

Draft Initial Study/Mitigated Negative Declaration
Valley View Development Project

APPENDIX C.3 – WATER RESOURCES DELINEATION REPORT

Valley View Development Project Water Resources Delineation Report

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EXECUTIVE SUMMARY

The Valley View Development project water resources delineation was conducted to evaluate jurisdictional status of the on-site drainage under three agencies: the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and State Water Resources Control Board (SWRCB) including its Regional Water Quality Control Boards (RWQCB). Procedures used for this delineation were in accordance with the applicable regulations, procedures, and guidelines for each agency.

This drainage would be considered jurisdictional under all three agencies. USACE non-wetland Waters of the U.S. cover 0.08 acre, RWQCB non-wetland Waters of the State cover 0.19 acre, and CDFW streambed and riparian covers 0.21 acre. The limits of jurisdiction for each agency were mapped for this report and were provided to the project engineer so that the project could be designed to complete avoid the drainage.

ACRONYMS AND ABBREVIATIONS

AC	Acre
AMSL	Above Mean Sea Level
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
EPA	Environmental Protection Agency
FT	Feet
LF	Linear feet
M	Meter(s)
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHW	Ordinary High Water Mark
PSSAx	Palustrine Scrub-Shrub Temporary Flooded
R4SBA	Riverine Intermittent Streambed Temporary Flooded
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
TOB	Top of Bank
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USDA	U.S. Department of Agriculture

1.0 INTRODUCTION

A residential development project is proposed, and it is the intent of the project proponent to avoid all impacts to jurisdictional waters. The purpose of this report is to document the jurisdictional status of water resources at the Valley View Development site so that they can be avoided.

2.0 LOCATION

The project site (Site) is located at 3410 Valley Road approximately one mile east of the intersection of California State Route 54 (SR-54) and Interstate 805 (I-805) within the unincorporated community of Bonita (**Figures 1 and 2**). Although the property is currently in the County of San Diego, it will be annexed into National City. A satellite image of the Site and vicinity is provided in **Figure 3**.

3.0 JURISDICTIONS

This delineation addresses three jurisdictions: the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and State Water Resources Control Board as presented by its Regional Water Quality Control Board.

3.1 USACE Waters of the U.S.

The U.S. federal government claims jurisdiction over wetlands and other waters pursuant to Section 404 of the 1972 Clean Water Act (CWA). The Environmental Protection Agency (EPA) enforces CWA requirements and regulates discharge of dredged or fill material into wetlands and other Waters of the U.S. through a permitting process administered by the USACE.

The definition of Waters of the U.S. is complex and subject to change due to litigation; at this time, Waters of the U.S. is determined according to specific pre-2015 regulations and guidance until a new rule is established (in progress). Waters of the U.S. include both of wetland waters and non-wetland waters.

Wetland Waters of the U.S. are “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” (EPA 2022). Explicit in the definition is the consideration of three environmental parameters: hydrology, soil, and vegetation; and positive wetland indicators of all three parameters are normally present in wetlands (USACE 2013).

Non-wetland Waters of the U.S. are other types of water bodies that are not wetlands because one or more of the three wetland parameters are absent. The limits of jurisdictional usually extend to the Ordinary High Water Mark (OHWM), which is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line

impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR § 328.3).

3.2 CDFW Streambed and Riparian Habitat

Pursuant to Division 2, Chapter 6, Sections 1600-1616 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, which supports fish or wildlife. Section 1602 requires an entity to notify CDFW prior to beginning any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or (c) deposit debris, waste or other materials that could pass into any river, stream or lake.

CDFW jurisdiction generally includes lakes, streambeds between tops of banks, and riparian vegetation (growing along streams). In some cases, top of bank (TOB) may be an easily visible change in the angle of ground surface, such as where the slope of the bank changes to the flat surface of the adjacent land. In other cases where the bank has been altered by human activity, the TOB may not correspond to the obvious change in slope. In those cases, TOB location can be estimated based on other indicators such as staining, silt or sediment deposits, change in vegetation, or extrapolation from the opposite bank.

Riparian vegetation can include both wetland species such as willows, and non-wetland species such as cottonwood (*Populus* spp.) or coast live oaks (*Quercus agrifolia*). CDFW jurisdiction extends out to the outer canopy dripline of the riparian vegetation. Small isolated features are generally excluded.

3.3 RWQCB Waters of the State

Waters of the State, defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” are regulated by the State of California through the SWRCB and its RWQCB.

The RWQCB also regulates State Wetlands, which are defined as follows: “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” (SWRCB 2021). The definition includes three parameters, similar to that of USACE, but vegetation can be absent; this allows inclusion of areas like unvegetated mudflats that would not qualify as USACE wetlands.

All wetland Waters of the U.S. and all non-wetland Waters of the U.S. are also Waters of the State. However, the extent of Waters of the State is greater because it extends up or out to TOB rather than ending at the OHWM.

