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City of San Juan Capistrano San Juan Creek at Rancho Mission Viejo Riding Park Ordinary High Water Mark Delineation Technical Report

April 2018

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ACRONYMS AND ABBREVIATIONS

Amec Foster Wheeler	Amec Foster Wheeler, Environment and Infrastructure, Inc.		
BBK	Best Best & Krieger, LLC		
CFR	Code of Federal Regulations		
cfs	cubic feet per second		
CWA	Clean Water Act		
FAC	facultative		
FACU	facultative upland		
FACW	facultative wetland		
GIS	Geographic Information System		
NWI	National Wetlands Inventory		
OBL	obligate		
OHWM	ordinary high water mark		
UPL	upland		
USACE	U.S. Army Corps of Engineers		
USDA	U.S. Department of Agriculture		
USFWS	U.S. Fish and Wildlife Service		
USGS U.S. Geological Survey			
WOTUS	Waters of the United States		

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1.0 INTRODUCTION

This report identifies the boundary of potentially jurisdictional waters along the eastern margin of San Juan Creek, adjacent to the Rancho Mission Viejo Riding Park (Riding Park) in San Juan Capistrano, Orange County, California. This report presents methods and results of a delineation conducted in April 2018, including identification of an Ordinary High Water Mark (OHWM) and wetlands on the project site. The U.S. Army Corps of Engineers (USACE), in combination with the Environmental Protection Agency, when necessary, reserves the ultimate authority in making the final jurisdictional determination of Waters of the United States (WOTUS) regulated under Section 404 of the Clean Water Act (CWA).

1.1 Project Location

The study area for the OHWM delineation includes the eastern portion of San Juan Creek adjacent to the Riding Park, from south of the Highway 74 bridge to a point within the channel approximately 1,800 feet southwest (Figure 1). The study site is located between approximately 33.5189° North, -117.6250° West; and 33.5145° North, -117.6283° West within the San Juan Capistrano U.S. Geological Survey (USGS) 7.5 minute quadrangle (Figure 2).

Land use to the east of San Juan Creek includes the Riding Park, which is an equestrian facility, and a park and residential community to the west. South of the project area lies the City of San Juan Capistrano where the Creek has been altered to control floods. North of the project area, San Juan Creek lies in a more natural state as it flows through Rancho Mission Viejo and the Santa Ana Mountains.



Figure 1. Regional Map

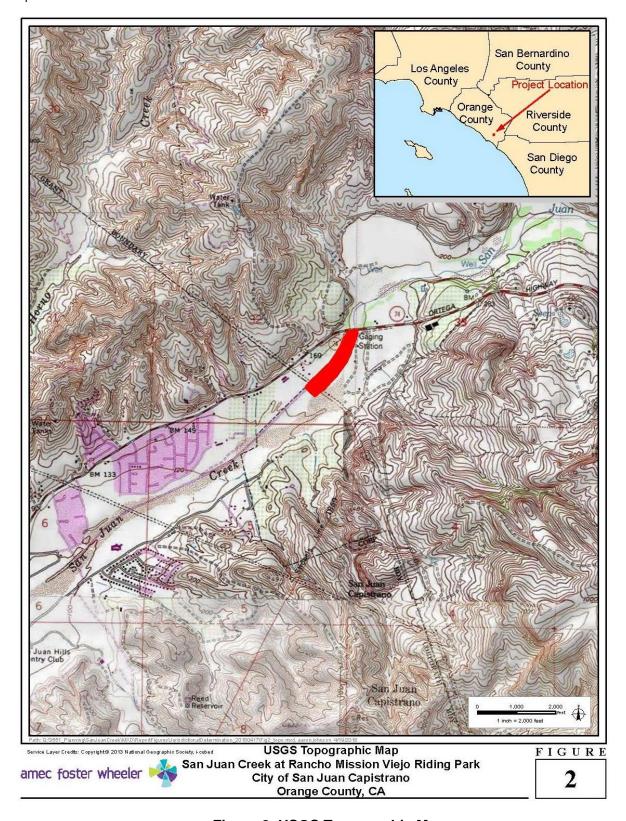


Figure 2. USGS Topographic Map

2.0 ENVIRONMENTAL SETTING

2.1 Existing Conditions

The study area is located immediately downstream of the Highway 74 bridge that crosses San Juan Creek, is approximately 2.3 miles northeast of the Interstate 5 bridge, and only includes the southeastern portion of San Juan Creek adjacent to the Riding Park.

2.2 Hydrology

San Juan Creek originates in the Santa Ana Mountains to the east and drains the Aliso-San Onofre watershed (Hydrologic Unit Code 18070301) of approximately 109 square miles (USGS, 2018).

San Juan Creek is a perennial waterway with a braided stream channel that passes through the project area. Water flow is determined largely by episodic stormwater discharge events in the winter and spring months.

Stormwater discharge generally occurs during the rainy season, primarily October through April. The annual mean rainfall for the area is 10.26 inches based on data from 1928 to 2017, gauged at Laguna Beach (COOP 044647), approximately 9 miles northwest of the project area (Western Regional Climate Center, 2018).

The channel of San Juan Creek is restricted at the Highway 74 bridge to approximately 180 feet in width from top of bank to top of bank. The channel in southern end of the project area is approximately 300 feet wide from bank to bank. Water flows through the study area and travels southwest, approximately 5.2 miles before discharging into the Pacific Ocean.

Peak streamflow data was assessed using USGS gauge station 11046530 on San Juan Creek at La Novia Street Bridge in San Juan Capistrano, approximately 1.4 miles southwest (downstream) of the project site (USGS, 2018). Annual peak streamflow records were reported from 1986 to 2016 at this gauge station, ranging from 19 cubic feet per second (cfs) (recorded in 2013) to 28,500 cfs (recorded in 2005).

2.3 Vegetation

Vegetation communities in the channel transition from wetland [primarily watercress (*Nastertium officinale*), cattail (*Typha latifolia*), and yellow monkey flower (*Mimulus guttatus*)] within the Low-Flow Channels; to early and mid-stage riparian communities [willow (*Salix* sp.), mulefat (*Baccharis salicifolia*), and the invasive species Arundo (*Arundo donax*)] in the Active Floodplain; to late stage (mature) riparian [willow, Arundo, and poison oak (*Toxicodendron diversilobum*)] in the Low Terrace (Baldwin, 2012).

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2.4 Soils

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service online Web Soil Survey (Soil Survey Staff, 2018) was consulted to evaluate the soil types mapped within the study area. The study area includes Riverwash and Corralitos loamy sand, both listed on the Hydric soils list for California (USDA, 2018).

2.5 National Wetlands Inventory

The United States Fish and Wildlife Service (USFWS) has developed a series of maps known as the National Wetlands Inventory (NWI) to show wetlands and deepwater habitat with descriptions based on the Cowardin Classification System (Cowardin et. al., 1979). This geospatial information is used for management, research, policy development, education, and planning activities. However, they are not used to determine regulatory authority. Federally regulated wetlands are determined using the "three parameter" method approved by the USACE, which is further described in Section 4.3 below.

NWI wetlands mapped in the project area are shown in Figure 3 (USFWS, 2018) and include:

- R3UBF Riverine, Upper Perennial, Unconsolidated Bottom, Semi-permanently Flooded
- R3USC Riverine, Upper Perennial, Unconsolidated Bottom, Seasonally Flooded
- PFOA Palustrine, Forested, Temporarily Flooded
- PSS/USA Palustrine, Scrub-Shrub/Unconsolidated Shore, Temporarily Flooded
- PSS/USC Palustrine, Scrub-Shrub/Unconsolidated Shore, Seasonally Flooded

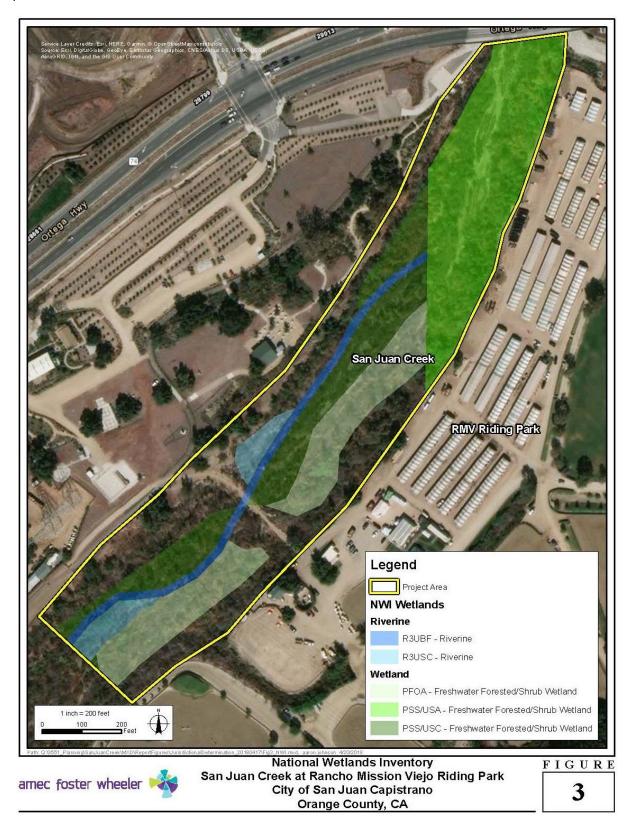


Figure 3. National Wetlands Inventory

3.0 REGULATORY FRAMEWORK

The USACE regulates the discharge of dredged or fill material in WOTUS pursuant to Section 404 of the CWA. The USACE delineates non-wetland waters in the Arid West Region by identifying the OHWM in perennial, ephemeral, and intermittent channels (Lichvar and McCooley, 2008). The OHWM is defined in 33 CFR 328.3(e) as:

"...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Identification of the OHWM involves assessments of stream geomorphology and vegetation response to the dominant stream discharge. Effective discharge events capable of moving the greatest proportion of sediment over time establish the OHWM. In the Arid West region, which is the region of the project site, these ordinary high flows are low- to moderate-discharge events (Lichvar and McCooley, 2008). Low to moderate effective discharges are characterized as occurring roughly every 5–10 years to an inundation extent that correlates with the limit of the active floodplain (Lichvar and McCooley, 2008).

