Caltrans District 3

Yolo 80 Corridor Improvements Project

Aquatic Resources Delineation Report

Sacramento, Yolo, and Solano Counties, California

04-SOL-80-PM 40.7/R44.7; 03-YOL-80-PM 0.00/R11.72; 03-YOL-50-PM 0.00/3.12; 03-SAC-50-PM 0.00/L0.617; 03-SAC-80-PM M0.00/M1.36

EA: 03-3H900 / EFIS: 0318000085

March 2023

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

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STATE OF CALIFORNIA
Department of Transportation

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List of Abbreviated Terms

Abbreviation	Description
ºF	degrees Fahrenheit
AJD	Approved Jurisdictional Determination
ESL	Environmental Study Limits
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
FGC	California Fish and Game Code
HU	hydrologic unit
I-80	Interstate 80
MLRA	Major Land Resource Area
NWPR	2020 Navigable Waters Protection Rule
OHWM	ordinary high water mark
PJD	Preliminary Jurisdictional Determination
project	Yolo 80 Corridor Improvement Project
report	Aquatic Resources Delineation Report
RWQCB	Regional Water Quality Control Board
Stantec	Stantec Consulting Services Inc.
TNW	traditional navigable waters
TOB	top-of-bank
US-50	U.S. Route 50
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

Chapter 1 Introduction

This Aquatic Resources Delineation Report (report) has been prepared to document the assessment of potentially jurisdictional aquatic features subject to agency jurisdiction within the environmental study limits (ESL) for the 03-3H900 Yolo 80 Corridor Improvement Project (project). The California Department of Transportation (Caltrans) proposes to construct improvements along Interstate 80 (I-80) and U.S. Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County. The purpose of the project is to increase mobility in these I-80 and US-50 corridors.

Stantec Consulting Services Inc. (Stantec) conducted an aquatic resources survey in the ESL which covers 1,147.38 acres. This report is intended to inform project design and support future permitting efforts for aquatic resources that may be regulated by the following:

- The U.S. Army Corps of Engineers, using the Rapanos/Carabell guidance (USEPA 2008, 2022)
- The Central Valley Regional Water Quality Control Board, pursuant to the State's Porter-Cologne Water Quality Control Act (California Water Code, Chapter 2, Section 13050) and/or Section 401 of the Clean Water Act
- The California Department of Fish and Wildlife pursuant to Section 1600 of the California Fish and Game Code

Stantec advises all parties to treat the information contained herein as preliminary until the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) provide verification of jurisdictional assessments.

Chapter 2 Project Description

Caltrans proposes to construct improvements consisting of managed lanes, pedestrian and bicycle facilities, and Intelligent Transportation System elements along I-80 and US-50 from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and I-5 on US-50 in Sacramento County (Appendix A, Figure 1). Caltrans is both the lead agency under the National Environmental Policy Act (as assigned by the Federal Highway Administration) and the California Environmental Quality Act for the project.

The purpose of this project is to improve multimodal mobility on the I-80 and US-50 corridors in Solano, Yolo, and Sacramento Counties. The project would decrease congestion through the corridor and the effects of congestion on transit and freight. It would improve transit headway times, reliability, access, and viability through the corridor. The project would also increase people throughput by increasing transit, bicycle and pedestrian, and carpool use. Furthermore, the project would address non-recurrent congestion caused by incidents, including collisions, by improving incident detection, verification, response, and clearing.

Chapter 3 Environmental Setting

3.1 Project Location and Setting

The ESL is in the U.S. Geological Survey (USGS) *Dixon, Merritt, Davis,* and *Sacramento West, California* 7.5-minute topographic quadrangles. The ESL is centered on segments of I-80 and US-50 and is confined to the Caltrans right-of-way which ranges from around 300 feet to 800 feet wide, depending on location. The ESL starts in the southwest on I-80 at Pedrick Road (Exit 67) and continues 15 miles northwest to where I-80 and US-50 diverge. From there, the ESL follows I-80 to the north, terminating just past El Camino Avenue, and US-50 to the east, terminating at the 5th Street Exit. The ESL crosses through developed lands, agricultural lands, Davis, and West Sacramento.

The ESL is in California's Central Valley, which is a large river-fed basin bounded by the Cascade Range to the north, Sierra Nevada Mountains to the east, Tehachapi Mountains to the south, and the Coast Range and San Francisco Bay to the west. Within the Central Valley itself, the ESL is in the southern Sacramento Valley and northern Sacramento-San Joaquin Delta. The Sacramento-San Joaquin Delta is where the two valleys and their associated rivers combine before draining to the San Francisco Bay and subsequently to the ocean.

The regional climate is typical of the Central Valley and is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. Precipitation in the region primarily occurs as rain. The average annual rainfall is approximately 34 inches and typically occurs between November 1 and April 30. The climate of the ESL typically exhibits a 9-month growing season from February 26 through November 25. Most herbaceous growth occurs during spring and ceases as soil moisture depletes in early summer. Air temperatures range from an average January high of 53 degrees Fahrenheit (ºF) to an average July high of 93ºF. The annual average high temperature is 74ºF (Western Regional Climate Center 2021).

3.2 Topography and Hydrology

Within the ESL, overall topography is extremely low-gradient with elevations ranging from about 5 to 80 feet above mean sea level. In order to determine the drainage area, in this case termed a "hydrologic unit (HU)," that the ESL goes through, the National Hydrography Dataset (USGS 2020) was reviewed, and details on HUs are provided in Table 1. Eighty percent of the ESL is in the Lower Sacramento subbasin HU, with 15 percent and 4 percent in the Upper Putah and Upper Coon-Upper Auburn subbasins, respectively.

Table 1. Hydrologic Units within the ESL

Unit Level	Hydrologic Unit Code	Name
Region (Hydrologic Unit [HU] 2)	18	California Region
Subregion (HU 4)	1802	Sacramento
Basin (HU 6)	180201	Lower Sacramento
Subbasin (HU 8)	18020161 18020162 18020163	Upper Coon-Upper Auburn Upper Putah Lower Sacramento
Watershed (HU 10)	1802016104 1802016205 1802016303 1802016306 1802016307	Curry Creek-Sacramento River Lower Putah Creek Knights Landing Ridge Cut-Tule Canal Cache Slough Sherman Lake-Sacramento River
Subwatershed (HU 12)	180201610402 180201620504 180201630302 180201630601 180201630602 180201630606 180201630701	Natomas Main Drainage Canal-Sacramento River Putah Creek-South Fork Putah Creek Tule Canal-Toe Drain Tremont Cemetery Tremont School Toe Drain-Cache Slough Lake Greenhaven-Sacramento River

Source: U.S. Geological Survey. 2020. National Hydrography Dataset Plus V2.

In general, the drainages near and between the cities of Dixon and Davis are associated with the Upper Putah subbasin. As the ESL continues east, it enters the Lower Sacramento subbasin until the easternmost termination of the ESL in the city of Sacramento. The portion of the ESL associated with the Upper Coon-Upper Auburn subbasin starts in the City of West Sacramento and is associated with the northernmost Sacramento River crossing. All three of these subbasins are hydrologically connected to the Sacramento River, which empties into the Sacramento San Joaquin Delta, then Suisun Bay, then San Francisco Bay, and ultimately into the Pacific Ocean.

The main hydrologic features within the ESL are the South Fork Putah Creek, Putah Creek, Yolo Bypass (a diversion of the Sacramento River), Prospect Slough, and the Sacramento River. Several unnamed agricultural and roadside ditches are also present throughout the ESL.

3.3 Soils

The ESL is located within the Great Valley Geomorphic Province and contains 34 soil map units designated by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS 2021). These are described below in Table 2 and can be viewed in Appendix A, Figure 2. Twenty-three of the soil map units are rated as hydric/containing hydric components.

Table 2. Soil Map Units Within the ESL

Map Unit Symbol	Map Unit Name	Hydric Component(s)	Landform	Major Component Attributes		Percent of ESL
				Drainage Class	Depth to Restrictive Feature	
Sacramento County						
127	Cosumnes silt loam, partially drained, 0–2% slopes	Yes	Floodplains	Somewhat poorly drained	>80 inches (in)	3
206	Sailboat silt loam, partially drained, 0–2% slopes	Yes	Floodplains on natural levees	Somewhat poorly drained	>80 in	<1
227	Urban land	No	Not applicable	Not applicable	Not applicable	1
247	Water	Not applicable	Not applicable	Not applicable	Not applicable	1
Solano County						
BrA	Brentwood clay loam, 0–2% slopes	No	Alluvial fans	Well drained	>80 in	<1
Ca	Capay silty clay loam, 0% slopes, major land resource area (MLRA) 17	No	Alluvial fans	Moderately well drained	>80 in	8
Cc	Capay clay, 0% slopes, MLRA 17	Yes	Basin floors	Moderately well drained	>80 in	2
Ra	Reiff fine sandy loam	No	Alluvial fans	Well drained	>80 in	1
Rw	Riverwash	Yes	Channels	Excessively drained	Not applicable	<1
Ss	Sycamore silty clay loam, drained, 0–2% slopes,	No	Alluvial fans	Somewhat poorly drained	>80 in	<1
W	Water	Not applicable	Not applicable	Not applicable	Not applicable	<1
Yo	Yolo loam, 0–4%	No	Alluvial fans	Well drained	>80 in	15

Map Unit Symbol	Map Unit Name	Hydric Component(s)	Landform	Major Component Attributes		Percent of ESL
				Drainage Class	Depth to Restrictive Feature	
Ys	Yolo silty clay loam, 0–2% slopes, MLRA 17	No	Alluvial fans	Well drained	>80 in	1
Yolo County						
Ca	Capy silty clay, 0% slopes, MLRA 17	Yes	Basin floors	Moderately well drained	>80 in	7
La	Lang sandy loam	Yes	Alluvial fans	Somewhat poorly drained	>80 in	2
Lb	Lang sandy loam, deep	Yes	Alluvial fans	Somewhat poorly drained	>80 in	5
Ma	Made land	Yes	Basin floors	Not applicable	Not applicable	1
Mf	Marvin silty clay loam	Yes	Rims on basin floors	Somewhat poorly drained	>80 in	<1
Ms	Myers clay, 0–1%	Yes	Basin floors, alluvial fans	Moderately well drained	>80 in	2
Ra	Reiff very fine sandy loam	Yes	Alluvial fans	Well drained	>80 in	<1
Rg	Rincon silty clay loam	No	Alluvial fans	Well drained	>80 in	1
Rn	Riz loam, flooded	Yes	Terraces	Poorly drained	>80 in	<1
Sa2	Sacramento silty clay loam, 0–2% slopes,	Yes	Basin floors	Poorly drained	>80 in	9
Sb	Sacramento silty clay loam, drained	Yes	Basin floors	Poorly drained	>80 in	4
Sd	Sacramento clay, drained	Yes	Basin floors	Poorly drained	>80 in	2
Sg	Sacramento soils, flooded	Yes	Basin floors	Poorly drained	>80 in	12

Map Unit Symbol	Map Unit Name	Hydric Component(s)	Landform	Major Component Attributes		Percent of ESL
				Drainage Class	Depth to Restrictive Feature	
So	Sycamore silt loam, 0–1% slopes, MLRA 17	Yes	Natural levees, floodplain splays	Somewhat poorly drained	>80 in	1
Sp	Sycamore silt loam, drained, 0% slopes, MLRA 17	Yes	Natural levees, alluvial fans	Somewhat poorly drained	>80 in	8
Ss	Sycamore silty clay loam, 0–1% slopes, MLRA 17	Yes	Natural levees	Somewhat poorly drained	>80 in	2
Sv	Sycamore complex, drained	Yes	Alluvial fans	Somewhat poorly drained	>80 in	2
Tc	Tyndall very fine sandy loam, drained	Yes	Alluvial fans	Somewhat poorly drained	>80 in	2
Vb	Valdez silt loam, clay substratum, partially drained, 0–2% slopes	Yes	Deltas	Poorly drained	>80 in	5
Wg	Willows soils, overwash, 0% slopes, frequently flooded, MLRA 17	Yes	Basin floors	Poorly drained	>80 in	<1
W	Water	Not applicable	Not applicable	Not applicable	Not applicable	2

Symbols: > = greater than, < = less than, % = percent
Source: *NRCS 2021*

3.4 Vegetation Communities

Vegetation communities throughout much of California have been mapped by various organizations, including CDFW which hosts a number of these vegetation datasets. Vegetation communities within the ESL is included in two of these datasets: Delta Vegetation and Land Use and Great Valley Ecoregion (Vegetation Classification and Mapping Program 2011, Schwenkler and Hickson 2018). The classification follows the Federal Geographic Data Committee and National Vegetation Classification Standards, which are compatible with the Manual of California Vegetation, Online Edition (California Native Plant Society 2020). This vegetation data is accurate at a coarse scale due to the minimum mapping unit ranging from 1 to 10 acres within and across the datasets; this level of accuracy for mapping communities is defined as being mapped to the macrogroup level.

More than 60 percent of the ESL is classified as either barren, urban, agricultural/cropland, or water, with urban accounting for the highest acreage (652.57 acres). All vegetation communities mapped by CDFW (Vegetation Classification and Mapping Program 2011, Schwenkler and Hickson 2018) within the ESL are described below.

3.4.1 California Annual and Perennial Grassland

Of the five natural/semi-natural macrogroups, California Annual and Perennial Grassland accounts for the highest acreage (i.e., about 84 percent) in the ESL and is composed of predominantly non-native grass species such as rye grass (*Festuca perennis*) and wild oats (*Avena* spp.). This macrogroup generally occurs on the roadside of the highway corridor and between intersections throughout the ESL.