4.0 METHODS

Methodology consisted of both records review and field work. Records review included checking satellite imagery (Google Earth Pro), U.S. Geological Survey (USGS) 7.5-minute topographic maps for the National City quadrangle, the National Hydrography Dataset (NHD), and the National Wetlands Inventory (NWI).

Field work consisted of evaluating potentially jurisdictional features (in this case, just the southern drainage area) according to protocols for each regulatory agency. This entails specific tasks and completion of forms, as described below.

The results of the delineation field work were transposed to Google Earth Pro, then imported to ArcGIS for refinement of mapping and measurements.

4.1 USACE Waters of the U.S.

Delineation of wetland Waters of the U.S. on-site was conducted according to the 1987 “Corps of Engineers Wetland Delineation Manual” and the 2008 “Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).” The wetland delineation requires evaluation of the three parameters: hydrophytic vegetation, hydric soil, and wetland hydrology. Evaluation of these three parameters requires establishing vegetation plots, digging a pit to look at soil indicators, and looking for indicators of wetland hydrology. If indicators of all three parameters are found at a given point, the point is within a wetland. If indicators of one parameter are missing, the point is not within a wetland (with certain exceptions). Data on the three parameters are recorded on a Wetland Determination Data Form for each wetland evaluation data point.

The number of wetland evaluation data points needed for a delineation depends on the conditions of a particular site. Usually, the forms are done in pairs, one in the wetland and one outside it, to establish the location of the edge of the wetland. For this delineation, only one data point was required. The data point was placed in the location most likely to be within a wetland, but it was non-wetland, so no other points were needed.

Delineation of non-wetland Waters of the U.S. was conducted according to the 2008 “A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States” and the 2010 “Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States.” This entails mapping and documenting indicators such as change in sediment texture, change in vegetation, break in bank slope, surface relief, etc. (or lack thereof).

The number of OHWM locations and forms needed for a delineation depends on the site. For this delineation, two OHWM forms provided an adequate representation.

4.2 CDFW Streambed and Riparian

Delineation of CDFW-jurisdictional areas on the Site was based on TOB and outer edge of riparian vegetation. TOB was determined based on field work, measurements, and topographic mapping. No separate forms are required for CDFW.

4.3 Waters of the State

For this delineation, all Waters of the U.S. were considered Waters of the State, and the drainage banks up to TOB were also included in Waters of the State. No separate delineation steps or forms are required for Waters of the State.

5.0 SITE CONDITIONS

5.1 Landscape Setting

The delineation area covers the entire 2.45-acre parcel on Assessors' Parcel Numbers 591-100-31-00 and 591-100-27. On-site elevation ranges from approximately 74 feet (23 meters) above mean sea level (AMSL) in the drainage at the southern end of the Site to 87 feet (27 meters) AMSL at the northwestern corner of the Site.

The Site is bordered by residential development to the north and northeast; undeveloped land to the east; undeveloped land and then residential development to the southeast; undeveloped land and then Sweetwater Road to the south; and Plaza Bonita Centerway to the west. A satellite image of the Site and vicinity is provided in **Figure 3**.

5.2 Vegetation

The on-site drainage is characterized by sharply incised banks vegetated primarily with non-native species and a sand/cobble/exposed bedrock bottom. Because it contains little vegetation, it was mapped as Non-vegetated Channel according to the Oberbauer classification system used for the biology report. A small patch of native riparian vegetation near the southwestern corner was mapped as Southern Willow Scrub according to the Oberbauer system. All other vegetation categories on-site are upland and non-jurisdictional: Developed Land, Disturbed Land, Non-native Vegetation, and Eucalyptus Woodland. Vegetation mapping is provided in **Figure 4**, and a complete description of biological resources on-site is included in the biology report (Athena Consulting 2022).

5.3 Soils

According to the Web Soil Survey (USDA 2022), soil on the Site is comprised largely of Salinas clay loam, 2 to 9 percent slopes (SbC), with small areas of Huerhuero-Urban land complex, 9 to 30 percent slopes (HuE) at the northwestern and southeastern corners of the Site. The Salinas series consists of well-drained and moderately well-drained clay loams that formed in sediments washed from Diablo, Linne, Las Flores, Huerhuero, and Olivenhain soils. These soils are on flood plains

and alluvial fans. The Huerhuero series consist of moderately well-drained loams that have a clay subsoil. These soils developed in sandy marine sediments. HuE occurs on marine terraces and the landscape has been altered through cut and fill operations and leveling for building sites. The material exposed in the cuts consists of unconsolidated sandy marine sediments. The material in the fills is a mixture of loam, clay loam, and sandy marine sediments. (USDA 1973, USDA 2022)

5.4 Hydrology

The Site is located within the Rice Canyon-Sweetwater River Watershed (HUC 180703040903).