The three distinctive hydrogeomorphic surfaces in many ephemeral and intermittent channels are the Low-Flow Channel, the Active Floodplain, and the Low Terrace, as shown below. Figure 4 illustrates an example of a representative cross section identifying the hydrogeomorphic floodplain units in intermittent and ephemeral channels (Lichvar and McColley, 2008 and Curtis and Lichvar, 2010).

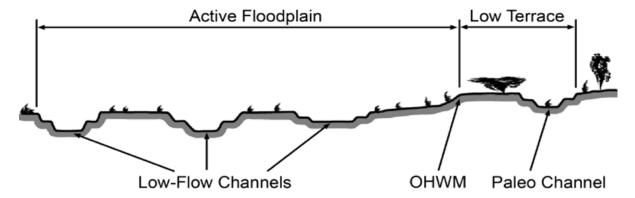


Figure 4. Example of a Representative Cross-Section in Intermittent and Ephemeral Channels

Additionally, the USACE asserts jurisdiction over wetlands adjacent to WOTUS, which may include wetlands that are adjacent to, but outside of the OHWM limits in arid streams, should they occur. Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

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4.0 METHODS

A delineation of the OHWM within San Juan Creek adjacent to the Riding Park was conducted in April 2018. Prior to conducting delineation fieldwork, the following literature and materials were reviewed:

- Aerial photographs of the project site (DigitalGlobe, 2016);
- USGS topographic maps (Figure 2) to determine mapped water features;
- USDA soil mapping data;
- USFWS NWI maps (Figure 3) to identify areas mapped as wetland features;
- Topographic maps produced by LiDAR based on aerial survey flown in September 2017 (City of San Juan Capistrano, 2017);
- Review of peak streamflow discharge for 2-, 5-, 10-, and 25-year events (USGS, 2018);
- Review of 10-year flood stage mapped using LiDAR topographic data (City of San Juan Capistrano, 2017); and
- Previous delineations of San Juan Creek (USACE, 2005 and Rancho Mission Viejo Company, 2003).

Field surveys of the project site were conducted by Amec Foster Wheeler delineator and regulatory specialist Nick Ricono on April 4, 2018 and April 13, 2018. Weather conditions during delineation fieldwork were conducive for surveying with clear skies and mild temperatures. Field survey datasheets can be seen in Appendix A.

Despite stormwater controls and infrastructure development within the project area, the section of San Juan Creek adjacent to the Riding Park has established a long-term and relatively stable overall condition based on hydrology, soil, and vegetation characteristics.

4.1 Hydrology

USGS gauge station 11046530 on San Juan Creek at La Novia Street Bridge in San Juan Capistrano, approximately 1.4 miles southwest (downstream) of the project area, was used to assess historical hydrology (USGS, 2018). Annual peak flood frequency analysis was conducted using HEC-SSP software to determine 2-, 5-, 10-, and 25-year stream discharge events (City of San Juan Capistrano, 2017). Results include the following:

2-Year = 490 cfs 5-Year = 2,900 cfs 10-Year = 6,700 cfs 25-Year = 15,800 cfs 50-Year = 26,800 cfs 100-Year = 42,300 cfs

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Peak streamflow data were represented from 1986 to 2016 (USGS, 2018). The most recent peak flow discharge exceeding the 5-year event, based on recorded data, was a flow of 17,600 cfs measured on December 22, 2010 (USGS, 2018).

The 10-year flood stage (6,700 cfs) was modeled using topographic contour data obtained by LiDAR aerial survey flown in September 2017 and mapped on aerial photographs (City of San Juan Capistrano, 2017).

4.2 **OHWM Determination**

Field survey methods to determine the OHWM were conducted as established by Lichvar and McCooley (2008) and Curtis and Lichvar (2010), and included the following:

- Channel and floodplain within the project site were observed in person to develop a general understanding of the overall site characteristics, including geomorphology and vegetation.
- 2. Cross sections were selected that best reflected the overall characteristics of the site (eight total).
- 3. At each cross section, hydrogeomorphic floodplain units were identified, recorded, and described on datasheets including Low-Flow Channels, Active Floodplain, and Low Terrace unit types. Indicators were identified in each floodplain unit including sediment texture, vegetation characteristics, and hydrogeomorphic indicators of stream discharge. Indicators noted were observed below, at, and above the OHWM boundary.
- 4. The transition line between the active floodplain and the low terrace was identified based on indicators, and the OHWM boundary was identified. GPS points were recorded along each transect for each floodplain unit and for the identified OHWM.

4.3 Wetland Determination

Since Federal jurisdiction may extend beyond OHWM where adjacent wetlands are present, wetland information was collected within the Low-Flow Channel, Active Floodplain, and Low Terrace units along Transect 1. Wetland information was based on the *Wetlands Delineation Manual* (USACE, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008). Information was recorded at sampling points to determine if an area fulfilled the wetland criteria parameters.

Three criteria must be fulfilled to classify an area as a wetland under the jurisdiction of the USACE:

- 1. Predominance of hydrophytic vegetation (with greater than 5% cover);
- 2. The presence of hydric soils; and
- 3. The presence of wetland hydrology.

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Details of these criteria are described below:

- Hydrophytic Vegetation. The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (USACE, 2008). An OBL indicator status refers to plants that almost always are a hydrophyte, rarely found in uplands. A FACW indicator status refers to plants that usually are a hydrophyte but are occasionally found in uplands. A FAC indicator status refers to plants that commonly occur as either a hydrophyte or non-hydrophyte. Other wetland indicator statuses include facultative upland (FACU), which includes plants that occasionally are a hydrophyte but usually occur in uplands, upland (UPL) which refers to plants that rarely are a hydrophyte and are almost always in uplands, and plants that are not listed (NL) for plants that do not occur on the National Wetlands Plant List. The wetland indicator status used for this report follows the National Wetland Plant List, Arid West Region (USACE, 2017).
- Hydric Soils. The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Gretag/Macbeth, 2000).
- Wetland Hydrology. The wetland hydrology criterion is satisfied at a location based upon
 conclusions inferred from field observations that indicate an area has a high probability of
 being inundated or saturated (flooded, ponded, or tidally influenced) long enough during
 the growing season to develop anaerobic conditions in the surface soil environment,
 especially the root zone (USACE, 1987 and USACE, 2008).

Wetland information was recorded on wetland data sheets (Appendix B) inside the Low-Flow Channel, Active Floodplain, and Low Terrace units along Transect 1. Vegetation information was collected and soil pits were dug to identify hydrology and soil characteristics.

4.4 Mapping

OHWM and wetland determination data collection points were recorded using a Trimble GeoXH and Geo XT global positioning system. Upon completion of fieldwork, collected data were incorporated into a Geographic Information System (GIS), along with basemap data.

The GIS data collected in the field was overlaid onto a recent aerial photograph (DigitalGlobe, 2016). Additional points along the OHWM boundary were identified by aerial photo interpretation of vegetation and soil characteristics, and were field-verified during the April 13, 2018 site visit. Site photos taken during fieldwork efforts are in Appendix C.

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5.0 RESULTS

The OHWM delineation was conducted using methods describe by Lichvar and McCooley (2008) and Curtis and Lichvar (2010). Additional information was collected to assess the presence of wetlands within and outside of the OHWM limits using USACE approved methods (USACE, 1987 and USACE, 2008). The USACE, in combination with the Environmental Protection Agency, when necessary, reserves the ultimate authority in making the final jurisdictional determination of WOTUS.

5.1 OHWM Determination

Information was collected along eight transects for the identification of Low-Flow Channels, Active Floodplain, Low Terrace, and the point of OHWM. Point locations of the OHWM identified in the field along each transect are shown on Figure 5 (T-1 through T-8). Additional OHWM points identified by aerial photo interpretation and field verified on April 13, 2018 are shown on Figure 5, as well as the approximate boundary of the OHWM based on the April 2018 delineation.

Low-Flow Channels were identified based on topographic changes, vegetation communities, and coarse sand material. Steep banks of 1 to 4 feet (depending upon the channel location) rise out of the Low-Flow Channel to the adjacent Active Floodplain. The Active Floodplain was identified by coarse sand material and early to mid-successional stage vegetation communities (50 to 80% cover), dominated by mulefat and young willow saplings, intermixed with stands of Arundo. The transition to the Low Terrace unit included an elevation change along a sandy bench, vegetation transition to 100% cover dominated by mature willow and poison oak with large stands of Arundo. Soil indicators changed from the coarse sand material in the Active Floodplain to a silty sand mixed with a surface layer of leaf litter and decomposing vegetation in the Low Terrace.