3.4.2 Californian Forest and Woodland

Californian Forest and Woodland macrogroup accounts for approximately 4 percent of the ESL and is composed of woodlands and forests dominated by warm-temperate oak and conifer species, with a sparse herbaceous stratum. Dominant species observed within the ESL include coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizeni*). This community occurs sporadically along the highway in the general Davis area, as well as on the upper terraces of the Sacramento River.

3.4.3 Introduced North American Mediterranean Woodland and Forest

Introduced North American Mediterranean macrogroup accounts for about 8 percent of the ESL and is composed of woodlands and forests dominated by non-native and ornamental tree

species, with a sparse herbaceous stratum. Within the ESL, stands are planted as windbreaks near agriculture, as well as ornamental landscaping in the more urban areas of the ESL. Stands observed include eucalyptus species (*Eucalyptus* spp.), Lombardy poplar (*Populus nigra*), English walnut (*Juglans regia*), and Peruvian pepper tree (*Schinus molle*).

3.4.4 Southwestern North American Riparian Flooded and Swamp Forest

Southwestern North American Riparian Flooded and Swamp macrogroup accounts for approximately 4 percent of the ESL and is composed of riparian and floodplain woodlands and forests dominated by deciduous and/or evergreen tree species, with a sparse herbaceous stratum. Within the ESL, this macrogroup occurs along riparian corridors dominated by species such as Goodding's willow (*Salix goodingii*), California sycamore (*Platanus racemosa*), and Fremont cottonwood (*Populus fremontii*). Within the ESL, this macrogroup occurs in the vicinity of Putah Creek, the Yolo Bypass, and along the Sacramento River at both crossings.

3.4.5 Western North American Freshwater Marsh

Western North American Freshwater Marsh macrogroup accounts for less than 1 percent of the ESL and is composed of a dense herbaceous layer with low diversity, with structure varying from barely-emergent forbs to meters-tall graminoids. Within the ESL, this macrogroup is dominated by hardstem bulrush (*Schoenoplectus acutus*) and broadleaf cattail (*Typha latifolia*). This macrogroup is generally found in the ESL in the Yolo Bypass area.

Chapter 4 Methodology

4.1 Desktop Review

Prior to conducting fieldwork, Stantec reviewed the following map resources:

- U.S. Fish and Wildlife Service National Wetland Inventory (USFWS 2020)
- Google Earth color aerial imagery dating back to 1985
- U.S. Geological Survey (USGS) 7.5-minute topographic maps dating back to 1905
- USGS National Hydrography Dataset Plus (USGS 2020)

These resources were used in combination to identify potential aquatic resource features, based on changes in vegetation, topographic changes, and/or visible drainage patterns. Prior to field surveys, Stantec digitized potential features into a working field map that was used during field surveys.

4.2 Field Assessment

The aquatic resources field assessment was conducted by a team of two Stantec biologists on December 18, 21–22, and 28–29, 2020 and February 19, 20–24, 2021. In addition, supplemental surveys were conducted on July 21, 2022. The team consisted of biologists John Holson (task lead, Certified Professional Wetland Scientist) and Sheryl Creer (botanist and wetland scientist). The ESL was surveyed on foot where accessible and safe to do so, and all aquatic resources found were mapped and documented (Appendix A. Figure 3 and Appendix B).

The field team visited locations of features mapped in the USGS National Hydrography Dataset Plus and/or National Wetlands Inventory databases and documented the presence or absence of those features. Data was collected to a sufficient level of detail to inform the jurisdictional assessment for each relevant agency on a feature-by-feature basis (see Tables 3 and 4 in Chapter 5). The biologists recorded plant species observed during field surveys using botanical nomenclature following the Jepson eFlora (Jepson Flora Project 2021).

Prior to the start of the December 2020 field assessments, 0.27 inch of rain fell on December 17 as recorded by the National Oceanic and Atmospheric Administration's Davis 2 WSW EXP FARM, CA weather station. Prior to the February 2021 field assessments, 0.50 inch of rain fell on February 12 (NOAA 2020). No other rainfall was recorded for the duration of the

field assessments. Detailed information on resources mapped and jurisdictional assessment methods are provided below. Representative photographs of features within the ESL can be seen in Appendix C.

4.2.1 Wetlands

The definition of a "wetland" varies between the agencies. As such, biologists collected a variety of data during the field assessment to establish adequate documentation using the various agency guidelines. The definition of a "wetland" summarized by agency is as follows:

- **U.S. Army Corps of Engineers (USACE)**: Wetland delineation per USACE guidance followed the routine determination method given in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a). This methodology entails examination of specific sample points in both wetlands and uplands (i.e., paired points) to determine the boundaries of wetland features. Sample points are examined for hydrophytic vegetation, hydric soils, and wetland hydrology. In most cases, by the federal definition, all three parameters must be present for an area to be considered a wetland. Problematic situations, in which only two parameters are met, do occur in the Arid West (outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*) (USACE 2008a), especially in areas that have been altered by human activity. The standard USACE Wetland Determination Data Form for the arid west was used to document each sample point (Appendix D).

- **Regional Water Quality Control Board (RWQCB):** Wetland determination, as defined and adopted on April 2, 2019, by the RWQCB follows the USACE three-parameter requirement as outlined above, including problematic situations that may require two-parameters.

- **California Department of Fish and Wildlife (CDFW):** Previous guidance by CDFW considers riparian canopy and riparian wetlands under the jurisdiction of CDFW when a wetland, shrub, or forest community associated with a drainage feature or "stream" passes the USACE criterion for hydrophytic vegetation.

Twenty-four wetland determination sample points were established within the ESL and described in corresponding USACE wetland determination data forms (Appendix D). Vegetation and local indicators of wetland hydrology were recorded in the immediate

vicinity for each sample point. Wetland indicator status for plant species was confirmed using The National Wetland Plant List (USACE 2018), and the "50/20 Rule" or "Prevalence Index" was applied to determine plant dominance (USACE 2008a). Test pits were excavated to a depth of 16 inches or to shovel refusal to record soil characteristics and to check for hydric soil indicators as well as indicators of hydrology. Stantec evaluated soils for positive indicators of hydric soils in the field following the criteria outlined in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2018). Soil colors were determined using a Munsell soil color chart. The hydric status of each soil map unit occurring in the ESL was reviewed using the Web Soil Survey (NRCS 2021).

Features were assigned a feature type based on overall vegetation and hydrology within each delineated feature. Detailed descriptions applicable at the aquatic resource survey level (i.e., vegetation for each delineated feature) are provided in Chapter 5. A list of plant species observed is provided in Appendix E.

4.2.2 Other Waters

Other waters that do not fall within the "wetland" category but do potentially fall under the jurisdiction of USACE, RWQCB, or CDFW were also mapped within the ESL. As with wetlands, the definition of a "drainage" or "other waters" varies between the agencies. As such, the field teams collected a variety of data to establish adequate documentation using the various agency guidelines. The criteria used to determine what constitutes a drainage or other water are summarized below by agency:

- **U.S. Army Corps of Engineers (USACE):** Drainages or "other waters" were delineated based on indicators of an ordinary high water mark (OHWM). The OHWM was determined using the approach outlined in *A Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (USACE 2008b). The following attributes were collected or measured for each mapped drainage: average OHWM width and depth, hydrologic regime, OHWM indicators, and substrate below OHWM. All potentially jurisdictional drainages with primary or secondary indicators of OHWM were mapped. A digital OHWM documentation form was completed for representative features.

- **Regional Water Quality Control Board (RWQCB):** The RWQCB follows the USACE methods to determine the presence of a drainage, following previously listed guidance and methods based on presence of an OHWM.

- **California Department of Fish and Wildlife (CDFW):** CDFW defines drainages, or "streams" under Title 14, California Code of Regulations Section 1.72, as "a body of water that follows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life." Average top-of-bank width and depth measurements were noted for each drainage or stream and recorded along with OHWM data. In addition, CDFW Section 1600 applies to more than just streams and includes open water features such as lakes and ponds.

In summary, other waters were mapped following ordinary high water mark (OHWM) lines and/or top-of-bank (TOB) using the presence of indicators such as changes in vegetation and break in slope. The average widths and depths of these attributes were collected and documented for each feature. Spatial data mapping was the same as outlined above for wetlands: using a sub-meter global positioning system unit paired with Collector. All spatial data were collected in the World Geodetic System datum. Representative photographs were taken of these features and are provided in Appendix C, and OHWM forms are provided in Appendix D. All potentially jurisdictional drainages and other waters with primary or secondary indicators of OHWM were mapped.

4.3 Preliminary Jurisdictional Assessment

Stantec conducted a preliminary jurisdictional assessment for each delineated feature after completion of field work and preparation of an aquatic resource map. The assessment includes an analysis of each feature and the applicable resource agency(ies) jurisdiction (i.e., USACE, RWQCB, and CDFW) the feature may be subject to. Agency jurisdiction over each of the delineated features is based on the regulations described below. All jurisdictional assessments in this report should be considered preliminary until the USACE, RWQCB, and CDFW provide verification.

4.3.1 U.S. Army Corps of Engineers

On August 30, 2021, the U.S. District Court for the District of Arizona vacated and remanded the Navigable Waters Protection Rule (NWPR). Federal agencies have halted implementation of the NWPR and are currently interpreting the definition of waters of the United States with the pre-2015 regime, which follows guidance established after the 2008 Rapanos and Carabell U.S. Supreme Court Decisions. All mapped features within the project area were assessed for potential USACE jurisdiction using the Rapanos/Carabell guidance, which states that the USACE will take jurisdiction over the following (USEPA 2008):

- Traditional navigable waters (TNW)
- Wetlands adjacent to TNWs
- Non-navigable tributaries of TNWs that are relatively permanent waters (i.e., not ephemeral)
- Wetlands that directly abut tributaries listed above

Two determination processes are available for approval by the USACE: the Approved Jurisdictional Determination (AJD) process and the Preliminary Jurisdictional Determination (PJD) process. In the AJD process, the USACE will decide jurisdiction of features on a case-by-case analysis to determine presence of a significant nexus with a traditional navigable waters as follows:

- Non-navigable tributaries that are not relatively permanent waters (i.e., ephemeral drainages)
- Wetlands adjacent to non-relatively permanent waters (i.e., seasonal wetlands adjacent to ephemeral drainages)
- Wetlands adjacent, but not directly abutting, a relatively permanent water that is a non-navigable tributary

In the PJD process, all wetlands and other waters observed in the project area are assumed jurisdictional regardless of hydrologic connection to a TNW.

It is assumed for this project that the AJD process will be used. Each non-wetland water within the ESL was assessed for jurisdiction based on hydrological regime (i.e., ephemeral, intermittent, or perennial) and connectivity in a typical year, following guidance included in the USACE (2008b) guide. Stantec observed only non-permanent waters and did not observe wetlands within the project; therefore, the aquatic resources identified are likely not under USACE jurisdiction. A review by the USACE will be required to make the final determination of jurisdiction.

4.3.2 Regional Water Quality Control Board

Stantec assessed all mapped features for potential RWQCB jurisdiction using the following regulations and guidance:

Wetlands

Under the broad Porter-Cologne Water Quality Control Act definition of waters of the state, all waters defined as "wetlands" under the USACE three-parameter requirement, including isolated features, would likely be considered RWQCB jurisdictional. Therefore, all wetlands that meet the three-parameter wetland criterion (or two in the case of problematic situations) are considered potentially jurisdictional.

Other Waters

The RWQCB takes jurisdiction over waters defined as "drainages" based upon the presence of OHWM and/or bed-and-bank; connectivity is not a consideration. In addition, isolated open waters or impoundments are also generally considered under the jurisdiction of the RWQCB. Therefore, all drainages or other non-wetland waters on-site are considered potentially jurisdictional under the RWQCB.

4.3.3 California Department of Fish and Wildlife

Wetlands

Shrubby and forested wetlands fall under the jurisdiction of CDFW when they are adjacent to or associated with a drainage feature or "stream". Features that exhibited a dominance of hydrophytic vegetation and were associated with a drainage feature, regardless of regime, were considered potentially jurisdictional.

Other Waters

CDFW generally takes jurisdiction over all waters with a defined bed-and-bank up to TOB measurements; connectivity is not considered. In addition, isolated open waters or impoundments are also generally considered under the jurisdiction of CDFW. Therefore, all drainages or other non-wetland waters on-site are considered potentially jurisdictional.

4.3.4 Summary of U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife Methods

In summary, potential jurisdiction of wetlands under each agency was assessed and generally assigned as follows: all three-parameter wetlands adjacent to (a)(1)–(a)(3) Waters of the U.S. were considered potentially USACE jurisdictional; all three-parameter wetlands within the ESL were considered potentially RWQCB jurisdictional; all features with a dominance of hydrophytic vegetation and associated with a drainage feature were considered potentially CDFW jurisdictional. Assessment of each mapped resource was on a case-by-case basis; additional details on each case are included in the results section.

All drainages mapped within the ESL were considered potentially CDFW- and RWQCB-jurisdictional by definition. All features exhibiting OHWM were then assessed for potential USACE jurisdiction based upon regime and connectivity. Further assessment of each mapped resource was on a case-by-case basis.

Chapter 5 Results

This chapter summarizes the results of the Aquatic Resources Delineation within the ESL; Table 3 summarizes the number of features under each agency jurisdiction while Table 4 summarizes the acreage and linear feet. Each feature identified during the survey efforts is also further characterized/described below.