In the National Wetlands Inventory (NWI), the on-site drainage is mapped as PSSAx – Palustrine (P), Scrub-Shrub (SS), Temporary Flooded (A), Excavated (x), as shown in **Figure 5**. The Temporary Flooded category indicates that “surface water is present for brief periods (from a few days to a few weeks) during the growing season, but the water table usually lies well below the ground surface for most of the season” (NWI 2022). In the NWI mapping, the mapped drainage ends at Plaza Bonita Centerway (where the drainage enters an underground culvert). The next downstream section of the drainage is shown approximately 1,204 feet southwest, and it flows west/southwest to an end near the Plaza Bonita shopping mall, approximately 1,896 feet southwest of the Site. No direct above-ground connection to the nearby Sweetwater River is shown.

The on-site drainage is mapped as an ephemeral drainage in NHD, as shown in **Figure 6**. The mapped ephemeral drainage does not connect to the Sweetwater River, but instead ends approximately 2,459 feet downstream of the Site, on the upstream side of the Plaza Bonita shopping mall. No direct above-ground connection to the nearby Sweetwater River is shown.

The drainage is shown as a blue-line stream on older USGS maps. It is visible in the 1967 map, flowing across the Site south of the existing residence, south of Sweetwater Road, and ending approximately 2,459 feet southwest of the Site just east of what was then the Bonita Golf Course (**Figure 7A**). Even in the 1930 USGS it is shown as ending at the same location before it reached the river (**Figure 7B**). At that time, the area where it ended was likely part of the Sweetwater River marsh or floodplain.

Based on review of the historical mapping, it appears that the hydrological connection to the river is groundwater rather than surface flow.

According to NHD and the 1967 USGS map, the upstream water source is ephemeral drainage(s) in the Paradise Hills area northeast of the Site and north of the State Route 54.

5.0 JURISDICTIONAL DELINEATION RESULTS

The Site contains one jurisdictional feature, the southern drainage. The length of the channel on-site is approximately 239 linear feet. Jurisdictional status under each of the three agencies is described below.

5.1 USACE Waters of the U.S.

One wetland delineation form was completed for one wetland evaluation data point, and is provided in **Appendix A**. The data point was located on the southern side of the channel below the black willow, within the Southern Willow Scrub habitat (see **Figure 8**). This location was selected because it had predominantly wetland vegetation (the willow) and was the on-site location most likely to meet the wetland criteria. This wetland data point had hydrophytic vegetation, because of the presence of a black willow. It had indicators of wetland hydrology, in the form of sediment deposits and drift deposits. However, it did not have hydric soil indicators, and this soil map unit (Salinas clay loam, 2 to 9 percent slopes) is not included in the Natural Resources Conservation Service hydric soils list for San Diego County (NRCS 2022). Therefore, the data point was not in a wetland. Because the location with the highest potential to be wetland was not in a wetland, no additional data points were needed.

Two OHWM datasheets were completed for two drainage cross-sections (see **Figure 8**) and are provided in **Appendix B**. These datasheets document the location and indicators of the OHWMs in the cross-sections at these two locations. The OHWMs are the outer limit of USACE jurisdiction, as shown in **Figure 8**. USACE jurisdiction covers 0.08 acre of non-wetland Waters of the U.S. on-site. Waters of the U.S. information is summarized in Table 1, below.

Table 1. USACE Waters of the U.S. within the Delineation Area

Water Resource	Cowardin Type	Resource Size (AC)	Resource Size (LF)	OHWM / Wetland Present?	Location (Lat/Long)
Ephemeral Drainage, Non-wetland Waters	PSSAx per NWI, R4SBA* is better match for observed conditions	0.08	239	OHWM present, no wetland	32.661161°, -117.055092° (upstream end)

*R4SBA=Riverine, Intermittent, Streambed, Temporary Flooded

5.2 CDFW Streambed and Riparian

For CDFW, jurisdiction was mapped based on TOB and outer edge of riparian vegetation (see **Figure 8**). In this case, TOB does not entirely correspond to a certain topographic contour because of past alterations to the channel banks and surrounding uplands. As indicated by the original NWI category, the channel was previously excavated. Sections of the banks appear to be reinforced with concrete pieces and rock. The TOB was mapped based on both field observations and topography. The CDFW limit expands outward from the TOB where the Southern Willow Scrub vegetation extends north of the TOB on the north side of the channel. The CDFW jurisdictional area contains two elements, the riparian vegetation (Southern Willow Scrub, 0.05 acre), and the streambed (the remainder of the area within the banks that is not riparian vegetation, 0.16 acre), providing a total of 0.21 acre (see Table 2, below).

Table 2. CDFW Streambed and Riparian within the Delineation Area

Water Resource	Resource Size (AC)	Resource Size (LF)	Location (Lat/Long)
Riparian Vegetation	0.05	25*	32.661002°, -117.055355° (upstream end)
Streambed	0.16	239	32.661161°, -117.055092° (upstream end)
Total	0.21	239	

*Part of the overall 239 LF

5.3 RWQCB Waters of the State

Waters of the State on-site consists of the area within TOB, which also includes all of the USACE non-wetland Waters of the U.S. and a portion of the CDFW riparian vegetation, as shown in **Figure 8**. This 0.19-acre area is non-wetland Waters of the U.S. because no portion of the land inside qualifies as a wetland under either USACE or State Wetland definitions.