The OHWM was identified by change in average sediment texture (coarse sand to sandy silt with a surface layer of decomposing vegetation), change in vegetation species, successional stage, and cover; and a break in slope identified by an elevated bench of coarse sandy material. The approximate OHWM boundary identified on Figure 5 is based on the site conditions observed in April 2018.

5.2 Wetland Determination

Wetland characteristics were identified inside the Low-Flow Channel, Active Floodplain, and Low Terrace units along Transect 1. Wetlands were identified within the Low-Flow Channel with flowing water, 100% cover of hydrophytic vegetation, and hydric soils. No wetland conditions were found in the Active Floodplain as sandy soils did not indicate hydric soil conditions. Additionally, no wetland conditions were found in the Low Terrace based on lack of hydric soils.

Similar soil, vegetation, and hydrologic conditions were found along each transect within the study area. Wetlands are restricted to the Low-Flow Channels and no adjacent wetlands were identified outside of the OHWM.

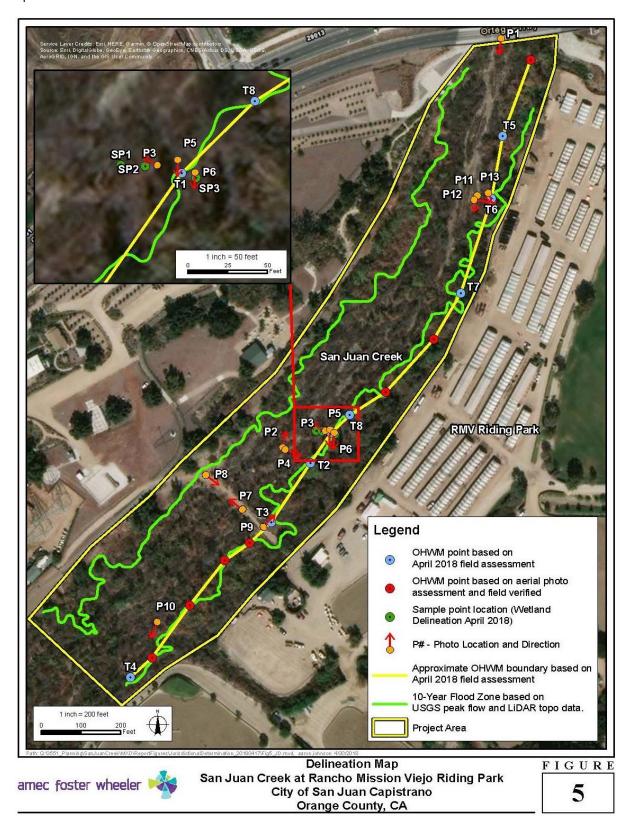


Figure 5. Delineation Map

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APPENDIX A ORDINARY HIGH WATER MARK DATASHEET

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: RMV A; ding Pank of Hwm Project Number: Stream: San Juan Creek Investigator(s): Photo begin file#: Photo end file#:
Photo hegin file#. Dhoto and sta#.
IRVARTINGTORICIO A 9 VIII W VA 4
investigator(s): Nice Micono
Y X / N Do normal circumstances exist on the site? Location Details: San Juan creek South oh H74 Bridge
Y X / N Is the site significantly disturbed? Projection: NAO 83 Datum: Coordinates: State Plane 2016 (feet)
Channel has been moditied histories If for storm water (flooding) controls ie. restricted channel neith a none in stream banks
Tarm road constructed across the new with culverts, damaged in 2017 Storm.
Brief site description: Braided Stream channel w/ perennial flow in low Flowchumb! PC 45 1 to 3 as the stream flows south from vestiction at H 24 bridge.
-PC 45 1 to 3 as the stream flows south from restriction at 474 bridge
stoop banks provide 100 year Flood restriction.
Checklist of resources (if available):
Aerial photography Stream gage data
Dates: 2016 Gage number:
Topographic maps Period of record
Geologic maps History of recent effective discharges
X Results of flood frequency analysis
Most recent shift-adjusted rating
Kaintall/precipitation maps X Gage heights for 2- 5- 10- and 25 year greats and the
most recent event exceeding a 5-year event
Global positioning system (GPS) Other studies
Hydrogeomorphic Floodplain Units
Active Floodplain Low Terrace
Low-Flow Channels OHWM Paleo Channel
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:
. Walk the channel and floodplain within the study area to get an impression of the geomorphology and
regulation produit at the site.
Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
Determine a point on the closs section that is characteristic of one of the hydrogeomorphic floodules and
a) record the hoodplain time and GPS nosmon.
b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the
modeplan unit.
c) Identify any indicators present at the location.
Repeat for other points in different hydrogeomorphic floodplain units across the average.
. Identify the Off will and record the indicators. Record the OHWM position via:
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Digitized on computer Other: Field points of others a cerial photo interpretables,

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1 total veg cover: 100 % Tree: 30 % Shrub: 00	% Herb: /90 %
Community successional stage: w://w Arund	
Early (herbaceous & seedlings)	id (herbaceous, shrubs, saplings)
	(and a subject of the subject of th
Indicators:	essections.
Ripples X Sc	oil development
Drift and/or debris	ther:
Mudcracks Ripples Drift and/or debris Presence of bed and bank Reporter Or	ther:
1 101101103	LIIGI.
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90% poison onk in unders	tory.

oject ID: β MV Cross section ID: 100dplain unit: \Box Low-Flow Channel	
AND THE REAL PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY	Active Floodplain Low Terrace
PS point: TIP2	Provide Call
housetowigting of the floodulain unit.	Si Nee
haracteristics of the floodplain unit: Average sediment texture: Coarse Sand a c	coldle a boulders
Total veg cover: 40 % Tree: 40 % Shi	rub: 47/% Herb: 36/%
Community successional stage: w. low, a why Mo	Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, mature trees)
dicators:	the state of a larger
Mudcracks	Soil development
Ripples C Drift and/or debris	Surface relief Other: Surface relief
Presence of bed and bank	Other: A solution with the second sec
omments: to ase sand who cobbl	le a bouldes
sparse repetation (40	ob) of early to mid successional state
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haracteristics of the floodplain unit: Average sediment texture: Fine Silty Se Total veg cover: 6 % Sh Community successional stage:	rub: 60 % Herb: 60 %
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idicators:	TO CITE (
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Characteristics of the floodplain unit: Average sediment texture:	oject ID: AMV		12 Date: 4	
Dodplain unit: Now-Flow Channel Active Floodplain Low Terrace		Low-Flow Channel	Active Floodplain	Low Terrace
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ommunity successional stage: NA	otal veg cover: 40	_% Tree: <u>40</u> % St	uub: <u>40</u> % Herb: <u>30</u>	_%
Early (herbaceous & seedlings)	ommunity succession	ial stage:	· · · · · · · · · · · · · · · · · · ·	
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Mudcracks	Early (herbac	eous & seedlings)	Late (herbaceous, sh	rubs, mature trees)
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Codplain unit: Low-Flow Channel Active Floodplain Low Terrace				***************************************
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Total veg cover: 26 % Tree; 6 % Shrub: 0 % Herb: 20% Male for Community successional stage: NA	PS point: <u> </u>	P3	e de la compansa del compansa del compansa de la co	A STATE OF THE STA
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Total veg cover: 26 % Tree; 6 % Shrub: 0 % Herb: 20% Male for Community successional stage: NA	varacieristics of the	moodbram and	I was properly to the second	Carries Andrean Agree Assembly (1996) Andrean Andrean Andrean Andrean Andrean Andrean Andrean Andrean Andrean Andrean Andrean Andrea
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NA	Tommunity succession	70 1100, <u>0 8%</u> 70 D	mub	194 (1946) 11 11 11 11 11 11 11 11 11 11 11 11 11
Late (herbaceous, shrubs, mature trees) dicators: Mudcracks Soil development Ripples Surface relief Drift and/or debris Woist Soil development Benches Other: Moist Soil development	NA (nar stago. Indirak san kali danan diba	Mid (herbaceous sl	
dicators: Mudcracks	Early (herbac	eous & seedlings)	Late (herbaceous s	hruhe mature trees)
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Drift and/or debris Presence of bed and bank Benches Other: Other: Other: omments: - all stage Mulefat sprowting through moise so			Crambo an maline	
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The second s	omments: حرية	p stage Mulet	at sprowting	4 hours home or se soil
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Project ID: Cross section ID:) Date: $4/4/18$ Time: 4.00
Cross section drawing:
contents of channel
where the second
OHWM
GPS point:
Comments: Channel has been illered by placements of a culverted road w/
in veg species transitioning to Artemesia californica upland commun ceneval tuend apstream and downstream transition to makerne w, a transo community.
Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace
GPS point: 73 13
Characteristics of the floodplain unit: Average sediment texture: NA- Antiticial fill for Rd construction Average sediment texture: NA- Antiticial fill for Rd construction Average sediment texture: NA- Antiticial fill for Rd construction Herb: 10 % NNG Community successional stage: NA 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: ☑ Commun. 4 □ Presence of bed and bank □ Other: □ Benches □ Other:
Comments: Low terrace in chicked matine willow as houte amountain
W Maletat & cal sagebrush community.
veg stage frantition was used to assels more natural conditions