Table 3. Summary of Aquatic Resources within the ESL

Feature Type	Total Number of Features	USACE/RWQCB Potentially Jurisdictional Features	CDFW Potentially Jurisdictional Features
Wetlands			
Fresh Emergent Marsh	3	3	0
Seasonal Wetlands	6	6	0
Vegetated Ditches	6	6	6
Woody Riparian Wetlands	11	11	7
Subtotal	26	26	13
Other Waters			
Ephemeral Drainages	2	2	2
Intermittent Drainages	3	3	3
Perennial Drainages	4	4	4
Canals	8	8	8
Ponds	3	3	3
Subtotal	**20**	**20**	**20**
Total	**46**	**46**	**33**

Key: USACE = U.S. Army Corps of Engineers, RWQCB = Regional Water Quality Control Board, CDFW = California Department of Fish and Wildlife

Table 4. Summary of Potential Jurisdiction of Aquatic Resources within the ESL

Feature Type	USACE/RWQCB		CDFW	
	Acres	Linear Feet	Acres	Linear Feet
Wetlands				
Fresh Emergent Marsh	0.399	405.42	0.000	0.00
Seasonal Wetlands	4.002	1057.22	0.000	0.00
Vegetated Ditches	7.553	16,495.97	7.553	16,495.97
Woody Riparian Wetlands	5.060	3,983.02	1.957	1,727.77
Subtotal Wetlands	**17.014**	**21,941.63**	**9.510**	**18,223.74**
Other Waters				
Ephemeral Drainages	0.230	1,654.61	0.461	1,654.61
Intermittent Drainages	0.369	2,734.89	0.741	2,734.89
Perennial Drainages	5.692	1,148.01	5.692	1,148.01
Canals	1.523	3,134.36	1.523	3,134.36
Ponds	3.584	1,524.82	3.584	1,524.82
Subtotals Other Waters	**11.398**	**10,196.69**	**12.001**	**10,196.69**
Total	**28.412**	**32,138.32**	**21.51**	**28,420.43**

Key: USACE = U.S. Army Corps of Engineers, RWQCB = Regional Water Quality Control Board, CDFW = California Department of Fish and Wildlife

5.1 Wetlands

Twenty-six wetlands were mapped within the ESL (Appendix B). Twenty-six are potentially under the jurisdiction of the USACE (17.014 acres), 26 are under the jurisdiction of the RWQCB (17.014 acres), and 13 are potentially under the jurisdiction of the CDFW (9.510 acres). Mapped wetlands fell into four categories which are further described below: fresh emergent marsh wetlands, woody riparian wetlands, seasonal wetlands, and vegetated ditches. In total, 3 fresh emergent marsh wetlands, 11 woody riparian wetlands, 6 seasonal wetlands, and 6 vegetated ditches were observed in the ESL.

5.1.1 Fresh Emergent Marsh Wetlands

Three fresh emergent marsh wetlands were mapped within the Yolo Bypass portion of the ESL. Vegetation was dominated by obligate perennial species such as water primrose (*Ludwigia* sp.), broad-leaved cattail, and tule (*Schoenoplectus acutus* var. *occidentalis*). Hydric soil indicators observed include redox dark surface (F6) and redox depressions (F8).

Positive field indicators of being frequently ponded and/or flooded for long-duration or very long-duration during the growing season included water marks (B1), drift deposits (B3), and sediment deposits (B2). Based on the Rapanos/Carabell guidance (USEPA 2008), all of these features would be potentially jurisdictional under the USACE. In addition, all features would be considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. None of these features would potentially be under the jurisdiction of the CDFW.

5.1.2 Woody Riparian Wetlands

Eleven woody riparian wetlands were mapped intermittently throughout the ESL, in particular in the Yolo Bypass along the Sacramento River. Features in this category exhibited positive field indicators of frequent ponding and/or flooding for long-duration or very long-duration during the growing season. Woody riparian wetlands were dominated by woody deciduous shrubs and trees, including dominant species such as Fremont's cottonwood, black willow (*Salix gooddingii*), and narrow-leaved willow (*Salix exigua*). Hydric soil indicators observed include sandy redox (S5), redox dark surface (F6) and redox depressions (F8). Wetland indicators observed include water marks, drift lines, and fine sediment deposits.

Based on the Rapanos/Carabell guidance (USEPA 2008) all 11 woody riparian wetlands would be potentially jurisdictional under the USACE. In addition, all 11 features would be potentially considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. Seven of these features would be potentially subject to CDFW jurisdiction under Fish and Game Code (FGC) Section 1600 given the presence vegetation adjacent to a bed, bank, and channel.

5.1.3 Seasonal Wetlands

Six seasonal wetlands were mapped in the western portion of the ESL, starting in the Yolo Bypass area and intermittently occurring west towards the City of Dixon. Features in this category exhibited positive field indicators of long-duration saturation during the growing season, as well as hydrophytic vegetation characteristic of this wetland type. Dominant species observed in seasonal wetlands include umbrella sedge (*Cyperus eragrostis*), dallis grass (*Paspalum dilatatum*) and perennial ryegrass (*Lolium perenne*). Hydric soil indicators observed include redox dark surface (F6) and redox depressions (F8). Wetland indicators include saturation and oxidized root channels within the upper 12 inches of the soil profile, and localized sediment deposits from ponding.

Based on the Rapanos/Carabell guidance (USEPA 2008), all six of these seasonal wetlands would be potentially jurisdictional under the USACE. In addition, all six features would be potentially considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. None of these features would be under the potential jurisdiction of the CDFW.

5.1.4 Vegetated Ditches

Six vegetated ditches were mapped throughout the ESL. Vegetated ditches generally consisted of constructed drainage ditches that exhibit positive indicators for all three wetland parameters. For the purposes of developing the aquatic resources maps as well as future permitting and/or mitigation, vegetated ditches are treated as wetlands based on the vegetation, soils, and functional characteristics. Dominant species observed in vegetated ditches include broad-leaved cattail, tule, and saltgrass (*Distichlis spicata*). Hydric soil indicators observed include redox dark surface (F6) and redox depressions (F8). Wetland indicators include riverine sediment deposits (B2), drainage patterns (B10), and saturation visible on aerial imagery (C9).

Based on the Rapanos/Carabell guidance (USEPA 2008), all six of the vegetated ditches would be potentially jurisdictional under the USACE. This is based on the hydrology of these features. Of the six vegetated ditch features, four are in the Yolo Bypass area and drain into Prospect Slough, which then drains into the Sacramento Bypass. Contributing hydrology includes agricultural sources originating from the Sacramento River as well as rainfall and surface runoff. One of the two remaining vegetated ditches, occurring adjacent to Pedrick Road, has a source from Putah Creek that eventually drains, through a series of agricultural drains and ditches, into the Yolo Bypass and subsequent Sacramento River. And finally, the sixth feature occurs in proximity to the Sacramento River, on the west edge of West Sacramento, and drains into Prospect Slough from the east. In addition, all six features would be potentially considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. All six of these features would also be potentially subject to CDFW under FGC Section 1600 given the presence vegetation adjacent to a bed, bank, and channel.

5.2 Drainages and Other Waters

Twenty other waters potentially under the jurisdiction of the USACE (11.398 acres), RWQCB (11.398 acres), and/or CDFW (12.001 acres) were mapped within the ESL (Appendix B). All 20 features are under the potential jurisdiction of USACE, RWQCB, and CDFW. Based on topography, all drainages mapped are assumed to eventually drain into the

Sacramento-San Joaquin Delta. Putah Creek is a tributary to the Yolo Bypass, which connects directly to the Sacramento-San Joaquin Delta and, ultimately, to the Pacific Ocean. Two ephemeral drainages, three intermittent drainages, four perennial drainages, eight canals, and three ponds were examined within the ESL. Note that CDFW acreages are greater for some of the drainage features based on the CDFW jurisdiction being based on TOB measurements which are inclusive of bed, bank, and channel, versus OHWM measurements for USACE and RWQCB.

5.2.1 Ephemeral Drainages

Two ephemeral drainages and drainage segments were mapped in the ESL, with both occurring in the urban sections near the Sacramento River. Both drainages are subject to flow from rainfall, are seasonally inundated, and are connected through storm drains to the Sacramento River. OHWM measurements on ephemeral drainages were based on drift/wrack lines, sediment deposits, and the presence of a bed and bank.

Based on the Rapanos/Carabell guidance (USEPA 2008), both of these ephemeral features would be considered under USACE jurisdiction. In addition, these features would be potentially considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. These features would also be potentially subject to CDFW under FGC Section 1600 given the presence of a bed, bank, and channel.

5.2.2 Intermittent Drainages

Three intermittent drainages and drainage segments were mapped in the ESL, in the more urban sections of West Sacramento. All of three of the drainage/drainage segments are hydrologically connected to the Yolo Bypass Toe Drain, either directly or indirectly with a culverted connection. OHWM mark measurements on intermittent drainages were based on water marks, drift/wrack lines, sediment deposits, and the presence of a bed and bank.

Based on the Rapanos/Carabell guidance (USEPA 2008), these three intermittent drainage features would be potentially jurisdictional under the USACE. In addition, these features would potentially be considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. These features would also be potentially subject to CDFW under FGC Section 1600 given the presence of a bed, bank, and channel.

5.2.3 Perennial Drainages

Four perennial drainages in the ESL occur as part of the Sacramento River, which is present in the ESL in two locations. The remaining two perennial drainages are at Prospect Slough as part of the Yolo Bypass, in addition to one segment of South Putah Creek. OHWM measurements on the Sacramento River were based on water marks, drift/wrack lines, cut banks, and the presence of rip-rap (i.e., rip-rap is typically installed to prevent scour of the levees). Both of the Sacramento River segments support riparian vegetation. The Sacramento River originates outside the ESL and is fed by the intermittent and ephemeral drainages mapped within the ESL before draining into the Sacramento-San Joaquin Delta. South Putah Creek originates at Lake Berryessa outside the ESL flowing east before draining into the Yolo Bypass and subsequently the Sacramento River.

Based on the Rapanos/Carabell guidance (USEPA 2008), all four segments of perennial drainage would be potentially jurisdictional under the USACE. In addition, these features would potentially be considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. These features would also be potentially subject to CDFW under FGC Section 1600 given the presence of a bed, bank, and channel.

5.2.4 Canals

Eight segments of canals were mapped within the ESL. Canal segments are human-made drainages that generally have steep sides. The limits of jurisdiction between USACE, RWQCB, and CDFW are the same (i.e., OHWM and TOB are the same). In this case, the canals move water away from the City of West Sacramento, and the water may be used to irrigate croplands and/or flood control. All of these canals were constructed in uplands; however, they do end up draining to either the Sacramento River or the Yolo Bypass. OHWM measurements were based on water marks, drift/wrack lines, and the presence of a bed and bank.

Based on the Rapanos/Carabell guidance (USEPA 2008), all eight segments of these canals would be under the potential jurisdiction of the USACE, and all eight segments would be considered potential waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. These features would potentially also be subject to CDFW under FGC Section 1600 given the presence of a bed, bank, and channel.

5.2.5 Ponds

Three ponds with open water were mapped within the ESL. Two ponds are on the north side of the Yolo Bypass and connect via culvert to a vegetated ditch within the bypass. The third is connected to Feature 31, a canal feature mapped as an other waters, and is on the south side of I-80. These perennial ponds are open water features that are part of the tributary system connected to the Yolo Bypass.

Based on the Rapanos/Carabell guidance (USEPA 2008), these three ponds would be potentially jurisdictional under the USACE. In addition, these features would be potentially considered waters of the state and regulated as such under the Porter-Cologne Water Quality Control Act by the RWQCB. These features would also be potentially subject to CDFW under FGC Section 1600.

Chapter 6 Conclusions

Forty-six aquatic features were mapped within the ESL and were assessed to determine the applicable agency jurisdiction. The 46 features included 3 fresh emergent marsh wetlands, 11 woody riparian wetlands, 6 seasonal wetlands, 6 vegetated ditches, 2 ephemeral drainages, 3 intermittent drainages, 4 perennial drainages, 8 canals, and 3 ponds.

Based on the definitions, regulations, and guidance listed in Section 4.3, Preliminary Jurisdictional Assessment, 46 features (26 wetland and 20 other waters) are expected to potentially fall under the jurisdiction of the USACE. Specifically, a total of 17.010 acres of potentially jurisdictional wetlands was delineated within the ESL. A total of 11.398 acres of jurisdictional other waters of the United States was delineated within the ESL. All jurisdictional assessments in this report should be considered preliminary until verified by the USACE.