Table 3. RWQCB Waters of the State within the Delineation Area

Water Resource	Resource Size (AC)	Resource Size (LF)	Location (Lat/Long)
Non-wetland Waters of the State	0.19	239	32.661161°, -117.055092° (upstream end)

7.0 CONCLUSION AND SUMMARY

The on-site drainage was evaluated for potential jurisdictional delineation under USACE, CDFW, and RWQCB. Each agency has jurisdiction over at least a portion of the drainage. CDFW has the greatest jurisdictional extent, including the entire channel between TOB and the area of Southern Willow Scrub that extends beyond the TOB. The jurisdictional acreages and length for each agency are summarized in Table 4, below.

Table 4. Summary of Jurisdiction within the Delineation Area

Water Resource	Resource Size (AC)	Resource Size (LF)
USACE (Non-wetland Waters of the U.S.)	0.08	239
CDFW (Streambed and Riparian)	0.21 (including all Waters of the U.S. and all Waters of the State.	239
RWQCB (Non-wetland Waters of the State)	0.19 (including all Waters of the U.S. and all CDFW Streambed)	239

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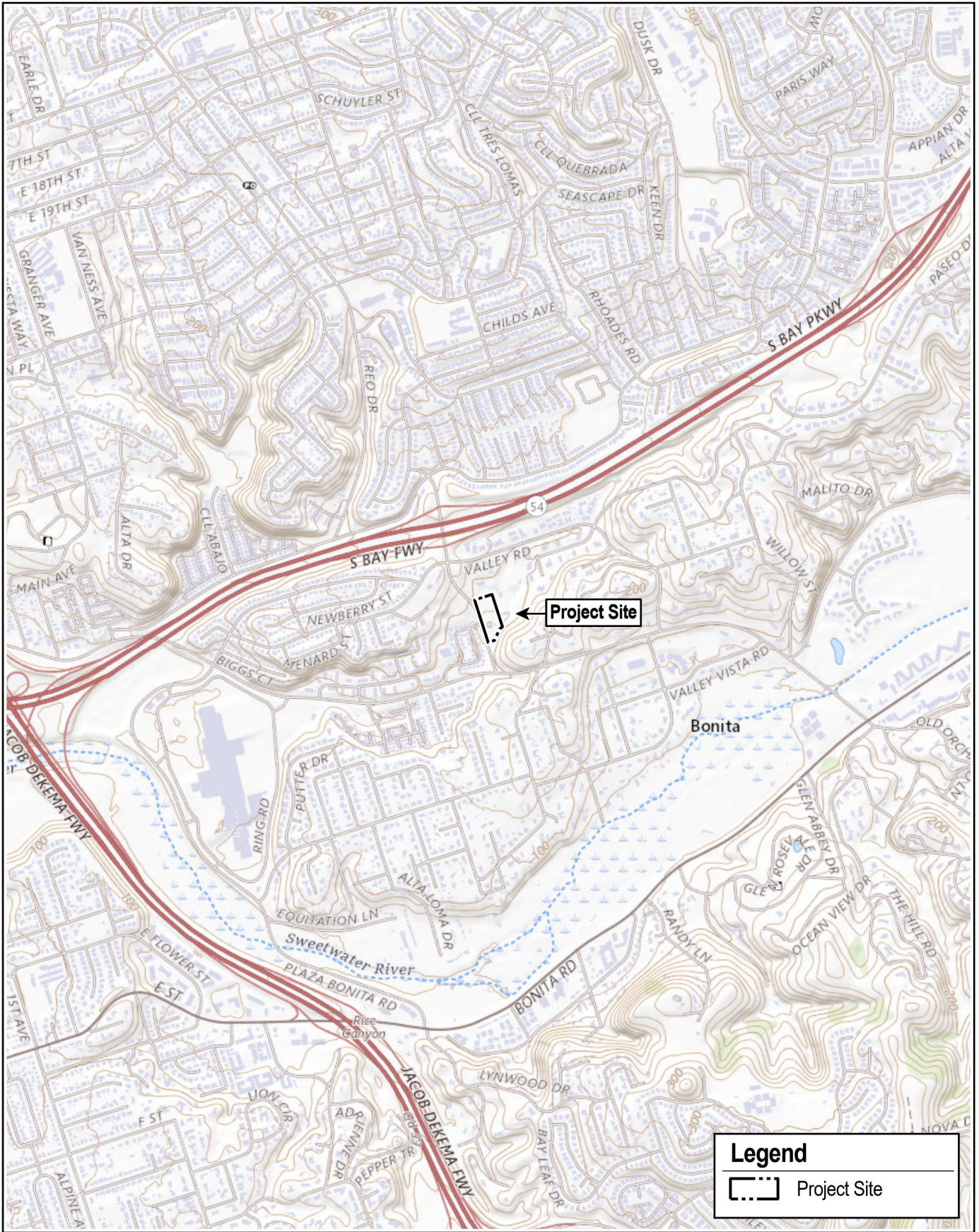
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FIGURES