loodplain unit: Low-Flow Channel	
PS point: T3 P2	
haracteristics of the floodplain unit: Average sediment texture: Total veg cover: Bo % Tree: 40 % SI Community successional stage: NA Early (herbaceous & seedlings)	hrub: PO% Herb: 30% Maletat & nillow dominated wld. Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
idicators:	Mark the territory of the second
 ☐ Mudcracks ☐ Ripples ☐ Drift and/or debris ✓ Presence of bed and bank ☐ Benches 	Soil development Surface relief Other: Other: Other: Other:
omments: Active Flood Plain	determined adjacent to calverted
oad crossing if flowing wat	entra anticipal representation of state of the
was and bridge of the control of the control	In the prince where the same good of
gar Berganish was dike a milita kembang garaga	The first of the first of the first of the same of the same
	and the same of th
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IOOGPIAIN WITE: A Low-Flow Channel	Active Floodplain Low Terrace
PS point: T3 P/	
haracteristics of the floodplain unit: Average sediment texture: Sity same Total veg cover: Community successional stage: NA Early (herbaceous & seedlings)	Shrub: % Herb: 600%
ndicators: Mudcracks	Soil development Surface relief
Ripples Drift and/or debris Presence of bed and bank Benches	Other: Other:
Drift and/or debris Presence of bed and bank Benches Comments: Cull Verted low flo	u channel u/ flouring des
Drift and/or debris Presence of bed and bank Benches Comments:	u channel u/ flouring des
Drift and/or debris Presence of bed and bank Benches Comments: and very exaction	u channed u/ flowing walker
Drift and/or debris Presence of bed and bank Benches Comments: Cu (verted low flower land vegetation.	Other:

Project ID: Cross section ID: TY Date: 4/4/18 Time: 13:30
Cross abiding T
Cross section drawing: Willow Willow Wasting Armsby Armsby
woter the second
CFC CFC
LFC.
OHWM
GPS point: 74 offun
Indicators: Change in average sediment texture Change in vegetation species Change in vegetation cover Change in vegetation cover Other:
Comments: Sandy soil tanns: ton to s: Ity sund up decomp seglages.
Steep bank against right side of Channol
Vey transition from mulefat to mature nillou + Poison oak
d Arando
Floodolain unit:
Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace
GPS point: T4P1
Characteristics of the floodplain unit: Average sediment texture: \$\frac{1}{4}\trace{5} \trace{4} \trace{5} \trace
Indicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches Other: Other: Other:
Comments: Steep bunk to LFC nearby.
Maxure willow, poison on to Mule fut against bunk,
a Armdo

loodplain unit: Low-Flow Channel	✓ Active Floodpla	in Low Terrace
PS point: 74P2	A CONTRACTOR OF THE CONTRACTOR	
haracteristics of the floodplain unit: Average sediment texture: Coase fan Total veg cover: 70 % Tree: 0 % St Community successional stage:	muo: /o % Hero: _	
☐ NA Early (herbaceous & seedlings)	Mid (herbaceou	s, shrubs, saplings) is, shrubs, mature trees)
idicators: ☐ Mudcracks ☐ Ripples ☐ Drift and/or debris ☐ Presence of bed and bank ☐ Benches	Soil developme Surface relief Other: Other:	
omments: pebris stacked up willow shass a m	ule fut domin	ant a mark agreemen
an a constitue a subject a consistence and the constitue and the c		
loodplain unit:	Active Floodpl	
Floodplain unit: Low-Flow Channel GPS point: 7493		
GPS point: 7 4 P 3	hrub: 20 % Herb:	ain Low Terrace 20% us, shrubs, saplings)
Characteristics of the floodplain unit: Average sediment texture: S: 14, Sand Total veg cover: 8 % Tree: 0 % S Community successional stage: NA Early (herbaceous & seedlings) Indicators: Mudcracks	hrub: 20 % Herb: Mid (herbaceo Late (herbaceo	ain Low Terrace 20% us, shrubs, saplings) us, shrubs, mature trees)
Characteristics of the floodplain unit: Average sediment texture: S: 14 Sand Total veg cover: % Tree: 0 % S Community successional stage: NA Early (herbaceous & seedlings) Indicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Mid (herbaceon Late (herbaceon Soil developme Surface relief Other:	ain Low Terrace 20% us, shrubs, saplings) us, shrubs, mature trees) ent 450.1
Characteristics of the floodplain unit: Average sediment texture: S: 14 Sand Total veg cover: % Tree: 0 % S Community successional stage: NA Early (herbaceous & seedlings)	Mid (herbaceon Late (herbaceon Soil developme Surface relief Other:	ain Low Terrace 20% us, shrubs, saplings) us, shrubs, mature trees) ent 450.1

Project ID: R	MV Cross secti	ion ID: 75	Date: 4/13/	//8 Time: 10105
Cross section	Irawing: 474 Bridge	2 - 21 - 32 A		
Security of the second			Y Y	ি । শ্বিক ব্যৱস্থা ক্ষেত্ৰতি ইন্ত স্থান্ত্ৰত উপস্থাপুৰুত্ব শ্বিক স্থান্ত্ৰতি শ্বিক স্থান্ত্ৰত উপস্থাপুৰুত
	CPC	The state of the s	a control of the cont	in the second of
<u>OHWM</u>			100 mg 1 m	January Harriston
GPS point:	75 OHWM	- Carlon		· 一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个
Indicators: X Change X Change Y Change Cha	e in average sediment te	exture Brea	k in bank slope r: r:	in liquid light and a second s
Comments:	Transiton to	Marire Will	ou, Arnado, s	Poison onk
	andy bench	transition	to silty sun	d
	App10 x 8-	10' Elevation	r change abou	ve LFC
Floodplain un	it: Low-Flow C	hannel Activ	ve Floodnlain	Low Terrace
GPS point: /				
Average sedime Total veg cover Community suc NA	cessional stage:	Shrub: (00.9)	(herbaceous shrubs	choust the translation of the control of the contro
Indicators: Mudcr Ripple Drift a: Present	s nd/or debris ce of bed and bank	Soil Surfa Othe	ace relief	
Comments:	Nature 30:1 trai	ucy layer i		4
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Project ID: AMV Cross section ID: 7	5. Date: 4/13/18 Time:
Floodplain unit:	Active Floodplain
GPS point: T3P2	
Characteristics of the floodplain unit: Average sediment texture: Ccase Sand Total veg cover: 50 % Tree: 50 % Shrul Community successional stage: NA	o: 50 % Herb: 50 % Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, mature trees)
i e e e e e e e e e e e e e e e e e e e	Soil development Surface relief Other: Other: Other:
	IFP ul spanse vegetation groups
Floodplain unit:	☐ Active Floodplain ☐ Low Terrace
GPS point: T5 P3	El Eow Telface
Characteristics of the floodplain unit: Average sediment texture: Coase Sand Total veg cover: 60 % Tree: 0 % Shru Community successional stage:	b: (00 % Herb: (10 %) Mid (herbaceous, shrubs, saplings)
Indicators: ☐ Mudcracks ☐ Ripples ☐ Drift and/or debris ☐ Presence of bed and bank	Soil development Surface relief Other: Flouing naken Other:
Comments: Dense wetland ves Mule fort	Other: community w/ Typha, Nostentium
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Cross section drawing:	- willow
. 1:	production of willow
Wet (and	Lie to
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water	O Hum M
(FC	An arm of the second se
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	and the second of the second o
GPS point: TOOHWM	
ndicators:	(1965) [1] (1965) [1] (1965) [1] (1965) [1] (1965) [1] (1965) [1] (1965) [1] (1965) [1] (1965) [1] (1965) [1]
ार्च द	Break in bank slope
	Other:
Change in vegetation cover	Other:
	NAME OF STREET
comments: Male Fax +	o willow (Mature) a Annoto, treasof
Part of the second of the seco	ow: llow (Mature) a Annalo, treusos s: (In/ ves laryer
Transition of Soil-Sandy 20	1:17w/ ves lawyer
Hoodplain write Dr. 71 of	Parad Parad
Floodplain unit:	☐ Active Floodplain
GPS point: 76 P1	
SPS point: 76 Pl	
Characteristics of the floodplain unit: Average sediment texture:	ul decomp veg layer
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 10 % Tree: 50 % Shr	ul decomp veg layer
Tharacteristics of the floodplain unit: Average sediment texture: Total veg cover: [10] % Tree: Community successional stage: NA	rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings)
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: [10] % Tree: 50 % Shr Community successional stage: NA	ul decomp veg layer
Characteristics of the floodplain unit: Average sediment texture:	rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings)
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: [10] % Tree: Community successional stage: NA Early (herbaceous & seedlings)	rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: [] NA [] Early (herbaceous & seedlings) Indicators: [] Mudcracks	rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: [10] % Tree: Community successional stage: NA Early (herbaceous & seedlings)	rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief
Characteristics of the floodplain unit: Average sediment texture:	rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: O Tree: NA Early (herbaceous & seedlings) ndicators: Mudcracks Ripples Drift and/or debris	w/ Accomp seg layer rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other: Other:
Characteristics of the floodplain unit: Average sediment texture:	rub: 32 % Herb: 160 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other: Other: Other:
Characteristics of the floodplain unit: Average sediment texture:	w/ Accomp seg layer rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other: Other:
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: NA Early (herbaceous & seedlings) Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	w/ Accomp seg layer rub: 30 % Herb: 100 % Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other: Other: Other: Other:

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Project ID: AMV Cross section ID: 7	76 Date: 4/13/18 Time:
Floodplain unit: Low-Flow Channel	
GPS point: 76 P2	·
	Application of the second of t
Characteristics of the floodplain unit:	
Average sediment texture: Carila and	
Total veg cover: 50 % Tree: 0 % Shr Community successional stage:	ub: <u>50</u> % Herb: <u>50</u> %
□ 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: 6 Elaration over	Mule Lat , Arudo
	11. (a. 6. t. 1 10
Vey commun, ty of	male cal 3 mano
Coance Sandy Soil	
Floodplain unit: \(\nabla \) Low-Flow Channel	☐ Active Floodplain ☐ Low Terrace
GPS point: The P3	
Characteristics of the floodplain unit:	general analysis was a supplied to the supplined to the supplied to the supplied to the supplied to the suppli
Average sediment texture: cea. 5 and	
Total veg cover: 100 % Tree: 0 % Shr	rub: <u>/ 0</u> % Herb: <u>/ 00</u> %
Community successional stage:	
☐ NA ☐ Early (herbaceous & seedlings)	Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
[2] Emry (heroaccous & securings)	Late (herbaceous, shrubs, mature trees)
Indicators:	· · · · · · · · · · · · · · · · · · ·
Mudcracks	Soil development
Ripples	Surface relief
Drift and/or debris Presence of bed and bank	Other: Wn Av
Benches	Other:
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<u>DHWM</u>	
GPS point: <u>77 0 Hw</u> M	
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ndicators:	The state of the s
Change in average sediment tex	ture Break in bank slope
Change in vegetation cover	Other: Las 1, sun, sept
omments: Sand to	Sily sand wy veg layer
ing the state of t	
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loodplain unit:	annel Active Floodplain 🛭 Low Terrace
	•
SPS point: T7//	•
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PS point: TZP/	· · · · · · · · · · · · · · · · · · ·
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage:	and w/veg layer % Shrub: 60% Herb: 90%
haracteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 90 Community successional stage:	and w/veg layer % Shrub: 60% Herb: 90%
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 90 Community successional stage:	and w/veg layer No Shrub: 60% Herb: 90%
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings)	and w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings) Indicators: Mudcracks	and w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings) ndicators: Mudcracks Ripples	and w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings) ndicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank	And w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other:
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 40 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings) ndicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank	And w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other:
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings) ndicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank	And w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief Other:
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 90 % Tree: 30 Community successional stage: NA Early (herbaceous & seedlings) ndicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank	And w/veg layer % Shrub: 60% Herb: 90% Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees) Soil development Surface relief

oodplain unit: Low-Flow Channel	Date: 4//3/17 Time: 1/2 Active Floodplain	e 5 等的 法数据:
PS point: 77 P2		;
aracteristics of the floodplain unit: average sediment texture: (Carle Sand otal veg cover: 9% Tree: 50% Sh	nrub: % Herb:	
ommunity successional stage: NA Early (herbaceous & seedlings)	Mid (herbaceous, shrubs, saplings) Late (herbaceous, shrubs, mature trees)	
dicators: Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Soil development Surface relief Other: Other: Other:	
mments: Sandr Soul		्रास्थ अर्थे के इस्तारी
mid stave grow	th Muletut & Arundo	
	th Mulefat & Arundo Active Floodplain Low Terrac	
oodplain unit: \[\text{Low-Flow Channel} \] PS point: \[77 \] caracteristics of the floodplain unit: \[\text{Loverage sediment texture: } \] Cotal veg cover: \[\langle 00 \% \] Tree: \[0 \langle \% \] Community successional stage: \[\text{NA} \]	Active Floodplain Low Terrac	Service Property of the Control of t
oodplain unit: \[\text{Low-Flow Channel} \] PS point: \[77 \] caracteristics of the floodplain unit: \[\text{Loverage sediment texture: } \] Cotal veg cover: \[\langle 00 \% \] Tree: \[0 \langle \% \] Community successional stage: \[\text{NA} \]	hrub: 80 % Herb: 100% Mid (herbaceous, shrubs, saplings)	be the state of the

	ate: 4/13/18	1 HHIC.	-/ -/ /
Cross section drawing:	4. .		
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GPS point: T & P DHWM			
ndicators:			
Change in average sediment texture Break in ba	ank slone		
Change in vegetation species Other:	am stope		
Change in vegetation cover Other:			
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Comments:		and the second	
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Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 100 % He Community successional stage:	odplain [mp ves la, erb: 10_%	Low Te	Tace of the second of the seco
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 100 % He Community successional stage: NA NA Low-Flow Channel Active Flow	odplain np ves la, erb: [O_% aceous, shrubs, s	✓ Low Ten	
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 100 % He Community successional stage: NA NA NA NA Active Flow Active Fl	odplain [mp ves la, erb: 10_%	✓ Low Ten	
Floodplain unit:	odplain np ves la, erb: [O_% aceous, shrubs, s	✓ Low Ten	
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 100 % He Community successional stage: NA Early (herbaceous & seedlings) Active Flow Ac	odplain np ves la, erb: [O_% aceous, shrubs, s	✓ Low Ten	
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 100 % He Community successional stage: NA Early (herbaceous & seedlings) Mudcracks Soil development Service Flood Channel Active Flood Act	odplain no ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r	✓ Low Ten	
Floodplain unit:	odplain np ves la, erb: [O % aceous, shrubs, s aceous, shrubs, r	✓ Low Ten	
Characteristics of the floodplain unit: Active Floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 60 % He Community successional stage: NA K Mid (herbat Late (herbat Ripples Surface rel Cother: 60 % Shrub: 60 % Shrub: 60 % He Community successional stage: Soil development Surface rel Cother: 60 % Shrub: 60 % S	odplain np ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	✓ Low Ten	
Characteristics of the floodplain unit: Active Floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 60 % He Community successional stage: NA Mid (herbacteristics of the floodplain unit: Average sediment texture: Total veg cover: 100 % Tree: 60 % Shrub: 60 % He Community successional stage: NA Mid (herbacteristics of the floodplain unit: Mid (herbacteristics of the floodplain unit: Mid (herbacteristics of the floodplain unit: Active Floodplain unit: Average sediment texture: Typodal Averag	odplain np ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	✓ Low Ten	
Characteristics of the floodplain unit: Average sediment texture: Total veg cover: 180 % Tree: 60 % Shrub: 100 % He Community successional stage: NA Early (herbaceous & seedlings) Mudcracks Ripples Drift and/or debris Presence of bed and bank Active Flood Ac	odplain np ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	✓ Low Ten	
Characteristics of the floodplain unit: Average sediment texture: St. Lysand Aleconomy Ale	odplain no ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	Low Termandary	
Characteristics of the floodplain unit: Average sediment texture: St. Lysand Aleconomy Ale	odplain no ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	Low Termandary	
Floodplain unit:	odplain no ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	Low Termandary	
Characteristics of the floodplain unit: Average sediment texture: Si	odplain no ves la, erb: 10 % aceous, shrubs, s aceous, shrubs, r opment lief	Low Termandary	

Project ID: AMV Cross section ID:	T8 Date: 4/13/19 Time:
Floodplain unit:	Active Floodplain
GPS point: To P2	
Characteristics of the floodplain unit:	
Average sediment texture: Sand Total veg cover: 70 % Tree: 70 % Shr	rub: <u>40</u> % Herb: <u>40</u> %
Community successional stage:	78 /1GID. 30 /1
NA 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: Ng Cover & Species Other: Other:
Presence of bed and bank	Other:
∠ Benches	Other:
Comments: Malufut & are	medo. ves community
	And the state of t
	the transfer of the way of the contraction of the c
	part
Floodplain unit:	☐ Active Floodplain ☐ Low Terrace
GPS point: 7883	
Characteristics of the floodplain unit:	
Average sediment texture: Sand	
Total veg cover: 100 % Tree: 0 % Shi	rub: <u>10</u> % Herb: <u>100</u> %
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	
Presence of bed and bank	Other:
☐ Benches	☐ Other:
Comments: Denie wetland veg Steep banks of L	in flowing water.
CLODAL by L	FC.
step banks of	•

Attorney-Client Privilege
San Juan Creek at Rancho Mission Viejo Riding Park
Ordinary High Water Mark Delineation Technical Report
April 2018

APPENDIX B WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Arid West Region