Chapter 7 References

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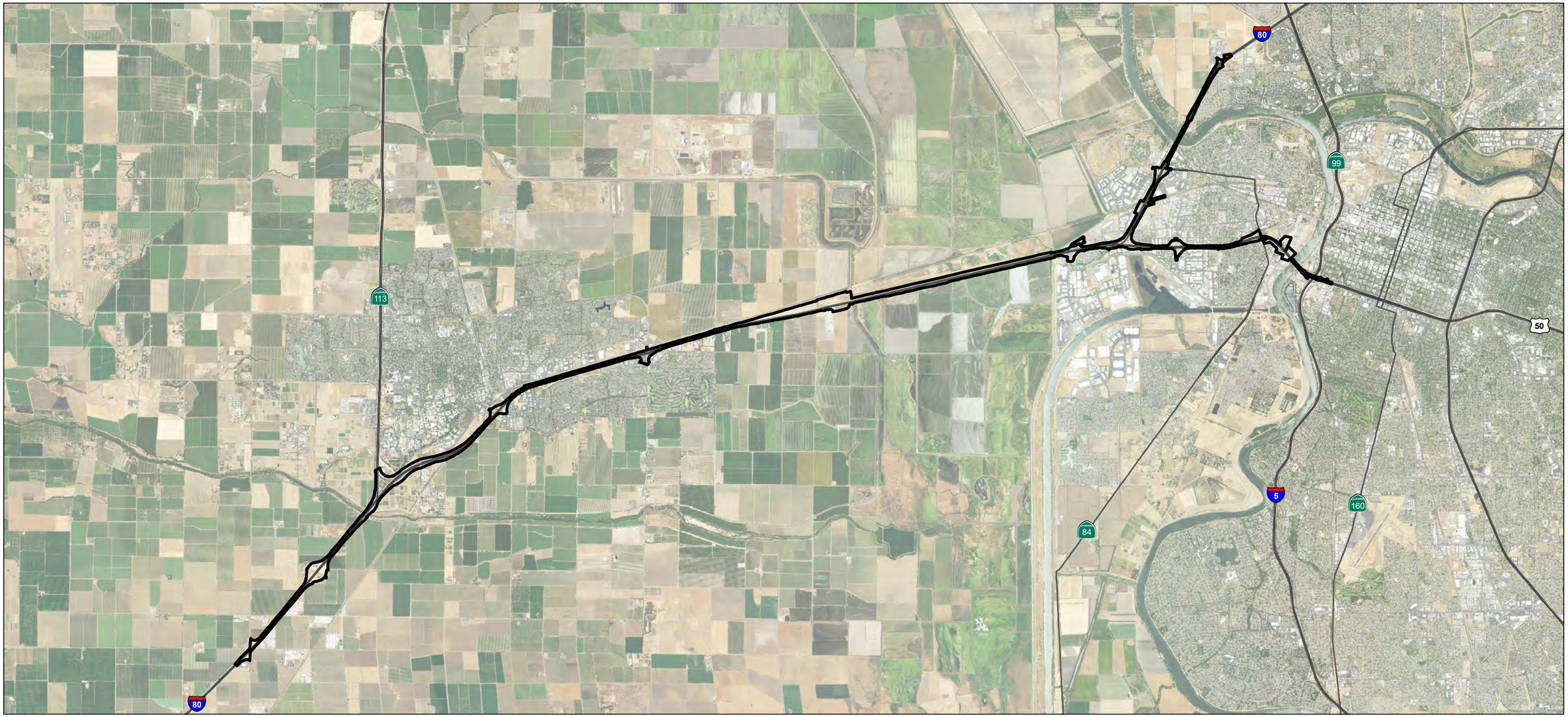
Appendix A Figures



Environmental Study Limits (ESL) (1,147.38 acres)

USGS 7.5' 1:24,000 Quadrangles:
Davis (1992), Dixon (1981), Merritt (1992),
and Sacramento West (1992)

N

0 1.5 3

Miles

Figure 1
Project Location
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and
Yolo Counties, California

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020
3. Background: USDA NAIP 2020.

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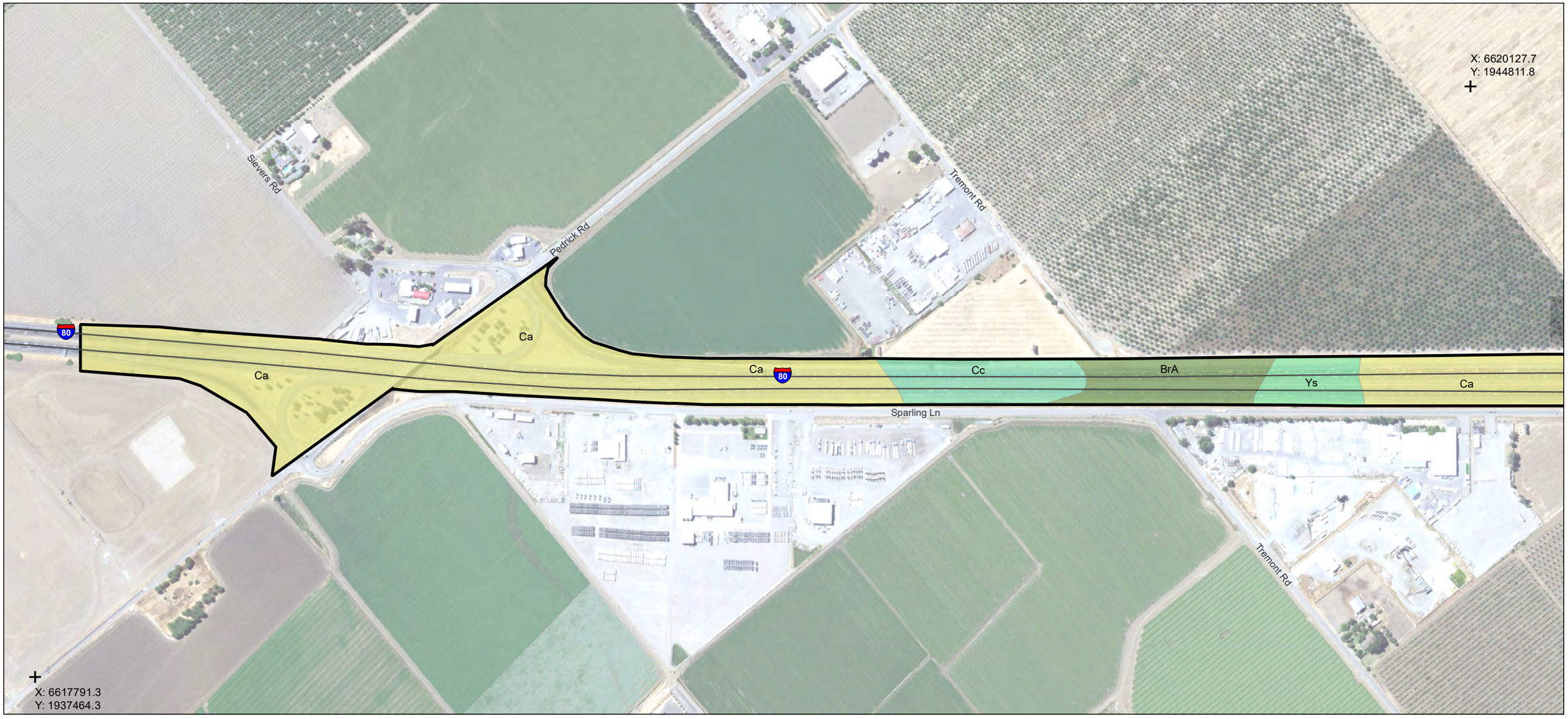

Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- BrA
- Ca
- Cc
- Ys

N

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Feet

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020. Soils from USDA SSURGO, 2020
3. Background:

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

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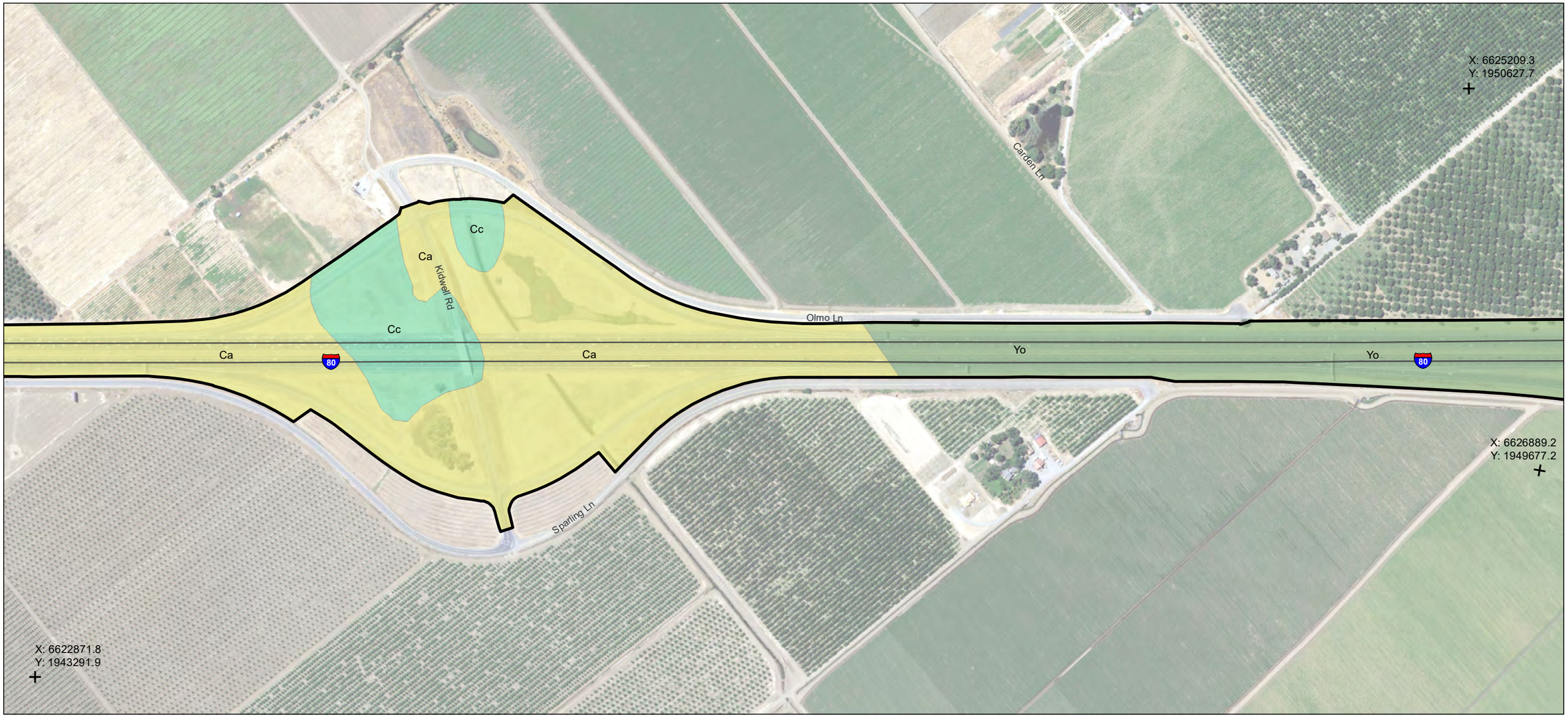

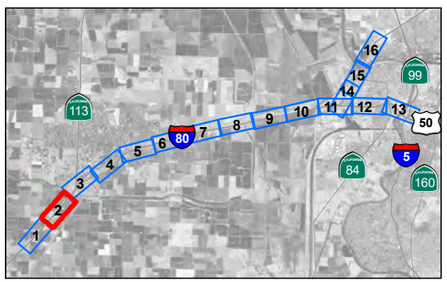

Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

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- Cc
- Yo

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Feet

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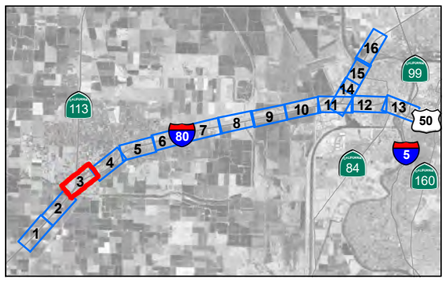

Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

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- Rw
- Yo
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Feet

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Mapped Soil Units

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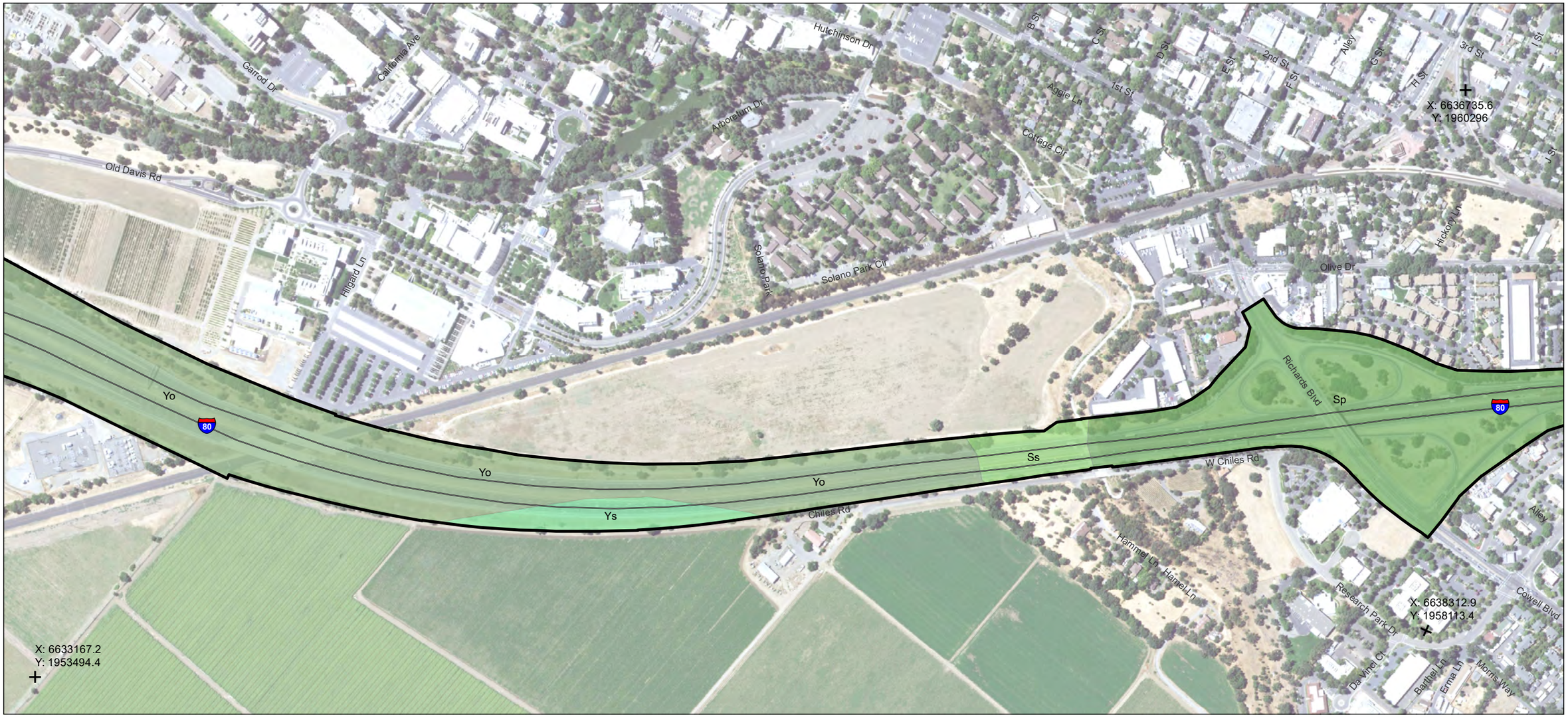
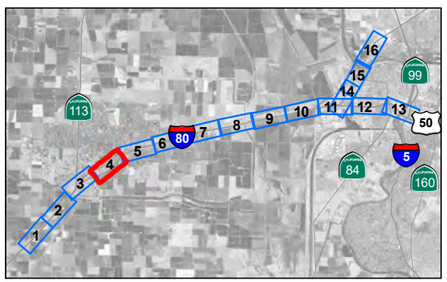
Sacramento, Solano, and Yolo Counties, California





Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

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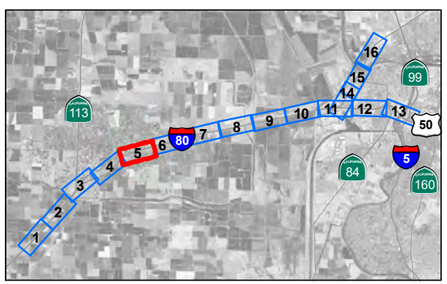

Environmental Study Limits (1,147.38 acres)

\+ Control Point

Soils by Map Unit

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- Sp

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Notes

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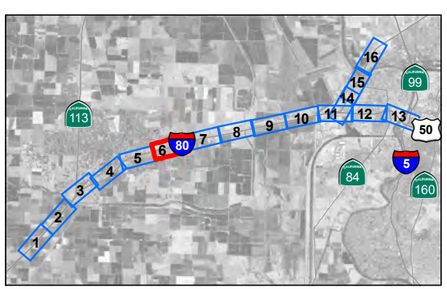
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

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- Sv
- Tc

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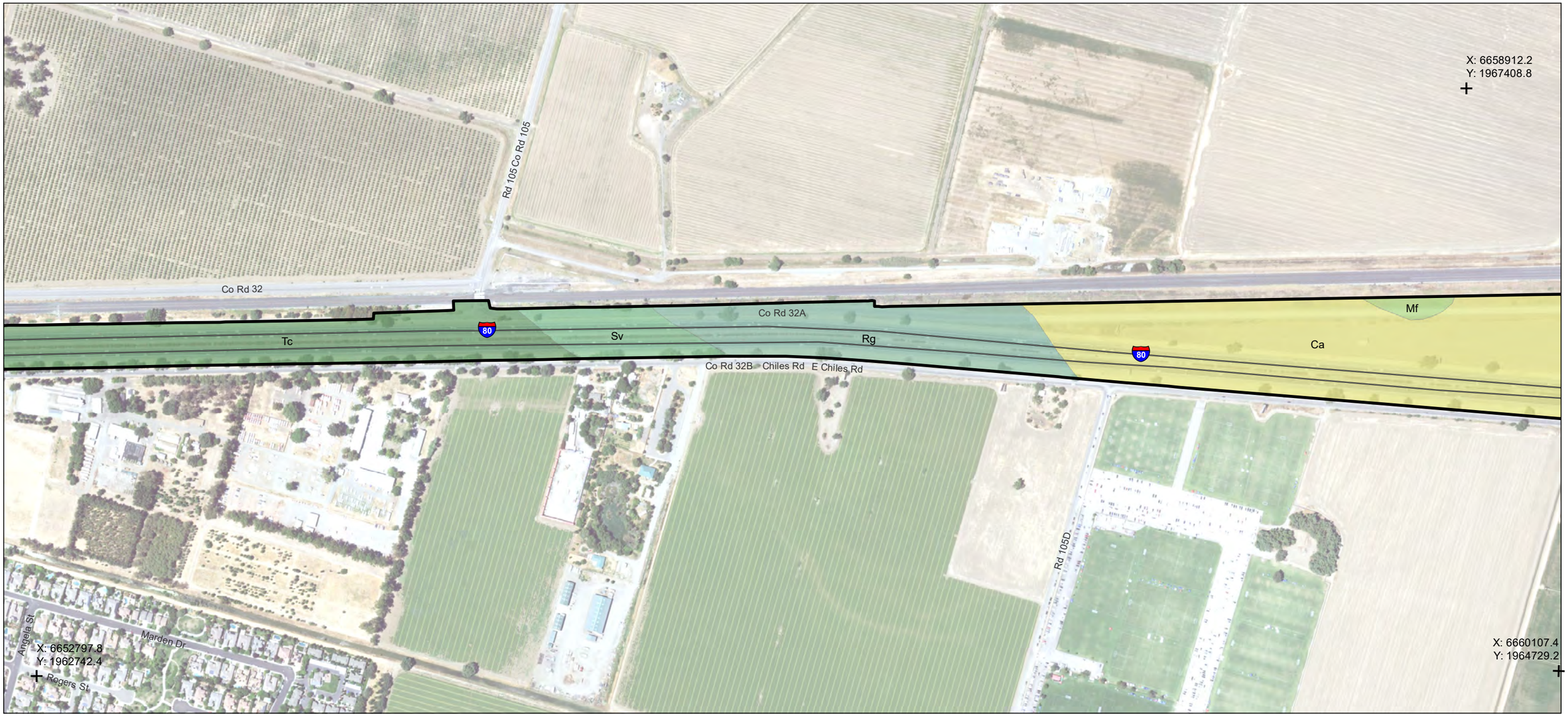
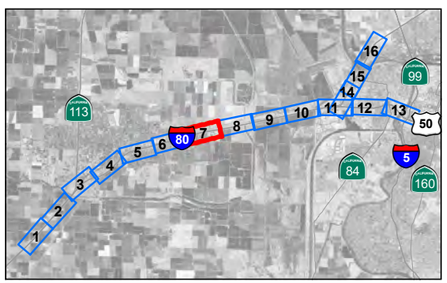
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California





Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

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- Sv
- Tc

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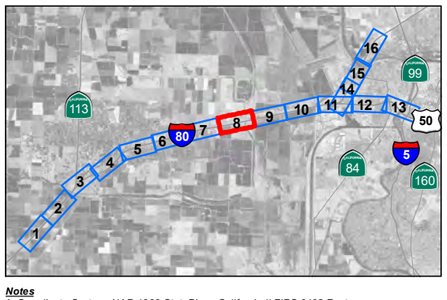
Sacramento, Solano, and Yolo Counties, California



Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

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- Sg

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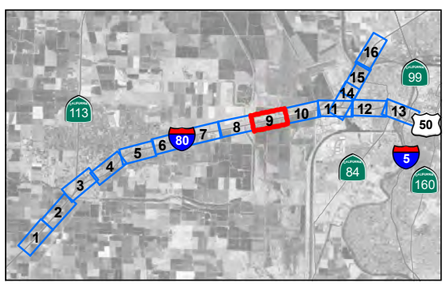
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- Rn
- Sg
- Wg

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0 500 1,000

Feet

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

Sheet 9 of 16

Notes
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Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- Sa2
- Sg
- Wg
- W

0 500 1,000

Feet

Notes

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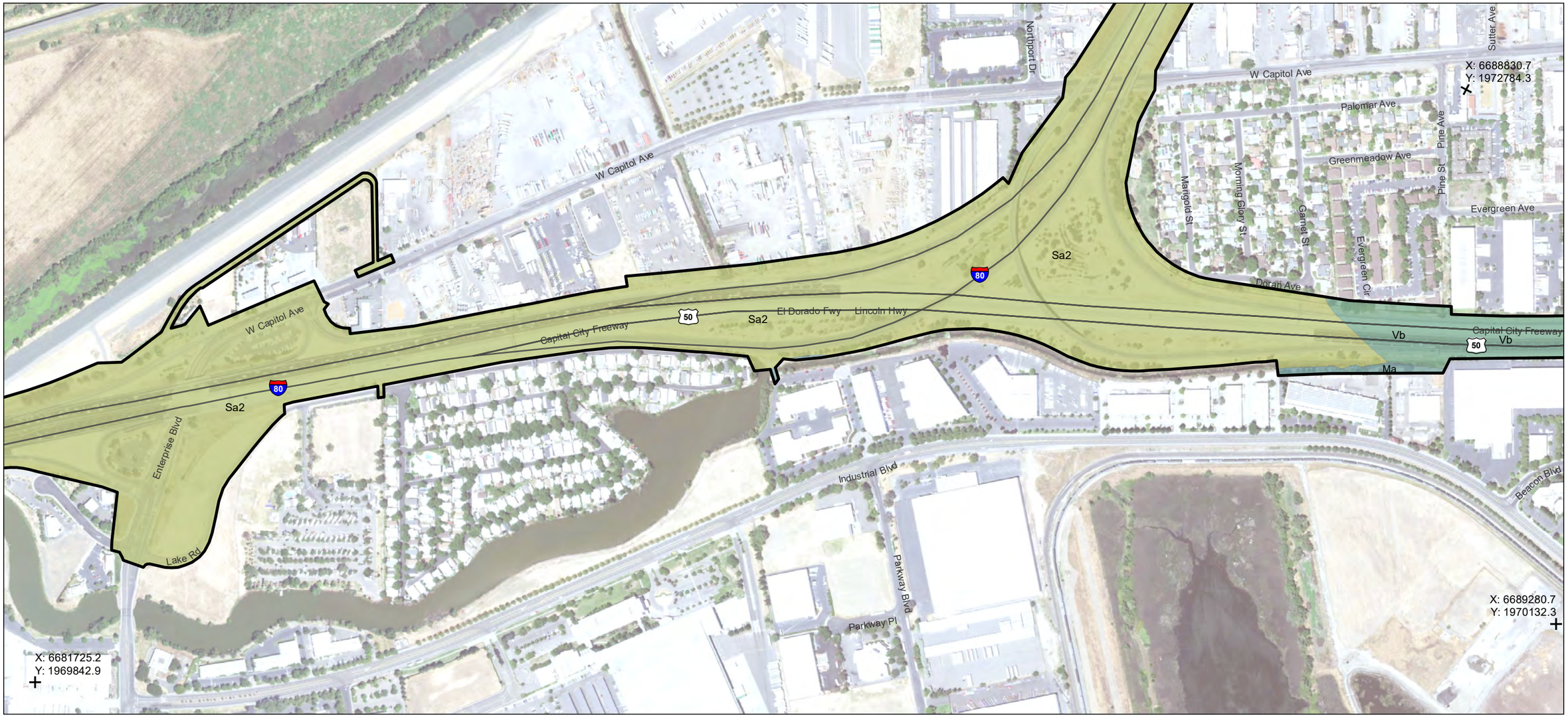
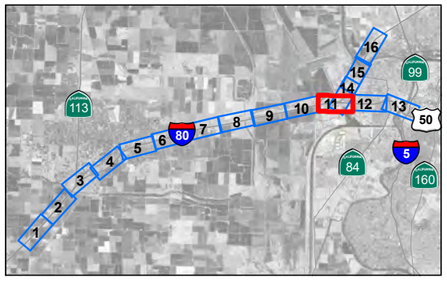
Sacramento, Solano, and Yolo Counties, California





Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- Ma
- Sa2
- Vb

0 500 1,000 Feet

Notes

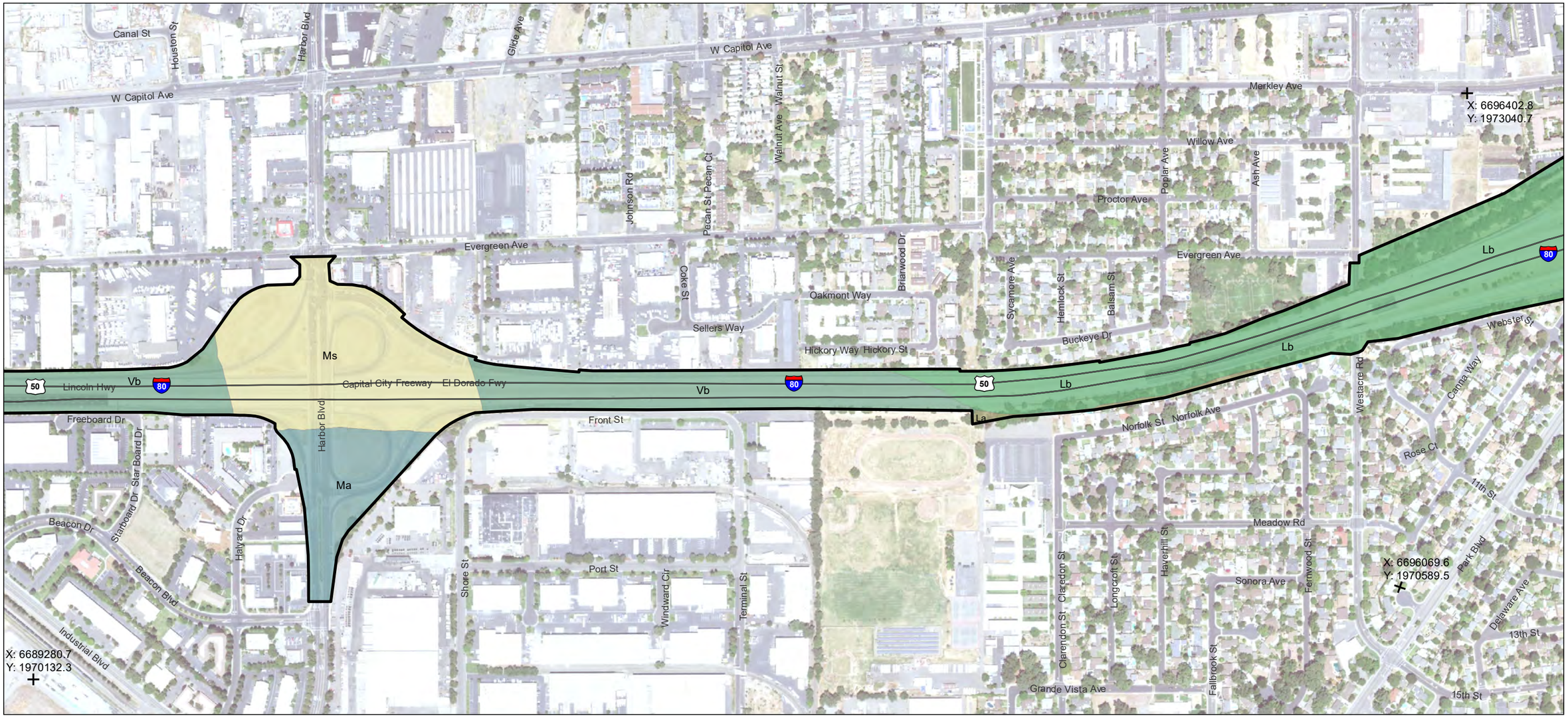
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020. Soils from USDA SSURGO, 2020
3. Background:

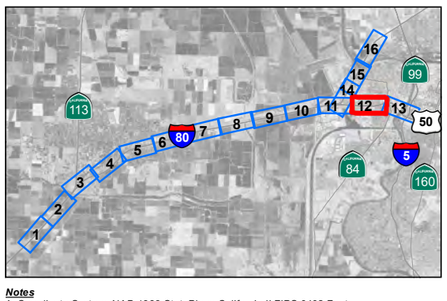
Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

Sheet 11 of 16

V:\18577\Active\185733020\03_data\gis_cad\gis\185733020_007_Veg_Soils_Mapbook_v2.mxd Revised: 2022-08-25 By: rglendening





Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- La
- Lb
- Ma
- Ms
- Vb

0 500 1,000 Feet

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
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3. Background:

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

Sheet 12 of 16

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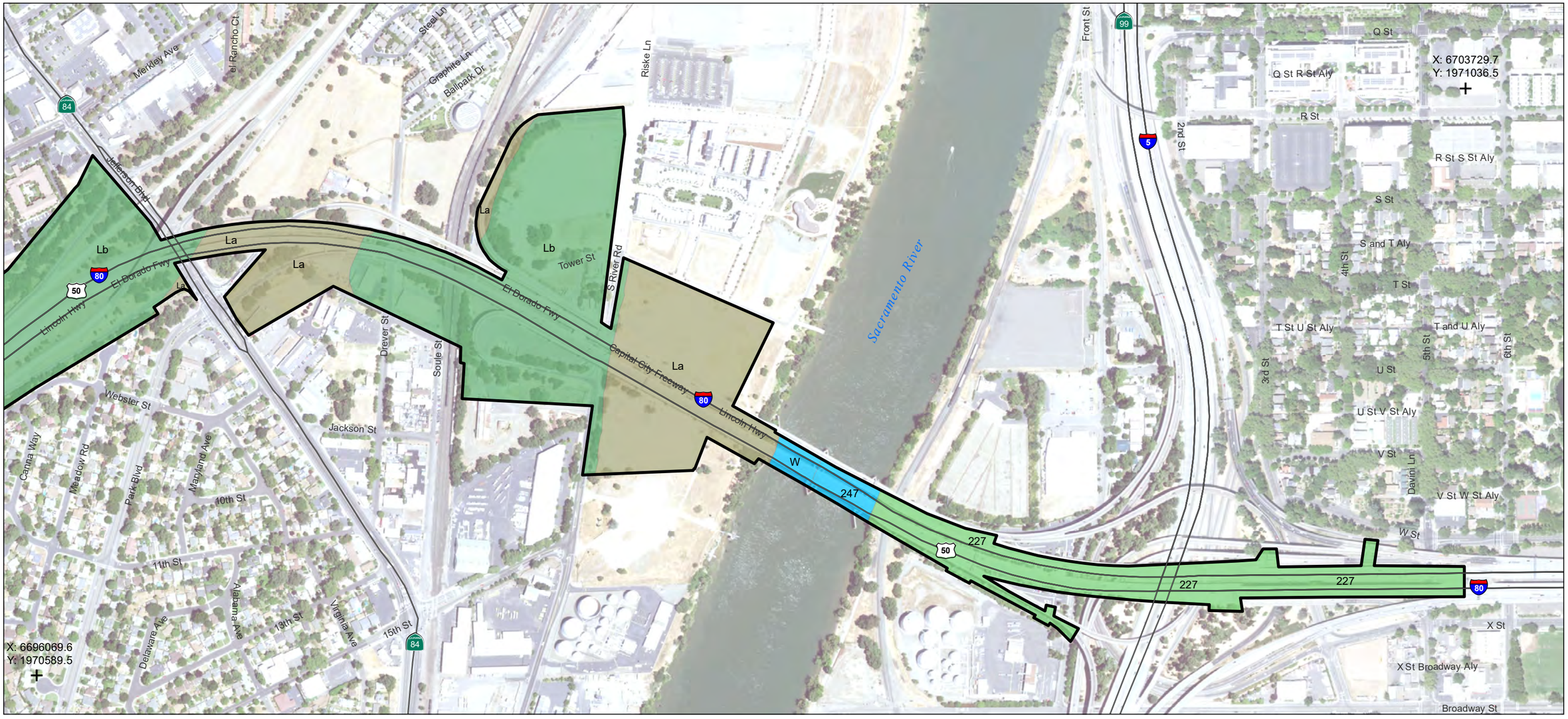
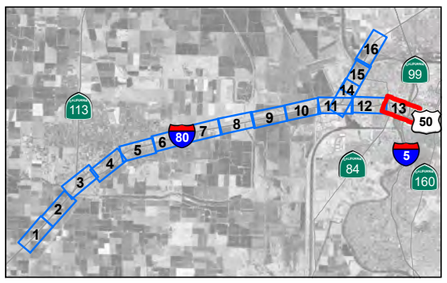




Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- 227
- 247
- La
- Lb
- W

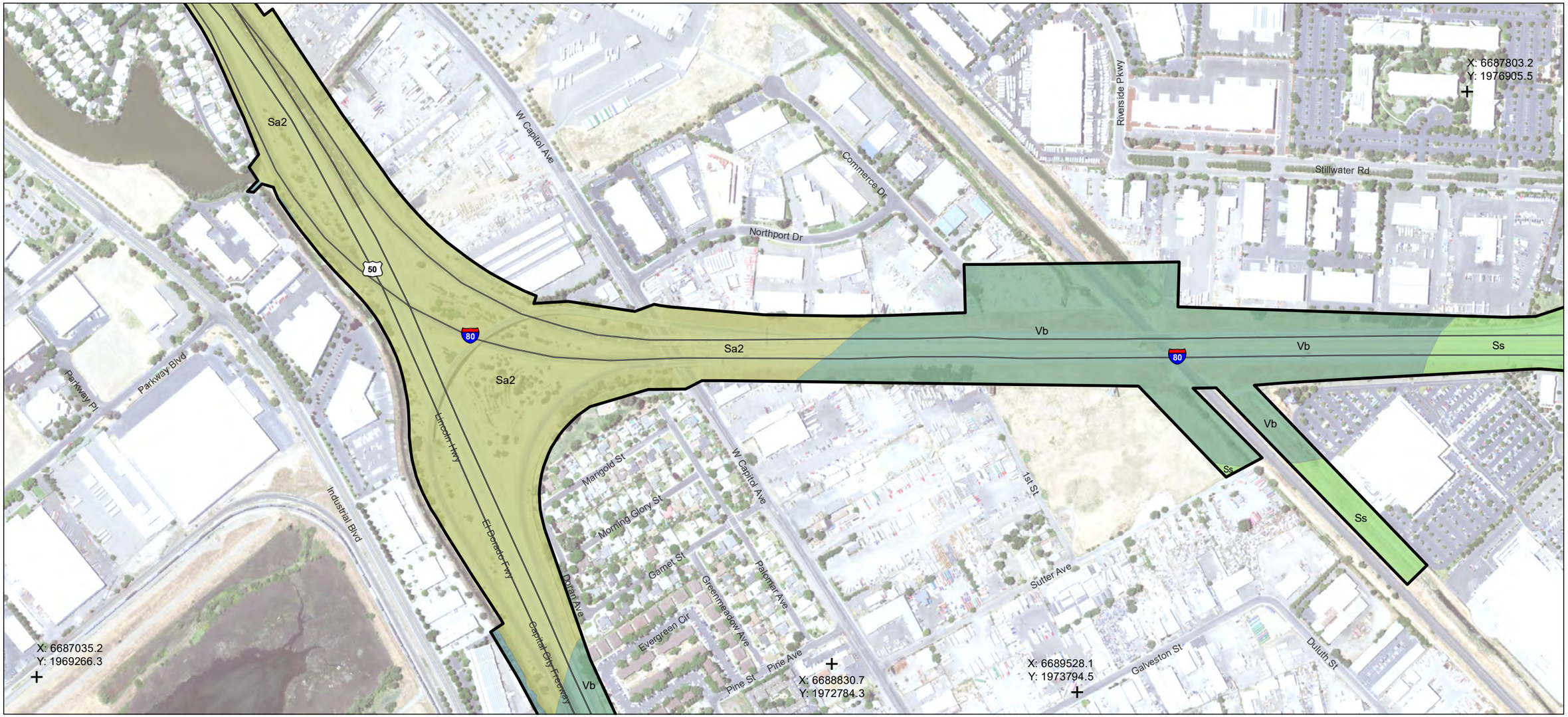
0 500 1,000 Feet

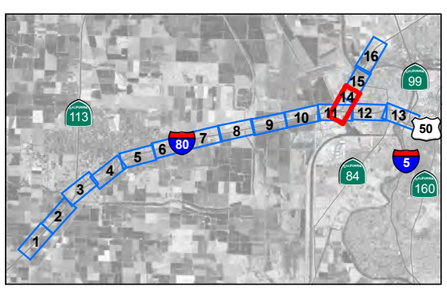
Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020. Soils from USDA SSURGO, 2020
3. Background:

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California





Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

- Ma
- Sa2
- Ss
- Vb

0 500 1,000 Feet

Notes

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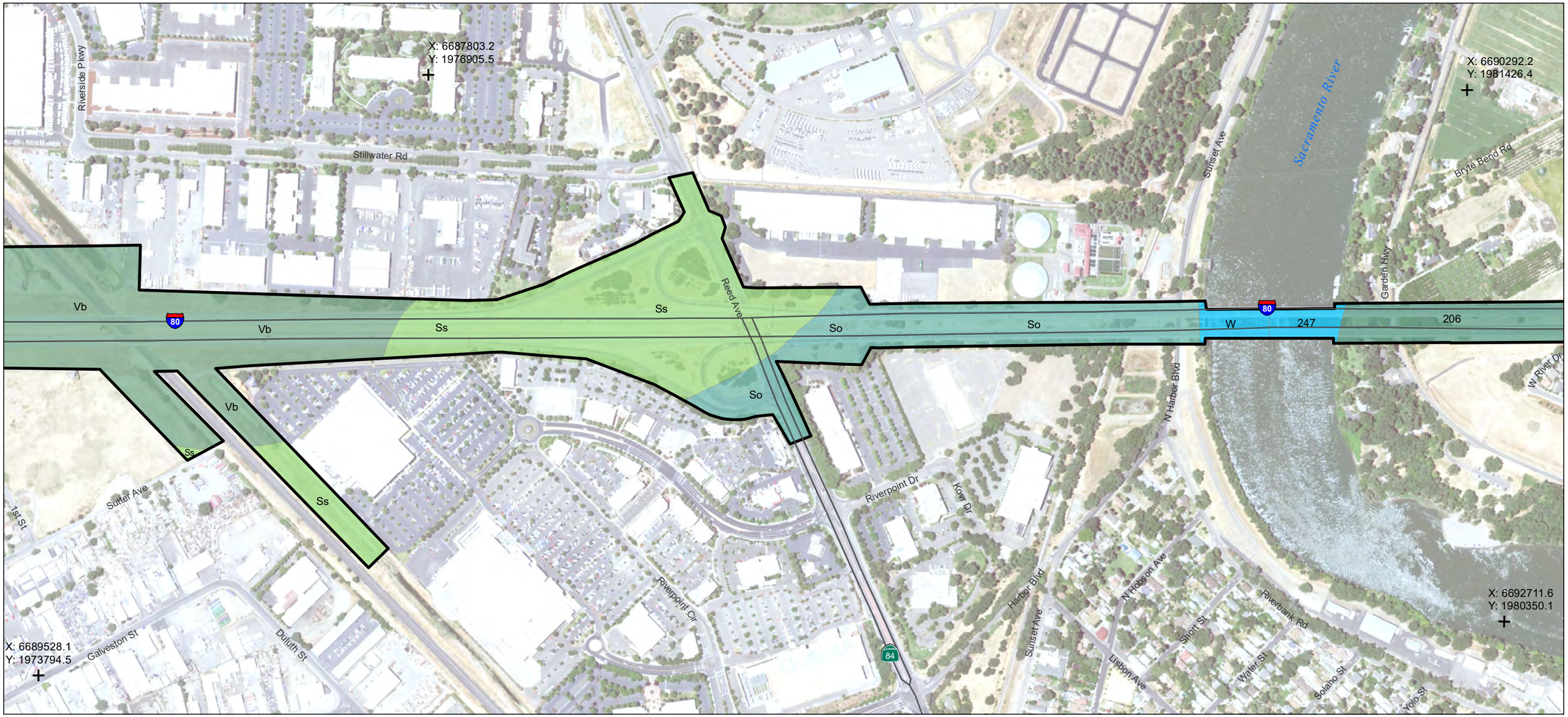
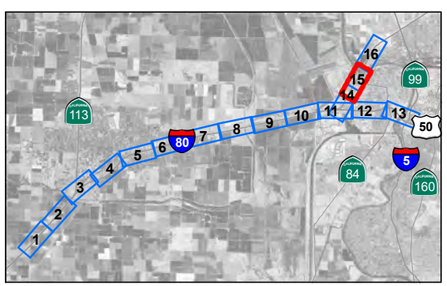
3. Background:

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California





Environmental Study Limits (1,147.38 acres)

\+ Control Point

Soils by Map Unit

- 206
- 247
- So
- Ss
- Vb
- W

N

0 500 1,000

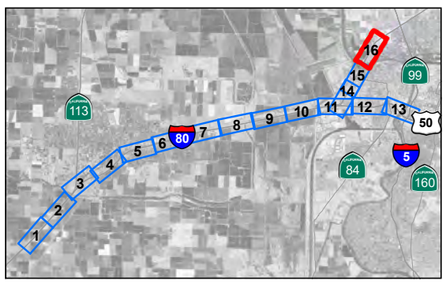
Feet

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020. Soils from USDA SSURGO, 2020
3. Background:

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Environmental Study Limits (1,147.38 acres)

Control Point

Soils by Map Unit

127

206

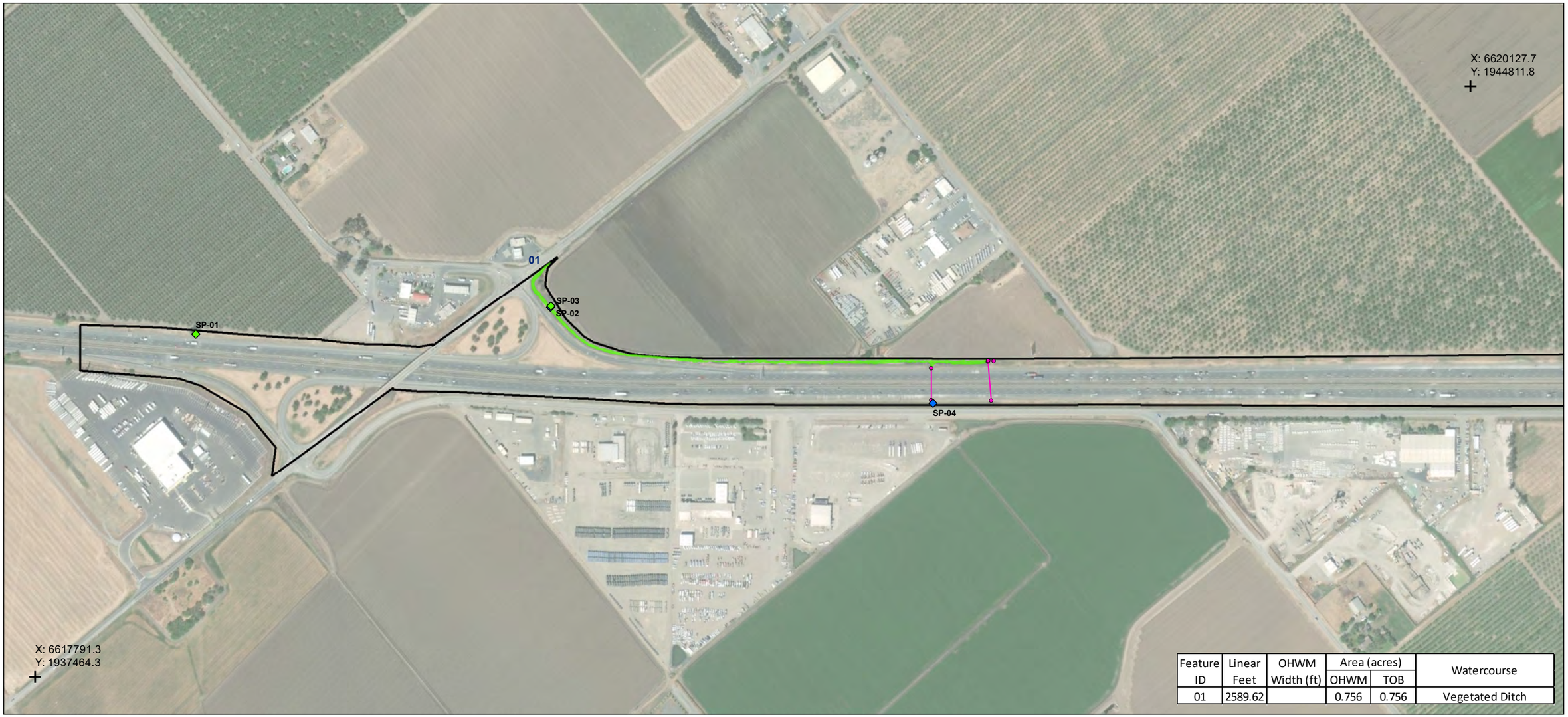
0 500 1,000 Feet

Notes

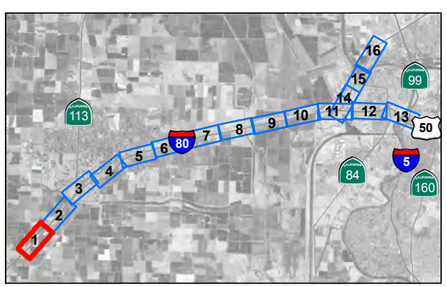
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020. Soils from USDA SSURGO, 2020
3. Background:

Figure 2
Mapped Soil Units
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Feature ID	Linear Feet	OHWM Width (ft)	Area (acres)		Watercourse
			OHWM	TOB	
01	2589.62		0.756	0.756	Vegetated Ditch



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Environmental Study Limits (1,147.38 acres)
Control Point
Culvert
Culvert

Sample Points
Upland
Wetland

Delineated By: J. Holson and S. Creer
Delineation Dates: December 18, 21, 22, 28 and 29, 2020; February 19, 20-24, 2021; July 21, 2022

Aquatic Resources
Canal
Drainage
Canal
Fresh Emergent Marsh
Perennial Drainage
Pond
Woody Riparian Wetland
Seasonal Wetland
Vegetated Ditch

N
0 500 1,000
Feet
1:6,000

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

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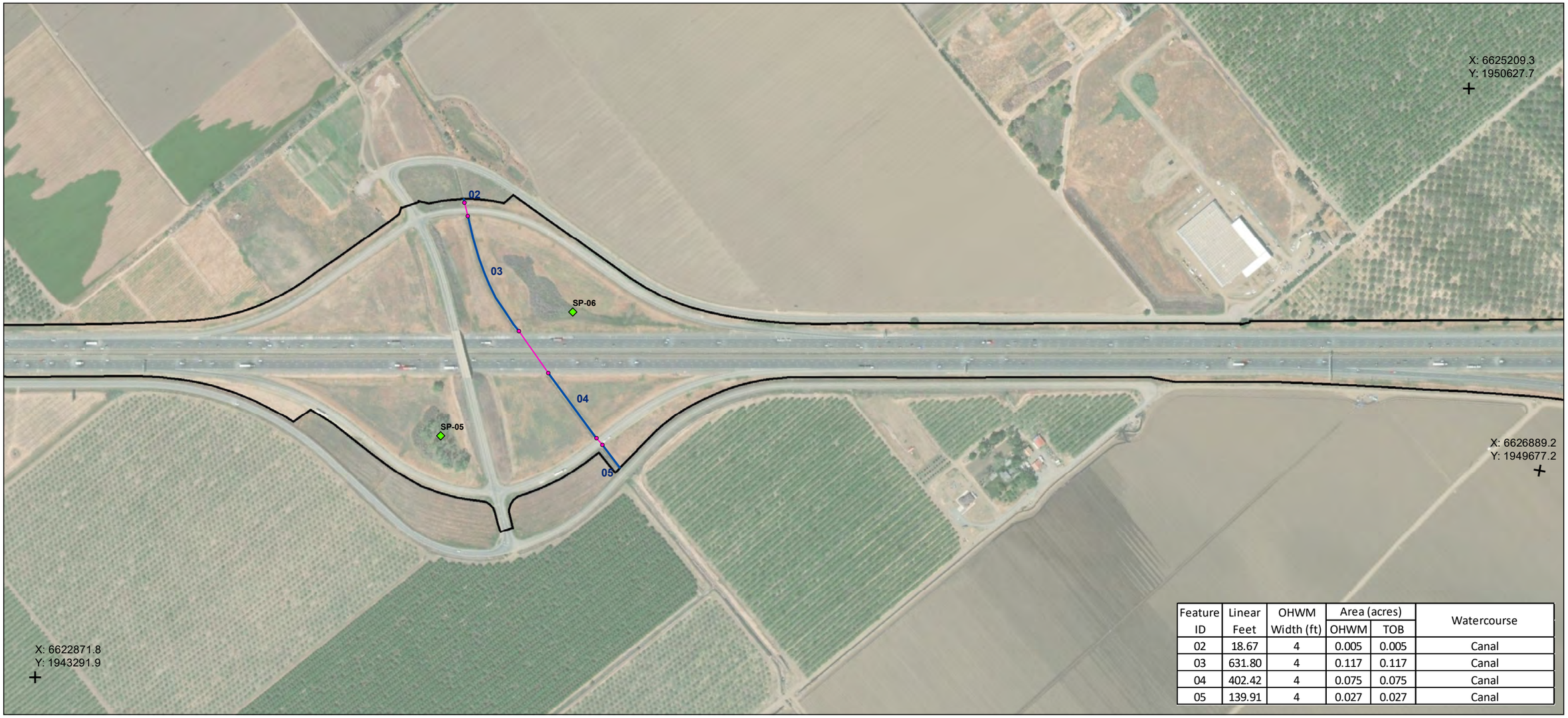
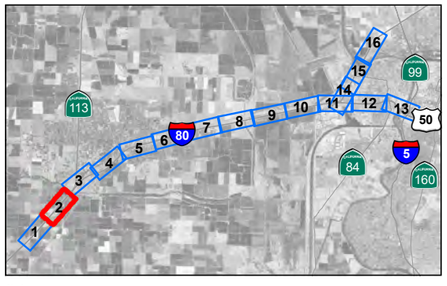


Feature ID	Linear Feet	OHWM Width (ft)	Area (acres) OHWM	Area (acres) TOB	Watercourse
02	18.67	4	0.005	0.005	Canal
03	631.80	4	0.117	0.117	Canal
04	402.42	4	0.075	0.075	Canal
05	139.91	4	0.027	0.027	Canal



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- Environmental Study Limits (1,147.38 acres)
- Control Point
- Culvert
- Culvert

Sample Points
- Upland
- Wetland

Delineated By: J. Holson and S. Creer
Delineation Dates: December 18, 21, 22, 28 and 29, 2020; February 19, 20-24, 2021; July 21, 2022

Aquatic Resources
- Canal
- Drainage
- Canal
- Fresh Emergent Marsh
- Perennial Drainage
- Pond
- Woody Riparian Wetland
- Seasonal Wetland
- Vegetated Ditch

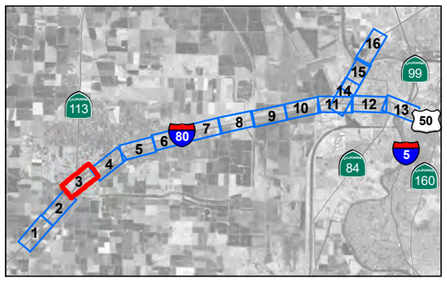
N

0 500 1,000
Feet
1:6,000

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

Feature ID	Linear Feet	OHWM Width (ft)	Area (acres)		Watercourse
			OHWM	TOB	
06	424.77	20	0.196	0.196	Perennial Drainage
07	1707.93		2.072	2.072	Woody Riparian Wetland
08	431.20		2.592	2.592	Seasonal Wetland



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- Environmental Study Limits (1,147.38 acres)
- Control Point
- Culvert
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Sample Points
- Upland
- Wetland

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Aquatic Resources
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- Drainage
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- Perennial Drainage
- Pond
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- Seasonal Wetland
- Vegetated Ditch