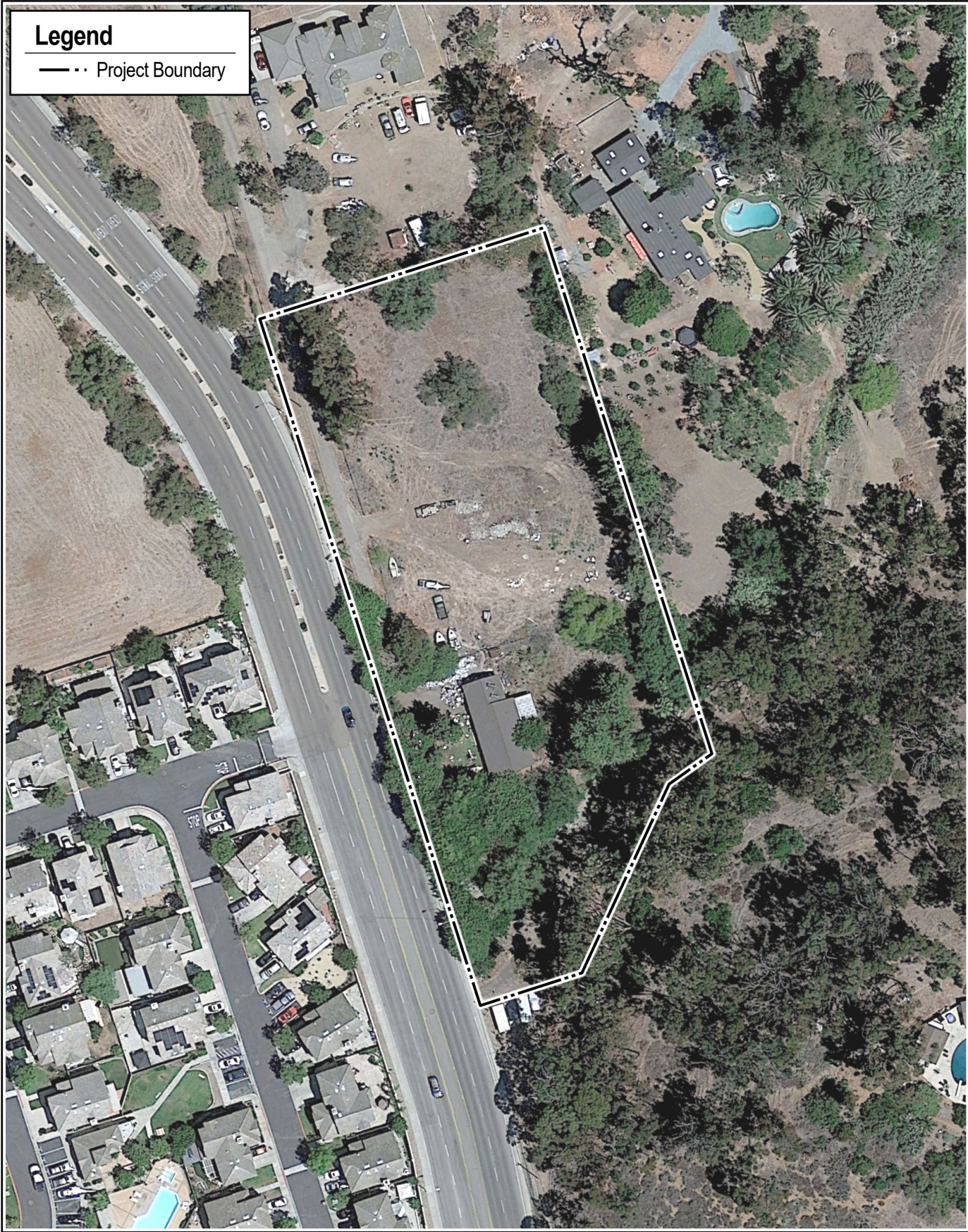


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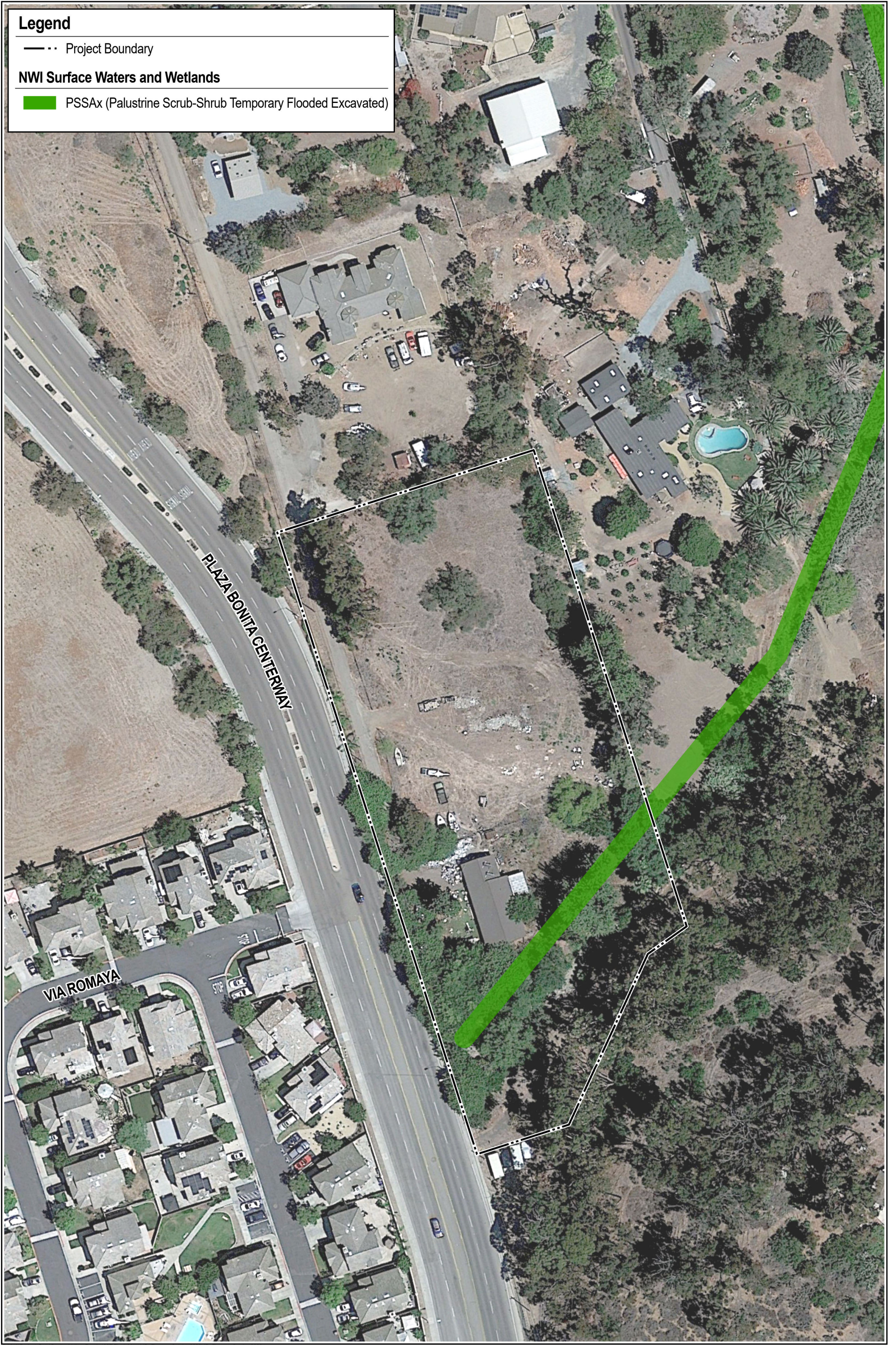
