8 0.0025	0.0625	Very fine sand
1/16 0.0012	0.031	Coarse silt
1/32 0.00061	0.0156	Medium silt
1/64 0.00031	0.0078	Fine silt
1/128 0.00015	0.0039	Very fine silt
		Clay



**Cross section drawing:**



**OHWM**

GPS point: 34.000869 -117.398178

**Indicators:**

- Change in average sediment texture
- Change in vegetation species
- Change in vegetation cover
- Break in bank slope
- Other: Water line
- Other: \_\_\_\_\_

**Comments:**

OHWM indicated by flowing water, change in sediment, change in vegetation, and a break in the bank slope.

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 34.000870 -117.398176

**Characteristics of the floodplain unit:**

Average sediment texture: Sand  
Total veg cover: 5 % Tree: 0 % Shrub: 0 % Herb: 5 %  
Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: Water line
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

Sparse *Typha Latifolia* emerging from the water.

Project ID: 9949.1 Cross section ID: 4

Date: 2021 Dec 17 Time: 1120

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 34.000871 -117.398180

**Characteristics of the floodplain unit:**

Average sediment texture: loam

Total veg cover: 25% Tree: 0% Shrub: 5% Herb: 20%

Community successional stage:

- NA
- Mid (herbaceous, shrubs, saplings)
- Early (herbaceous & seedlings)
- Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

Low terrace is the ditch side. Some resprouting shrubs and weedy herbaceous species present.

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: \_\_\_\_\_

Total veg cover: \_\_\_\_\_% Tree: \_\_\_\_\_% Shrub: \_\_\_\_\_% Herb: \_\_\_\_\_%

Community successional stage:

- NA
- Mid (herbaceous, shrubs, saplings)
- Early (herbaceous & seedlings)
- Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**Comments:**

# Arid West Ephemeral and Intermittent Streams OHW M Datasheet

5

<b>Project:</b> Rubidoux <b>Project Number:</b> 9949.1 <b>Stream:</b> Surupa Ditch <b>Investigator(s):</b> J. R. Sundberg	<b>Date:</b> 2021 Dec 17 <b>Time:</b> 1200 <b>Town:</b> Surupa Valley <b>State:</b> CA <b>Photo begin file#:</b> <b>Photo end file#:</b>
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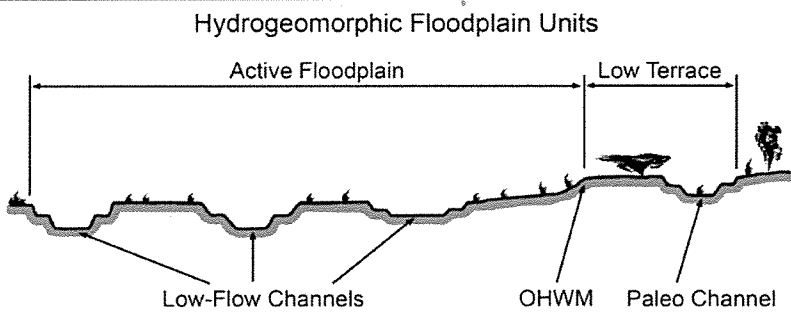
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?  Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> Surupa Ditch near water source <b>Projection:</b> State Plane <b>Datum:</b> NAD83 <b>Coordinates:</b> 34.001640 -117.396887
--	--

**Potential anthropogenic influences on the channel system:**  
 Channel is in concrete V-ditch.

**Brief site description:** Upper part of irrigation ditch near where pumped ground water comes out of the pipe.

**Checklist of resources (if available):**

<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input checked="" type="checkbox"/> Other studies <i>Water source information</i>	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
--	---

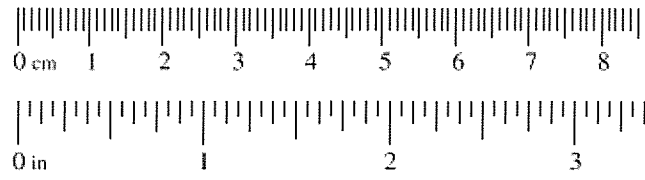


- Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
    - a) Record the floodplain unit and GPS position.
    - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
    - c) Identify any indicators present at the location.
  4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
  5. Identify the OHWM and record the indicators. Record the OHWM position via:
 

<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

### Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class
10.08	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
0.079	2.00	Granule
0.039	1.00	Very coarse sand
0.020	0.50	Coarse sand
1/2 0.0098	0.25	Medium sand
1/4 0.005	0.125	Fine sand
1/8 0.0025	0.0625	Very fine sand
1/16 0.0012	0.031	Coarse silt
1/32 0.00061	0.0156	Medium silt
1/64 0.00031	0.0078	Fine silt
1/128 0.00015	0.0039	Very fine silt
		Clay





Project ID: 9949.1 Cross section ID: B Date: 2021 Dec 17 Time: 1200

Floodplain unit:  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 34.001640 -117.396887

Characteristics of the floodplain unit:

Average sediment texture: concrete  
Total veg cover: 0% Tree: 0% Shrub: 0% Herb: 0%

Community successional stage:  
 NA  Mid (herbaceous, shrubs, saplings)  
 Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks  Soil development
- Ripples  Surface relief
- Drift and/or debris  Other: Algae line
- Presence of bed and bank  Other: \_\_\_\_\_
- Benches  Other: \_\_\_\_\_

Comments: There is no natural "low terrace" only exposed concrete above the water line. The surrounding area is graded and compacted dirt.