Applicant/Owner: San Juan Cak: Stones Investigator(s): Wick Aicons Section, Township, F	Range: Sec 5 TAS R TW
Landform (hillslope, terrace, etc.): 5 + renm chuma/ Local relief (concave	, convex, none): Slope (%):
	NLong: 117 37 36.12 W Datum: NaD83
Soil Map Unit Name: Airer was 6 NWI classification	
	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed?	
Are Vegetation, Soil, or Hydrology naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point to	
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes No Is the Samp Wetland Hydrology Present? Yes No within a We	
Remarks: site lies in low Flow Channe	1 20 mas tream of Farm And
Challing that it a located from	ruan creek is a braided
perennial channel with low Flow c	hamnels, Active FloalPhin, o- Conterna
VEGETATION	· · · · · · · · · · · · · · · · · · ·
Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	Total Number of Dominant Species Across All Strata: (B)
Total Cover:	Percent of Dominant Species That Are OBL, FACW, or FAC: (80 (A/B)
Sapling/Shrub Stratum 1. Bacchanis Falicifolia 202 Y FAC	
2. Arundo dona z 2026 Y PAC. 3. Tangrix Chinensis 102 Y FAC	
4. Salik lasiolepis 10% Y FAC	" ODE SUCCIES
5. Total Cover:	FAC species x 3 =
Herb Stratum	FACU species x 4 = UPL species x 5 =
1. Cyperus eragrostis 202 y FACH 2. Mimulus gattatus 20% V OBL	Column Totals: (A) (B)
3. Nastersium officiente 40% V OBL	Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
5. Juneus effective 1050 N FACO	Dominance Test is >50%
6. 7.	Prevalence Index is ≤3.0 Morphological Adaptations¹ (Provide supporting
8.	data in Remarks or on a separate sheet)
Total Cover: 100	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum 1.	¹ Indicators of hydric soil and wetland hydrology must
2. Tatal Causes	be present.
Total Cover:	Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cover of Biotic Crust	Present? Yes 🐰 No
Remarks: Dense vegetation present of	
pense rejetation present by 4	flowing unver
and the second of the second o	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. *Iydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Poblematic Hydric Soils *: Histosol (A1) Sandy Redox (S5)	Depth	Matrix			<u>kan Naraha</u> , yanan s	o y w la	
Type: C=Concentration, D=Deplation, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils *: Indicators for Problematic Hydric Soils *: I. orn Musc (A9) (LRR C) Black Histo (A2) Sardy Redox (S5) I. orn Musc (A9) (LRR C) Black Histo (A2) Loarny Muscky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loarny Muscky Mineral (F1) Reduced Vertic (F18) Torn Musc (A9) (LRR C) Depleted Matrix (F3) Red Parent Material (TF2) Stratified Layers (A5) (LRR D) Redox Dark Surface (F7) Thick Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F7) Sandry Muscky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No Remarks: Cley Sandry Matrix (S1) Sait Crust (S11) Sait Crust (S12) Sandry Musch (A12) Sait Crust (S12) Said Crust (S12) Depth (inches): Dept		Color (moist)				e . '	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. "Location: PL=Pore Lining, RC=Root Channel, M=Matrix. Iydric Soil indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoil (A1) Histosoil (A1) Histosoil (A2) Histosoil (A2) Sandy Redox (S5) 1. cm Muck (A9) (LRR C) 2. cm Muck (A1) (LRR B) Black Histoic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfida (A4) Loamy Gleyed Matrix (F3) Other (Exptain in Remarks) 1. cm Muck (A9) (LRR C) 1. cm Muck (A9) (LR C) 1. cm Mu			··	12/10 ma		1	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls *: 1. cm Muck (A9) (LRR C) 1. cm Muck (A9) (LRR D) 1. cm	0-6 *	aley/3/PV	10		<u> Sano</u>	<u>{</u>	·
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls *: 1. cm Muck (A9) (LRR C) 1. cm Muck (A9) (LRR D) 1. cm		No. 20 No	1 45 1544 5 554 1554	*			
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls *: 1. cm Muck (A9) (LRR C) 1. cm Muck (A9) (LRR D) 1. cm	**	V CV :		· · · · · · · · · · · · · · · · · · ·		· ·	· · · · · · · · · · · · · · · · · · ·
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Histosol (A1) Histosol (A2) Histo Epipedon (A2) Histo Epipedon (A2) Stripped Matrix (S3) Black Histo (A3) Loarny Mucky Mineral (F1) Hydrogen Sulfide (A4) Loarny Mucky Mineral (F2) Stratified Layers (A5) (LRR D) Pepleted Below Dark Surface (A11) Pepleted Below Dark Surface (A11) Pepleted Below Dark Surface (F7) Titick Park, Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Pepleted Hydrology Indicators: A Lex Sandy makes a Cury Mineral Makes a Cury Makes a			· /				:
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Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR C) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR D) Torm Muck (A9) (LRR D) Pepleted Below Dark Surface (F6) Depleted Below Dark Surface (A11) Pepleted Dark Surface (F6) Depleted Below Dark Surface (F1) Thick Dark Surface (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes \ No Remarks: A Ley Sandy makenal (within a present (within a present (s1)) Hydrology indicators: **Water Marks (B1) (Nonriverine) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Hydrology Sidiged Matrix (B1) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Sufface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial imagery (B7) Other (Explain in Remarks) Hydrology Indicators (2 or more in the present of Reduced Plant (Parks (B1)) Water Marks (B1) (Nonriverine) Oxidized Rhizosphere's along Living Roots (C3) Sin Muck Surface (C7) Sediment Deposits (B2) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Shallow Aquitard (D3) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes \ No Depth (inches): Wettland Hydrology Present? Yes \ No Depth (inches): Saturation Present? Yes \ No Depth (inches): Wettland Hydrology Present? Yes \ No Depth (inches): Saturation Present? Yes \ No Dep	Hydric Soil I	ndicators: (Applicabl	e to all LRRs, unles	s otherwise noted.)	and the second s		-
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Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hyd Primary Indic Surface I High Wa Saturatic Water M Sedimen Drift Dep Surface I Inundatic Water-St	drology Indicators: cators (any one Indicator Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine at Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial Ima	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Preser Recen gery (B7) Other i	rust (B11) Crust (B12) o Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (t Iron Reduction in Plo (Explain in Remarks)	g Living Roots (C3)	Gecondary Indica Water Marks Sediment Dep Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis	ators (2 or more r (B1) (Riverine) cosits (B2) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imatard (D3)
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes 🔟 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hyd Primary Indic Surface \ High Wa Saturatio Water Mater	drology Indicators: cators (any one indicator Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine It Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial Imalained Leaves (B9) rvations:	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Preser Recen gery (B7) Other i	rust (B11) Crust (B12) o Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (t Iron Reduction in Plo (Explain in Remarks)	g Living Roots (C3)	Gecondary Indica Water Marks Sediment Dep Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis	ators (2 or more ri (B1) (Riverine) cosits (B2) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imatard (D3)
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Indic Surface High Wa Saturatio Water M Sedimen Drift Dep Surface Inundatio Water-St Field Obset	cators (any one indicators: cators (any one indicator) Vater (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine t Deposits (B2) (Nonriverine soits (B3) (Nonriverine Soil Cracks (B6) on Visible on Aerial Ima cained Leaves (B9) rvations: ter Present?	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Qxidize e) Preser Recen agery (B7) Other (rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (t t Iron Reduction in Plo (Explain in Remarks)	g Living Roots (C3)	Gecondary Indica Water Marks Sediment Dep Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis	ators (2 or more ri (B1) (Riverine) cosits (B2) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imatard (D3)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Indice Surface Mater Surface Mater-St Field Observation Water Table Water Table	drology Indicators: cators (any one indicator) Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine It Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial Imalianed Leaves (B9) rvations: ter Present? Yes Present? Yes	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Oxidize e) Preser Recen agery (B7) Other (X No Dep	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (t t Iron Reduction in Plo (Explain in Remarks) oth (inches):	g Living Roots (C3) C4) owed Soils (C6)	Secondary Indicative Water Marks Sediment Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) posits (B2) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imatard (D3) Test (D5)
Remarks: site at colse of low flow channel w/ Flowing workers	Primary Indices Surface Mater Mater Mater Mater Mater Surface Mater Surface Mater Surface Water Surface Water Table Saturation F	drology Indicators: cators (any one indicator) Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine It Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial Imalianed Leaves (B9) rvations: ter Present? Present? Yes Present? Yes	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Oxidize e) Preser Recen agery (B7) Other (X No Dep	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (t t Iron Reduction in Plo (Explain in Remarks) oth (inches):	g Living Roots (C3) C4) owed Soils (C6)	Secondary Indicative Water Marks Sediment Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) posits (B2) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imatard (D3) Test (D5)
Remarks: Site at edge of Ion flow chunnel w/ Flowing workers	Primary Indic Surface High Wa Saturatic Water M Sedimen Drift Dep Surface Inundatic Water-St Field Obset Surface Wa Water Table Saturation F (includes ca	cators (any one indicators: cators (any one indicator) Vater (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine t Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial Ima rained Leaves (B9) rvations: ter Present? Present? Present? Yes Present? yes pillary fringe)	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Oxidize Preser Recen Recen gery (B7) Other (No Dep No Dep	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ged Rhizospheres alon nce of Reduced Iron (t Iron Reduction in Pla (Explain in Remarks) oth (inches): oth (inches):	g Living Roots (C3) C4) owed Solls (C6)	Secondary Indicative Water Marks Sediment Deposits Drainage Patt Dry-Season Vi Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) posits (B2) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imatard (D3) Test (D5)
Remarks: sixe at colve of low flow channel w/ Flowing waven	Primary Indice Surface High Was Saturation Water Manager Surface Inundation Water-St Field Obset Surface Water Table Saturation F (includes ca	drology Indicators: cators (any one Indicator Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine t Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial ima cained Leaves (B9) rvations: ter Present? Present? Yes Present? Yes pillary fringe)	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Qxidize Preser Recen gery (B7) Other No Dep No Dep lauge, monitoring wei	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (I t Iron Reduction in Plo (Explain in Remarks) oth (inches): oth (inches): oth (inches):	g Living Roots (C3) C4) owed Soils (C6) Wetland Hyd	Secondary Indica Water Marks Sediment Der Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) opsits (B2) (Riverine) (B3) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imaterd (D3) Test (D5)
sixe at coise or low ton chunnel w/ Floning waven	Primary Indic Surface High Wa Saturatio Water M Sedimen Drift Dep Surface Inundatio Water-St Field Obset Surface Water Table Saturation F (includes ca	drology Indicators: cators (any one Indicator Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine t Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial ima cained Leaves (B9) rvations: ter Present? Present? Yes Present? Yes pillary fringe)	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Qxidize Preser Recen gery (B7) Other No Dep No Dep lauge, monitoring wei	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (I t Iron Reduction in Plo (Explain in Remarks) oth (inches): oth (inches): oth (inches):	g Living Roots (C3) C4) owed Soils (C6) Wetland Hyd	Secondary Indica Water Marks Sediment Der Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) opsits (B2) (Riverine) (B3) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imaterd (D3) Test (D5)
	Primary Indices Surface Mater Mater Mater Mater Mater Mater Surface Mater-Street Mater-Street Mater Table Saturation Functions Field Observation Functions F	drology Indicators: cators (any one Indicator Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine t Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial ima cained Leaves (B9) rvations: ter Present? Present? Yes Present? Yes pillary fringe)	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Qxidize Preser Recen gery (B7) Other No Dep No Dep lauge, monitoring wei	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (I t Iron Reduction in Plo (Explain in Remarks) oth (inches): oth (inches): oth (inches):	g Living Roots (C3) C4) owed Soils (C6) Wetland Hyd	Secondary Indica Water Marks Sediment Der Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) opsits (B2) (Riverine) (B3) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imaterd (D3) Test (D5)
	Wetland Hyderimary Indices Surface Mater Mater Mater Mater Mater Mater Surface Mater-Stell Observators Water Table Saturation Followed Processors Construction Followed Processors Field Observation Field Processors Field Field Processors Field Field Processors Field Field Field Field Field Field	drology Indicators: cators (any one Indicator Water (A1) ter Table (A2) on (A3) arks (B1) (Nonriverine t Deposits (B2) (Nonriverine Soil Cracks (B6) on Visible on Aerial ima cained Leaves (B9) rvations: ter Present? Present? Yes Present? Yes pillary fringe)	or is sufficient) Salt Cr Biotic (Aquatic) Hydrog verine) Qxidize Preser Recen gery (B7) Other No Dep No Dep lauge, monitoring wei	rust (B11) Crust (B12) c Invertebrates (B13) gen Sulfide Odor (C1) ed Rhizospheres alon nce of Reduced Iron (I t Iron Reduction in Plo (Explain in Remarks) oth (inches): oth (inches): oth (inches):	g Living Roots (C3) C4) owed Soils (C6) Wetland Hyd	Secondary Indica Water Marks Sediment Der Drift Deposits Drainage Patt Dry-Season V Thin Muck Su Crayfish Burro Saturation Vis Shallow Aquit FAC-Neutral	ators (2 or more ro (B1) (Riverine) opsits (B2) (Riverine) (B3) (Riverine) terns (B10) Vater Table (C2) urface (C7) ows (C8) sible on Aerial Imaterd (D3) Test (D5)