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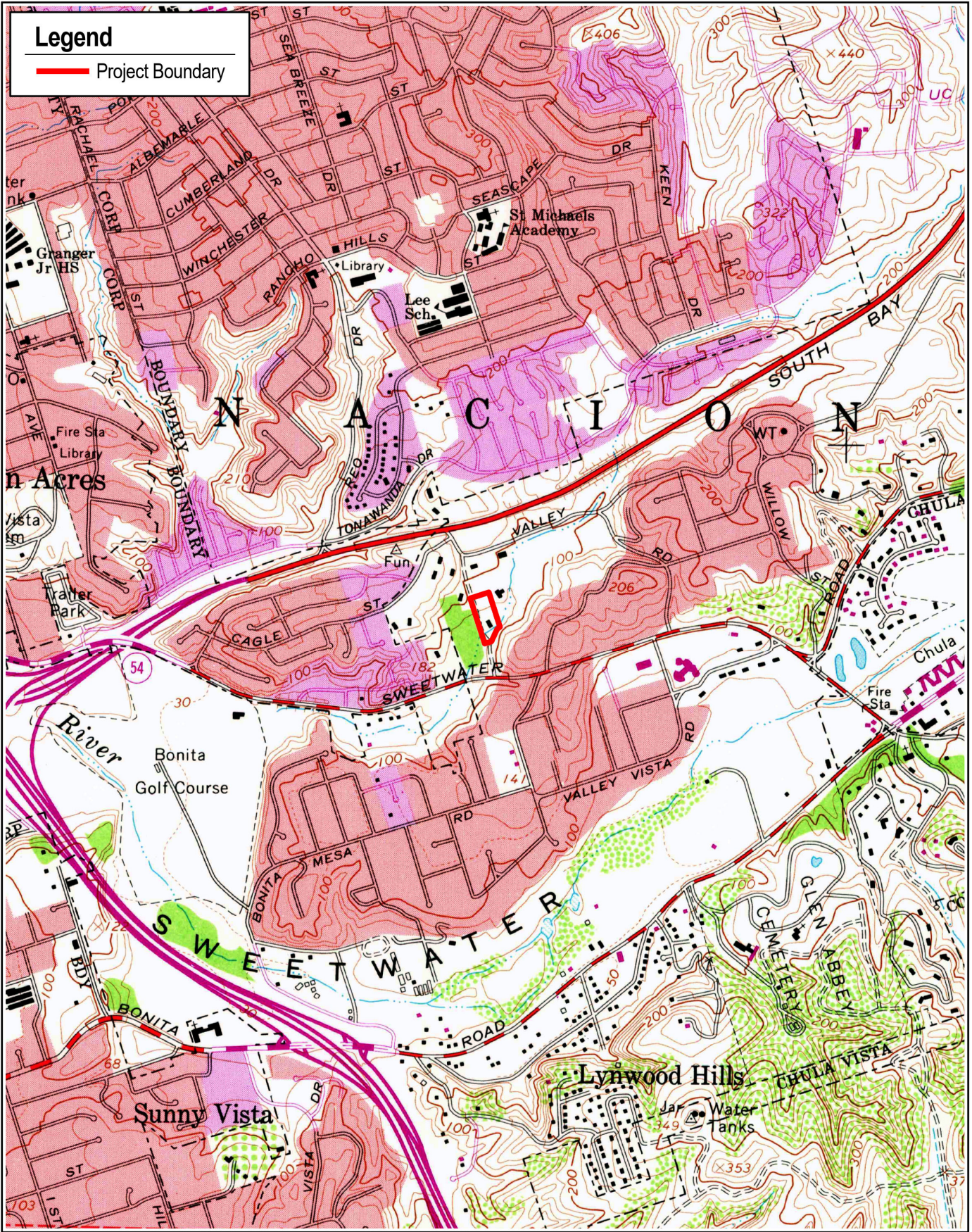
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APPENDIX A