Floodplain unit:  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

Characteristics of the floodplain unit:

Average sediment texture: \_\_\_\_\_  
Total veg cover: \_\_\_\_\_% Tree: \_\_\_\_\_% Shrub: \_\_\_\_\_% Herb: \_\_\_\_\_%

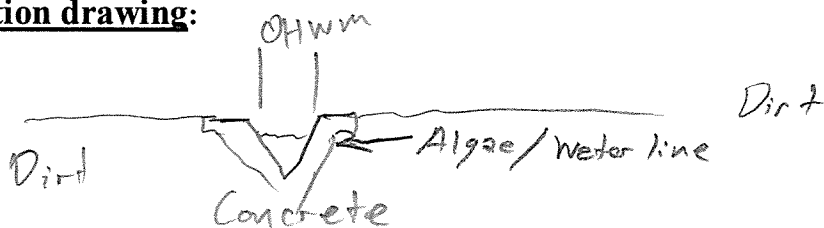
Community successional stage:  
 NA  Mid (herbaceous, shrubs, saplings)  
 Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks  Soil development
- Ripples  Surface relief
- Drift and/or debris  Other: \_\_\_\_\_
- Presence of bed and bank  Other: \_\_\_\_\_
- Benches  Other: \_\_\_\_\_

Comments:

**Cross section drawing:**



**OHWM**

GPS point: 34.001640 -117.396888

**Indicators:**

- |  |  |
|--|--|
| <input type="checkbox"/> Change in average sediment texture    | <input type="checkbox"/> Break in bank slope                 |
| <input type="checkbox"/> Change in vegetation species          | <input checked="" type="checkbox"/> Other: <u>Algae line</u> |
| <input checked="" type="checkbox"/> Change in vegetation cover | <input checked="" type="checkbox"/> Other: <u>Water line</u> |

**Comments:** Water discharges from a pipe and flows through a concrete V-ditch. Water level seems consistent based on algae line.

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: 34.001640 -117.396887

**Characteristics of the floodplain unit:**

Average sediment texture: Concrete

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> NA                  | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)      |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

**Indicators:**

- |   |  |
|---|--|
| <input type="checkbox"/> Mudcracks                | <input type="checkbox"/> Soil development                                    |
| <input checked="" type="checkbox"/> Ripples       | <input type="checkbox"/> Surface relief                                      |
| <input type="checkbox"/> Drift and/or debris      | <input checked="" type="checkbox"/> Other: <u>Algae at &amp; below water</u> |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____  |
| <input type="checkbox"/> Benches                  | <input type="checkbox"/> Other: _____  |

**Comments:**

No vegetation other than algae.

## ATTACHMENT 5

### Ground Level Color Photographs



PHOTOGRAPH 1  
View of Pipe Outlet to Jurupa Ditch Where Well Water Flows Surface



PHOTOGRAPH 2  
View of Concrete V-ditch Section of Jurupa Ditch  
Looking South





PHOTOGRAPH 3  
View of Concrete V-ditch Section of Jurupa Ditch Above Transition to  
Earthen Channel Looking South



PHOTOGRAPH 4  
View of Earthen Channel Section of Jurupa Ditch Below  
Concrete V-ditch Section Looking North





PHOTOGRAPH 5  
View of Earthen Channel Section of Jurupa Ditch  
Looking South



PHOTOGRAPH 6  
View of State Route 60 Culvert Where the Un-named Drainage  
Enters the Review Area Looking North





PHOTOGRAPH 7

View of the Un-named Drainage Just Below the State Route 60 Culvert  
Looking South



PHOTOGRAPH 8

View of the Un-named Drainage Just Before Sheet Flow Area  
Looking South





PHOTOGRAPH 9  
View of the Un-named Drainage Below a Dirt Road Culvert  
Looking North



PHOTOGRAPH 10  
View of the Southern Portion of the Un-named Drainage Where Channelized  
Between Berms





PHOTOGRAPH 11

View of the Southern Segment of the Un-named Drainage Veering  
Southeast Towards the Santa Ana River Levee

## ATTACHMENT 6

### References Cited

## References Cited

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