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: San Juan Creoka AMU Pank City/County: San	Juan Cas lorang Sampling Date: 4/4/18
Applicant/Owner: San Juan Capistrano	State: CA Sampling Point: SPA
Investigator(s): Nick Riwno Section, Township, Ra	
Landform (hillslope, terrace, etc.): Jaran Chanael Local relief (concave,	convex, none): None Slope (%): J
Subregion (LRR): Lat:	Long: 1/7°37 '35.94"W Datum: NAV83
Soil Map Unit Name: River wash NWI classificatio	
	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly disturbed? Ar	
Are Vegetation, Soil _x, or Hydrologynaturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X is the Sampl Wetland Hydrology Present? Yes Y No within a Wet Remarks: Site lies within the Active Floor approx 4 elevation above the low floor one present due to active strenger	land? Yes No X d Plain of San Juan Creek, a channel. Problematic soils
VEGETATION	
Tree Stratum (Use scientific names.), 1. Saliz (asio(e)); 2. Absolute Dominant Indicator % Cover Species? Status FACW	Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant (A)
4.	Species Across All Strata: (E)
Total Cover: 40 Sapling/Shrub Stratum	Percent of Dominant Species That Are OBL, FACW, or FAC:
1. Arundo dona 2 2. One charis salicidolia 20 V FAC 3. Nicotiana glanca 10 Y FAC 4. 5. Total Cover: 50 Herb Stratum 1. Artemisia douglassiana 20 V FAC 2. Toxi codendron diversilohum 10 V FAC 4. 4. A arthium strumarium 5 V FAC 5. 6.	Prevalence Index worksheet: Total % Cover of: OBL species
8.	Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Total Cover: 35 Woody Vine Stratum	Problematic Hydrophytic Vegetation¹ (Explain)
1	Indicators of hydric soil and wetland hydrology must
Total Cover: O	be present.
% Bare Ground in Herb Stratum 6 5 % Cover of Biotic Crust 0	Hydrophytic Vegetation Present? Yes No
Remarks: Sparcity of vecetation cover lite	ely due to high channel
Flows in 2017, and repented duri	ny the 5-10 yr flood event

2011				200	÷				
SOIL		Ta secondar				The state of the s			pling Point: SP2
	ption: (Describe to	the depth n					rm the abs	ence of Indica	tors.)
Depth (inches)	.Matrix Color (moist)	: %	Redox Color (moist)	reature %	s . ; Type¹	Loc ²	Texture	1 100	Remarks
0-14	2.57A 5/3		Color (molar)		туре	LOC	Sund	Coarse	Sa nel
	cents V. I to					2 916	4 .		
		,							······································
	- , <u>Y</u> -								
		74							
Tung C Con	centration, D=Deple	Sea DM De					DO D 16		
Hydric Soil In	dicators: (Applicat	le to all LRI	Rs. unless otherwis	se note	PL≕POre d.)			Channel, M=Ma roblematic Hy	
Histosol			Sandy Redox (S5		 ,		•	A9) (LRR C)	
	pipedon (A2)	. ·	Stripped Matrix (8					A10) (LRR B)	
Black His	' '		Loamy Mucky Mi			F	leduced Ve	rtic (F18)	
	n Sulfide (A4)	\ 	Loamy Gleyed M		<u>2)</u>			Vaterial (TF2)	
	l Layers (A5) (LRR C ck (A9) (LRR D)	,	Depleted Matrix (Redox Dark Surfa				лner (⊏xpia	in in Remarks)	
	Below Dark Surface	(A11)	Depleted Dark St	• • • • •			Part Contract	5 4 5 5 5 8	
	ırk Surface (A12)	` ' _	Redox Depressio	nis (F8)			Security S	and the	
	lucky Mineral (S1)	::-	Vernal Pools (F9)) ₅	~	3		f hydrophytic v	
sandy G	ileyed Matrix (S4)						wetland h	ydrology must	be present.
Restrictive La	ayer (if present):						٠		
Depth (in			- * 15 - 15 - 15 - 15 - 15 - 15 - 15 - 15		ā.	Hydri	c Soil Pres	ent? Yes	No 4
Remarks: 5	and dopos	:tonal	spils 'nyh	ne a	elive	Flo	od Plain	. No 5/6	n of redox
rea v no lan	andy depositures to ade t 1. kely se storm	pth of to co	ollect or (5-10 years t	conce conce	e co on to bused	rarse on t	e sand water lood sta	dy consi	d. tons are de of
HYDROLOGY	21	v i i i	1. 9 7. 3. 1.	1,7	÷	٠,	18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Wetland Hydr	ology Indicators:			1.57			Seco	ndary Indicato	rs (2 or more required)
Primary Indica	tors (any one indicat	or is sufficier	nt)	* (M	Vater Marks (B	1) (Riverine)
Surface W		,	_Salt Crust (B11)	4	5	gradijasis			lts (B2) (Riverine)
High Wate Saturation	r Table (A2)	. —	_Biotic Crust (B12)		n)			rift Deposits (B	
	(A3) ks (B1) (Nonriverine	a)	Aquatic Invertebra Hydrogen Sulfide					rainage Patterr ry-Season Wat	
Sediment	Deposits (B2) (Nonr i	verine)	Oxidized Rhizosp			ng Root		nin Muck Surfa	
	sits (B3) (Nonriverin	e)	Presence of Redu					rayfish Burrow	
	oll Cracks (B6) · Visible on Aerial Im		_Recent Iron Redu			Soils (C	· —		e on Aerial Imagery (C9)
	ined Leaves (B9)	agery (D7)_	_Other (Explain in	nemark	(8)			hallow Aquitaro AC-Neutral Tes	
Field Observ	. ,				• •		'		
Surface Wate	and the second s	s No		: > /4	ι^{n}				
Water Table F			🗶 Depth (inches)		44	-			
Saturation Pre		3 No_	👢 Depth (inches)	: _>/	G Fo	Wetla	nd Hydrold	gy Present?	Yes_ <u>X</u> No
(includes capi Describe Rec	iliary mnge) orded Data (stream (lauge, monit	oring well, serial ph	ntas na	evious in	spection	ns) if availe	hle'	
	oraca para (orocan)	jaaga, mam	omig won, donar pri	0100, pi	o vious iii	opeodoi	is), ii uvana		1
. · · · · ·									
Remarks: 5	and depos.	+,'01	indicates.	Ac t	rive	Flo	od flain	n condi	tions. Last of the evidence ely sits
Lui	se storm e	vent	took place	1/11	2011	7 On	red of	1 Anocd	otal evidence
45	WIW WHO EY	· Flows	ctape a	sel i	below.	12 (2) A	lo 104	r flow	the sots
લ અ	- 41E 8/	(.010	7 - 2 - 40;		- Ugr Vi	v /	- wy	·, i · · · ·	1149E,