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Valley Road Bonita City/County: San Diego Sampling Date: 2/3/22
 Applicant/Owner: Arturo Valdez State: CA Sampling Point: 1
 Investigator(s): Lee BenVau Section, Township, Range: T 17 S, R 2 W
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): convex Slope (%): 20
 Subregion (LRR): California Lat: 32.660801° Long: -117.055474° Datum: GE WGS84
 Soil Map Unit Name: Salinas clay loam, 2 to 9 percent slopes (SbC) NWI classification: mapped as PSSAx

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: In ephemeral drainage next to low-flow channel.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10x30 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix gooddingii</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Washingtonia robusta</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>100</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>3</u> x 2 = <u>6</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>9</u> (A) <u>35</u> (B) Prevalence Index = B/A = <u>3.9</u>
Sapling/Shrub Stratum (Plot size: <u>10x30 FT</u>)				
1. <u>Carpobrotus sp.</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>1</u> = Total Cover				
Herb Stratum (Plot size: <u>10x30 FT</u>)				
1. <u>Stipa miliacea</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Tropaeolum majus</u>	<u>4</u>	<u>N</u>	<u>UPL</u>	
3. <u>Euphorbia peplus</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	
4. <u>Bromus diandrus</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
5. <u>Cyperus eragrostis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
6. <u>Sonchus oleraceus</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>16</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10x30 FT</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>84</u> % Cover of Biotic Crust <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:
 Hydrophytic vegetation present based on the willow.

APPENDIX B

OHWM Datasheets

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Valley View Development Project Number: Stream: Unnamed tributary to Sweetwater River Investigator(s): Lee BenVau	Date: 2/3/22 Town: San Diego Photo begin file#:	Time: 1027 State: CA Photo end file#:				
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?	Location Details: Under Salix gooddingii, just north of Rhus integrifolia patch					
Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Projection: Google Earth Datum: WGS84 Coordinates:					
Potential anthropogenic influences on the channel system: Urban runoff, altered banks, possible historic dredging or channelization.						
Brief site description: Drainage channel through suburban parcel, closer to west end, upstream of culverts that take flow underground.						
Checklist of resources (if available):						
<input checked="" type="checkbox"/> Aerial photography Dates:	<input type="checkbox"/> Stream gage data Gage number:					
<input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" 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 checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> 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					
Hydrogeomorphic Floodplain Units						
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:						
<ol style="list-style-type: none"> 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. <ol style="list-style-type: none"> 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: <table style="margin-left: 40px; border: none;"> <tr> <td><input checked="" type="checkbox"/> Mapping on aerial photograph</td> <td><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input checked="" type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> 			<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS					
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:					

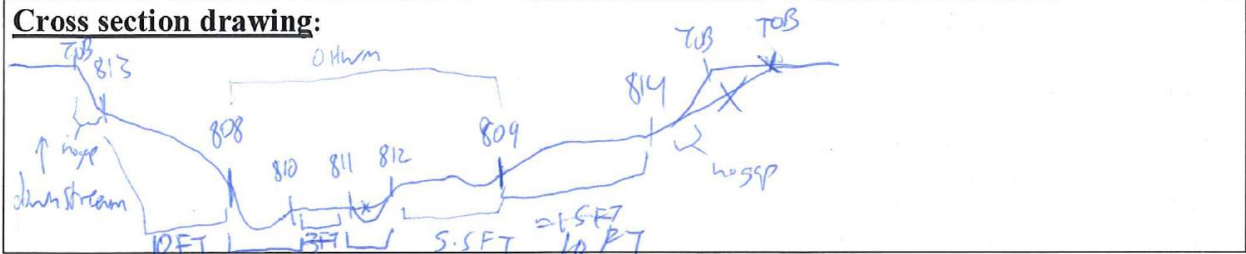
Project ID:VRB

Cross section ID:1

Date:2/3/22

Time:1027

Cross section drawing:



OHWM

38 FT 58 FT

GPS point: 808, 809

Indicators:

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

Comments:

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 808-810, 811-812

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand & cobble
Total veg cover: 0 % Tree: _____ % Shrub: _____ % Herb: _____ %

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:

Project ID:VRB

Cross section ID:1

Date:2/3/22

Time:1027

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 808-809

Characteristics of the floodplain unit:

Average sediment texture: Medium sand

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

Sandbar with Stipa miliacea, Brassica, Tropaeolum majus, and Ambrosia psilostachya

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 813-808, 809-814

Characteristics of the floodplain unit:

Average sediment texture: Silt

Total veg cover: 80 % Tree: 30 % Shrub: 40 % 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: change in veg cover
- Other: change in species
- Other: _____

Comments:

Ricinus communis, Arundo donax, Salix gooddingii, Nicotiana glauca, Fraxinus uhdei

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Valley Road Bonita Project Number: Stream: Unnamed tributary to Sweetwater River Investigator(s): Lee BenVau	Date: 2/3/22 Town: San Diego Photo begin file#:	Time: 1143 State: CA Photo end file#:				
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Location Details: Even with the north side of the house and Washingtonia r. Projection: Google Earth Datum: WGS84 Coordinates:					
Potential anthropogenic influences on the channel system: Urban runoff, altered banks, possible historic dredging or channelization.						
Brief site description: Drainage channel through suburban parcel, closer to east end.						
Checklist of resources (if available):						
<table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" 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 checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="width:50%; border:none;"> <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 </td> </tr> </table>			<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" 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 checked="" 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		
<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" 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 checked="" 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					
Hydrogeomorphic Floodplain Units						
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:						
<ol style="list-style-type: none"> 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. <ol style="list-style-type: none"> 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: <table style="width:100%; border:none; margin-left: 20px;"> <tr> <td style="width:50%; border:none;"><input checked="" type="checkbox"/> Mapping on aerial photograph</td> <td style="width:50%; border:none;"><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td style="border:none;"><input checked="" type="checkbox"/> Digitized on computer</td> <td style="border:none;"><input type="checkbox"/> Other:</td> </tr> </table> 			<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS					
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:					

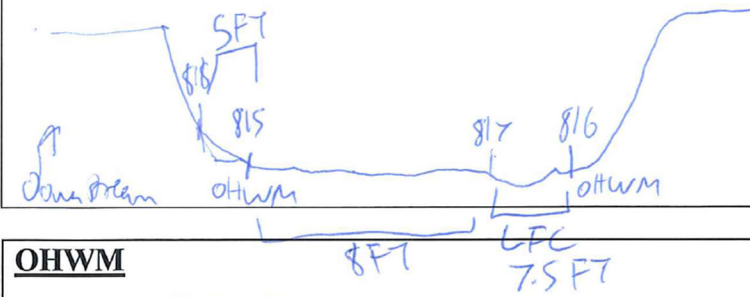
Project ID:VRB

Cross section ID:2

Date:2/3/22

Time:1143

Cross section drawing:



OHWM

GPS point: 815, 816

Indicators:

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

Comments:

Floodplain unit:

- Low-Flow Channel
- Active Floodplain
- Low Terrace

GPS point: 816-817

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand
 Total veg cover: 0 % Tree: _____ % Shrub: _____ % Herb: _____ %

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: surface water
- Other: _____
- Other: _____

Comments:

Project ID:VRB

Cross section ID:2

Date:2/3/22

Time:1143

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 815-816 _____

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

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

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:

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: 815-818 _____

Characteristics of the floodplain unit:

Average sediment texture: Fine sand

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

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: change in vegetation
- Other: _____
- Other: _____

Comments:

Stipa miliacea, Ambrosia psilostachya, Hypochaeris glabra, moss

APPENDIX E

Delineation Photographs

ATTACHMENT C
Delineation Photographs



1. Wetland data point 1 with soil pit (non-wetland).



2. Soil profile at wetland data point 1.



3. OHWM 1, left (south) side.



4. OHWM 1, right (north) side.



5. OHWM 2, left (south) side.



6. OHWM 2, right (north) side.