WETLAND DETERMINATION DATA FORM - Arid West Region Project/Site: San Junn Creek & AMV City/County: Sun Juan Cap / Onge Sampling Date: 4/4/18 Applicant/Owner: San Juan Capistonno State: CA Sampling Point: 5/3 Investigator(s): Wick Aicono Section, Township, Range: Sec 5 785 A 76 Landform (hillslope, terrace, etc.): Strenm chanel Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): Lat: 73°30′58.49″ Long: 117°37′35.56″ Datum: NAO83 Soil Map Unit Name: NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? X No (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes _ 💉 No Are Vegetation _____, Soil __X__, 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? Hydric Soil Present? Yes is the Sampled Areas Wetland Hydrology Present? within a Wetland? site lies Low Terrace unit of San Juan creek outside of the and inside + 14e 100 yr flood channel Problematic Soils stream channel influences. **VEGETATION** Absolute Dominant Indicator Dominance Test worksheet: % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across Ali Strata; (B) Percent of Dominant Species 🦿 Total Cover: ___ That Are OBL, FACW, or FAC: Sapling/Shrub Stratum Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 ≠ FAC species . x3 =Total Cover: 60 **FACU** species x 4 = Toxico dendron diversitabum UPL species x 5 = Column Totals: Prevalence Index = B/A =Hydrophytic Vegetation Indicators: Dominance Test is >50% 6. Prevalence Index is ≤3.0 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum Indicators of hydric soil and wetland hydrology must be present. Total Cover: 🗸 💪 Hydrophytic % Bare Ground in Herb Stratum Vegetation O % Cover of Biotic Crust O Present? Remarks: Dense Vegetation growth

Sampling	Point:	5	P	3	

Pro	file Descri	iption: (Describe to ti	ne depti	h needed to docume	nt the i	ndicator	or conf	irm the absence	of indicators.)
	Depth	Matrix						at rought of the p	
l	(inches)	Color (moist)	%	Color (moist)	%	Type1		Texture	Remarks
	0-14	2.5 VR 3/3	100				· ·····	S: /ty Sand	
	· · ·	July 19944.	· •			San California	Sales and the St	Šą "	5.50
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			Ж.						Alternative Control of the Control o
Τý	pe: C=Cor	ncentration, D=Depletio	n, RM⊨l	Reduced Matrix. ² L	ocation	: PL≑Por	e Lining,	RC=Root Chann	el, M=Matrix.
		dicators: (Applicable							matic Hydric Soils ³ :
l	Histosol	(A1)		Sandy Redox (S	5)		1	cm Muck (A9) (L	.RR C)
	Histic Ep	olpedon (A2)	•	Stripped Matrix	(Ś6)			cm Muck (A10)	
	Black Hi	stic (A3)		Loamy Mucky M	lineral (f	F1) >	. ——F	Reduced Vertic (F	18)
	Hydroge	n Sulfide (A4)		Loamy Gleyed N	/latrix (F			Red Parent Materi	
75	Stratified	Layers (A5) (LRR C)		Depleted Matrix				Other (Explain in F	
1	1.cm Mu	ick (A9) (LRR D)		Redox Dark Sur	face (F6	3) .			
797	Depleted	Below Dark Surface (A11) '	Depleted Dark S	Surface i	(F7)	1 1 1 1	Name of the S	3 T L
,	Thick Da	ark Surface (A12)	1.0	Hedox Dark Sur Depleted Dark S Redox Depressi	ohs (F8	\$ 2000 P)	Villagoria.	English Strate &	THE RESERVE
	Sandy N	lucky Mineral (S1)	St. a while	Vernal Pools (F		/ ઉજસ્થાપન કુંક	4, 3	Indicators of hydr	ophytic vegetation and
-1.:	Sandy G	leyed Matrix (S4)	24.5		- / -	n .	, ¢.		ogy must be present.
								noticina ny cron	ogy made bo prodoma
Re	strictive L	ayer (if present):							
	Type:			and the second					2. ⁹
	Depth (in	nches):	1 1	7. A. A. A.		:-	Hydri	c Soil Present?	Yes No 🔏
Re	marks:	1142 6 1		,,		pprovi			no sign of litter + vegetation high flows in potenhold water.
	- Y., 💆	rily samm	<i>y</i> > 0	ois in th	a Lo	w le	www.c	e mane	no sign of
	Medox	foatures	≁• e	depth of	14"	Dra 1	ence	of leaf	1.44em + weedtastion
(4)	Jan	w. +	•		· • •		1	, - , ,	- buy control
	appea.	rs that are	n u	a not di	YUrd	201 0	duri,	ng recerit	high tlous in
	12015	Conditions	1 1	oposinghy a	me i	iot 1	1.16.01	y to colle	ect whold water.
	KUL,			· ' ' ' ' '		•	,		

HYDROLOGY

land as a final a grant and a	The same and the s
Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine)
Surface Water (A1) Salt Crust (B	1) Sediment Deposits (B2) (Riverine)
High Water Table (A2) Biotic Crust (I	Drift Deposits (B3) (Riverine)
	rebrates (B13) Drainage Patterns (B10)
Water Marks (B1) (Nonriverine) Hydrogen Su	fide Odor (C1) Dry-Season Water Table (C2)
Sediment Deposits (B2) (Nonriverine) Oxidized Rhiz	ospheres along Living Roots (C3) Thin Muck Surface (C7)
Drift Deposits (B3) (Nonriverine) Presence of I	Reduced Iron (C4) Crayfish Burrows (C8)
	teduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Other (Explai	
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
Field Observations:	
The state of the s	nes):
Water Table Present? Yes No X Depth (inc	
Saturation Present? Yes No 🗴 Depth (inc	
(includes capillary fringe)	res) Welland Hydrology Fresent: Tes NO
I Describe Descrided Data (stream dauge, monitoring wall, early	I photon proving inapportional if availables
Describe Recorded Data (stream gauge, monitoring well, aeria	I photos, previous inspections), if available:
Describe Recorded Data (stream gauge, monitoring well, aeria	

Attorney-Client Privilege
San Juan Creek at Rancho Mission Viejo Riding Park
Ordinary High Water Mark Delineation Technical Report
April 2018

APPENDIX C SITE PHOTOGRAPHS



Photo 1 (4/4/18): San Juan Creek facing southwest from the Highway 74 Bridge showing hydrogeomorphic conditions of the project area. The Riding Park is on the east (left) bank of this photo. The Low-Flow Channel (with dense wetland vegetation) transitions to the Active Floodplain (sandy soils with sparse vegetation) then to the Low Terrace (with mature willow and large Arundo stands) further east.



Photo 2 (4/4/18): Dense wetland vegetation and flowing water within the Low-Flow Channel at Transect (T) 2.



Photo 3 (4/4/18): Facing northwest along T2 showing the transition from the Active Floodplain (cobble and sandy soil) to the Low-Flow Channel (dense wetland vegetation).



Photo 4 (4/4/18): Facing southeast along T2 showing the transition from the Low-Flow Channel (moist soil) to the Active Floodplain (cobble and sandy substrate) with the Low Terrace (dense mature willow and Arundo) in the background.



Photo 5 (4/4/18): Facing east along T2 showing the elevated sandy bench that transitions from Active Floodplain (sandy substrate) to Low Terrace (dense mature willow and Arundo in the background.



Photo 6 (4/4/18): Showing soil conditions within the Low Terrace at T2, showing silty sandy soil with leaf litter and decomposing vegetation occurring on the surface.



Photo 7 (4/4/18): Facing northwest along T3 showing culverted farm road crossing San Juan Creek.



Photo 8 (4/4/18): Facing southeast along T3 showing culverted farm road crossing San Juan Creek.



Photo 9 (4/4/18): Facing northeast at the OHWM at T3 with the transition between mulefat (*Baccharis salicifolia*) dominated riparian to *Artemesia californica* dominated upland communities along the farm road.



Photo 10 (4/4/18): Facing southwest showing the east (left) bank of the project area with the Low-Flow Channel rising steeply through the Active Floodplain and into the Low Terrace with mature willow along the bank.



Photo 11 (4/13/18): Facing south-southwest along T5 showing the Low-Flow Channel with dense wetland vegetation rising steeply through the Active Floodplain to the east (left).



Photo 12 (4/13/18): Facing east along T5 showing the Low-Flow Channel with dense wetland vegetation rising steeply through the Active Floodplain to the east.



Photo 13 (4/13/18): Facing south along T5 showing the OHWM where the Active Floodplain transitions to the Low Terrace with dense mature willow riparian communities and silty soil.