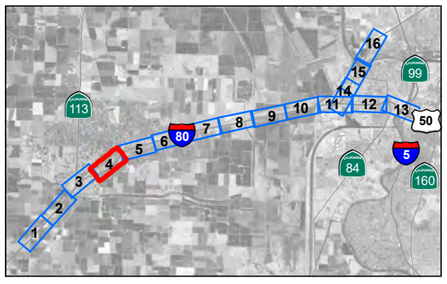
N

0 500 1,000
Feet
1:6,000

Caltrans

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Notes
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Environmental Study Limits (1,147.38 acres)
Control Point
Culvert
Culvert

Sample Points
Upland
Wetland

Delineated By: J. Holson and S. Creer
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Aquatic Resources
Canal
Drainage
Canal
Fresh Emergent Marsh
Perennial Drainage
Pond
Woody Riparian Wetland
Seasonal Wetland
Vegetated Ditch

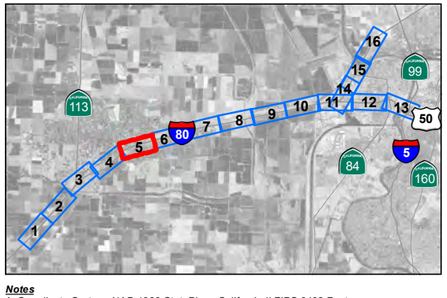
N

0 500 1,000
Feet
1:6,000

Caltrans

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Environmental Study Limits (1,147.38 acres)
Control Point
Culvert
Culvert

Sample Points
Upland
Wetland

Aquatic Resources
Canal
Drainage
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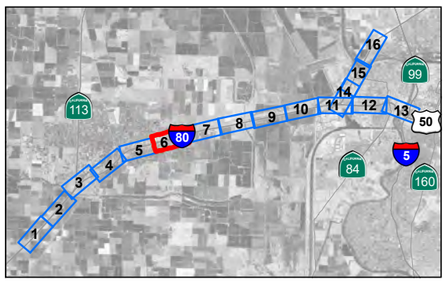
Delineation Dates: December 18, 21, 22, 28 and 29, 2020; February 19, 20-24, 2021; July 21, 2022

N
0 500 1,000
Feet
1:6,000

Caltrans

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



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Environmental Study Limits (1,147.38 acres)
Control Point
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Wetland

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Feet
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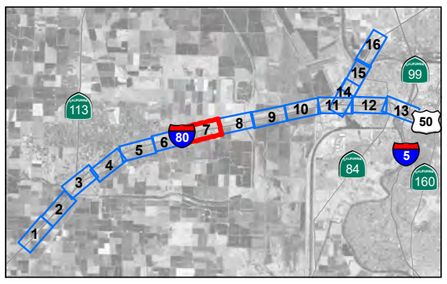
Caltrans

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Notes
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Environmental Study Limits (1,147.38 acres)
Control Point
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Delineated By: J. Holson and S. Creer
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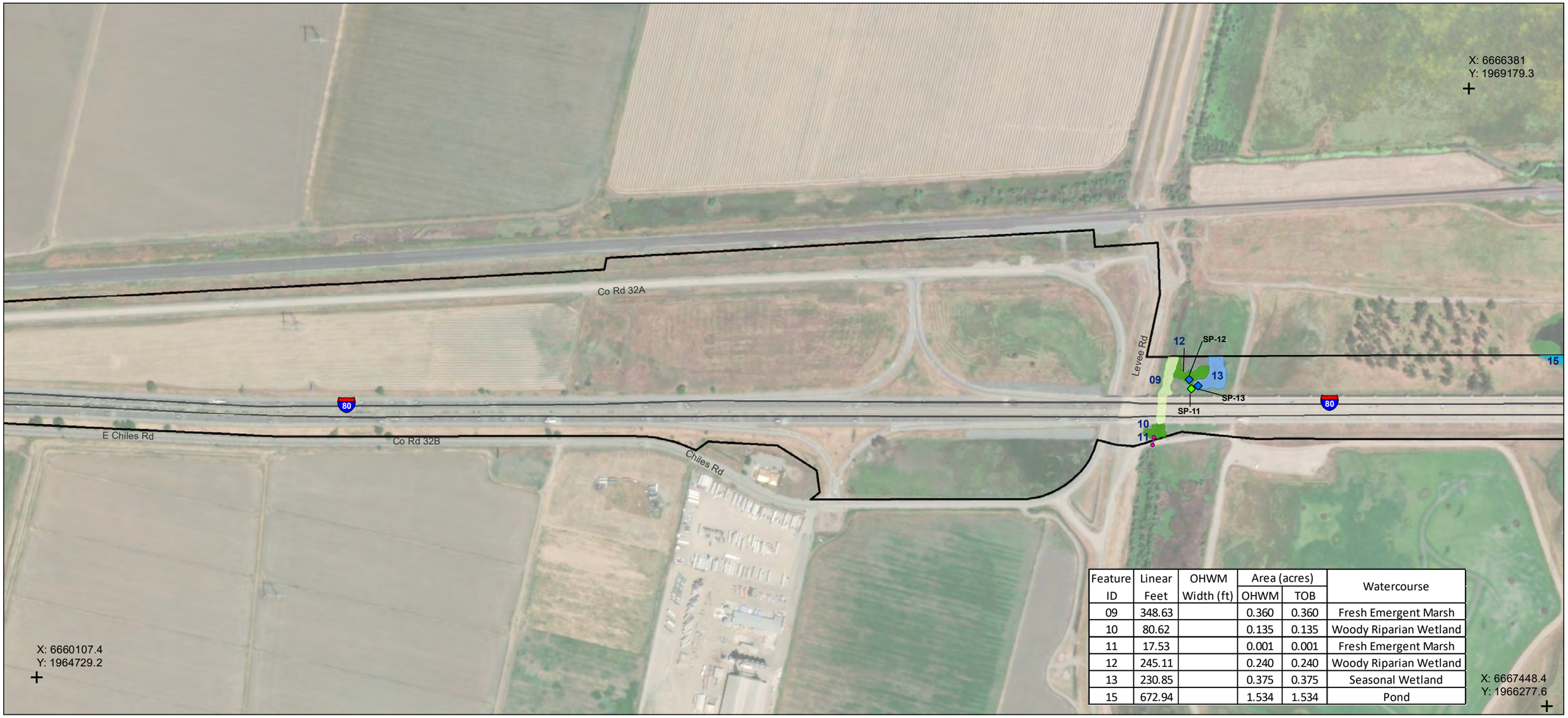
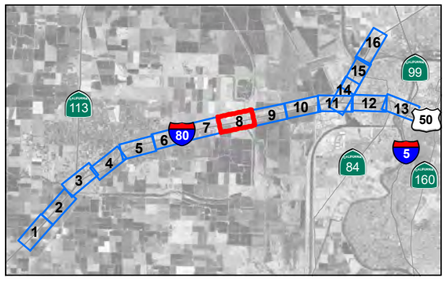
Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Feature ID	Linear Feet	OHWM Width (ft)	Area (acres) OHWM	Area (acres) TOB	Watercourse
09	348.63		0.360	0.360	Fresh Emergent Marsh
10	80.62		0.135	0.135	Woody Riparian Wetland
11	17.53		0.001	0.001	Fresh Emergent Marsh
12	245.11		0.240	0.240	Woody Riparian Wetland
13	230.85		0.375	0.375	Seasonal Wetland
15	672.94		1.534	1.534	Pond



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Environmental Study Limits (1,147.38 acres)
Control Point
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Delineated By: J. Holson and S. Creer
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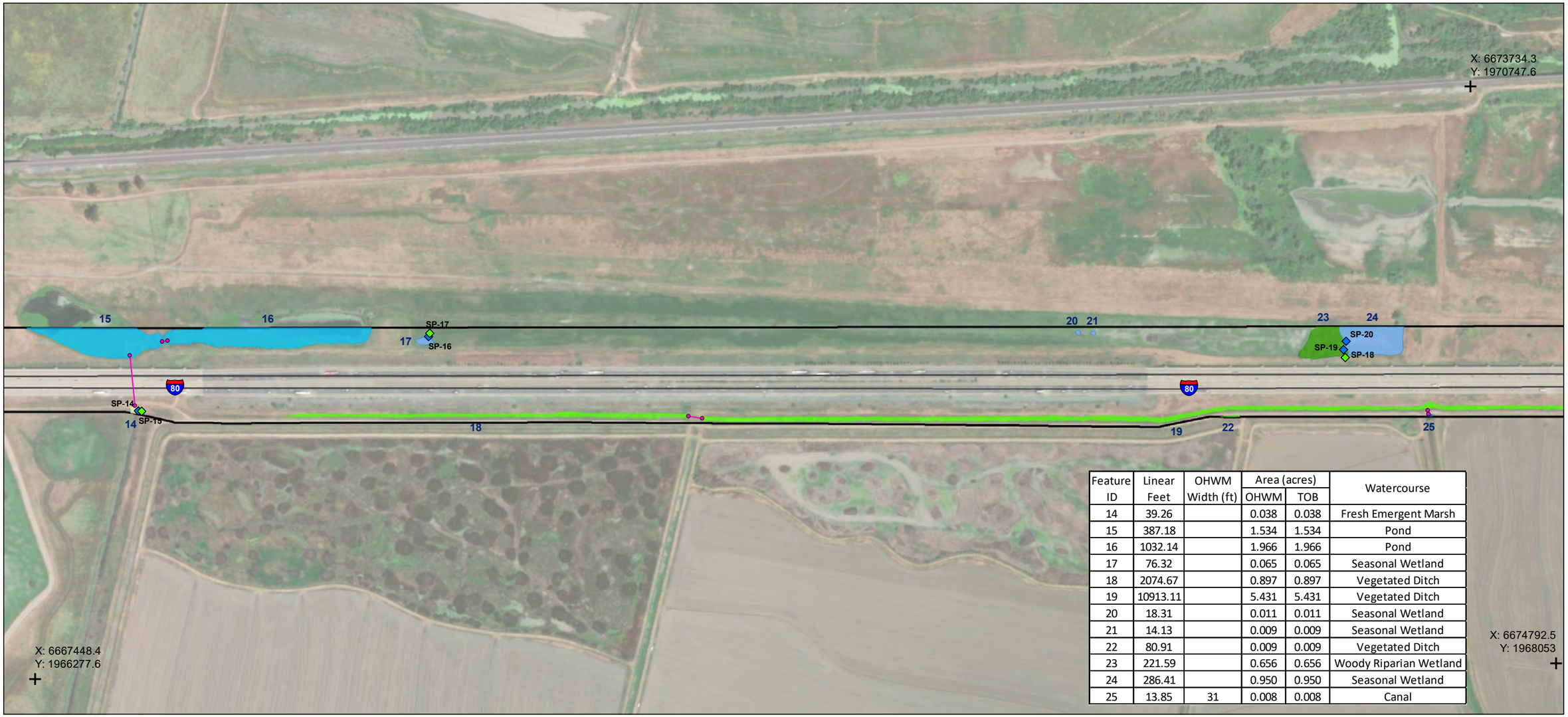
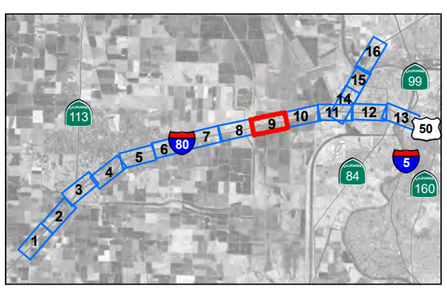
Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Feature ID	Linear Feet	OHWM Width (ft)	Area (acres) OHWM	Area (acres) TOB	Watercourse
14	39.26		0.038	0.038	Fresh Emergent Marsh
15	387.18		1.534	1.534	Pond
16	1032.14		1.966	1.966	Pond
17	76.32		0.065	0.065	Seasonal Wetland
18	2074.67		0.897	0.897	Vegetated Ditch
19	10913.11		5.431	5.431	Vegetated Ditch
20	18.31		0.011	0.011	Seasonal Wetland
21	14.13		0.009	0.009	Seasonal Wetland
22	80.91		0.009	0.009	Vegetated Ditch
23	221.59		0.656	0.656	Woody Riparian Wetland
24	286.41		0.950	0.950	Seasonal Wetland
25	13.85	31	0.008	0.008	Canal



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Environmental Study Limits (1,147.38 acres)
Control Point
Culvert
Culvert

Sample Points
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Wetland

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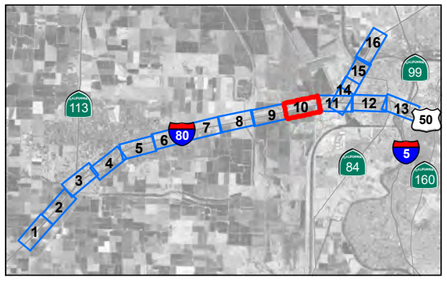
0 500 1,000
Feet
1:6,000

Caltrans

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

Feature ID	Linear Feet	OHWM Width (ft)	Area (acres) OHWM	Area (acres) TOB	Watercourse
19	10913.11		5.431	5.431	Vegetated Ditch
26	19.69		0.009	0.009	Vegetated Ditch
27	1875.70	3	0.259	0.519	Drainage
28	178.63		0.252	0.252	Woody Riparian Wetland
29	418.73	124	1.084	1.084	Perennial Drainage
30	116.20		0.107	0.107	Woody Riparian Wetland



Environmental Study Limits (1,147.38 acres)
Control Point
Culvert
Culvert

Sample Points
Upland
Wetland

Aquatic Resources
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Drainage
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Fresh Emergent Marsh
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Vegetated Ditch

Delineated By: J. Holson and S. Creer
Delineation Dates: December 18, 21, 22, 28 and 29, 2020; February 19, 20-24, 2021; July 21, 2022

Notes
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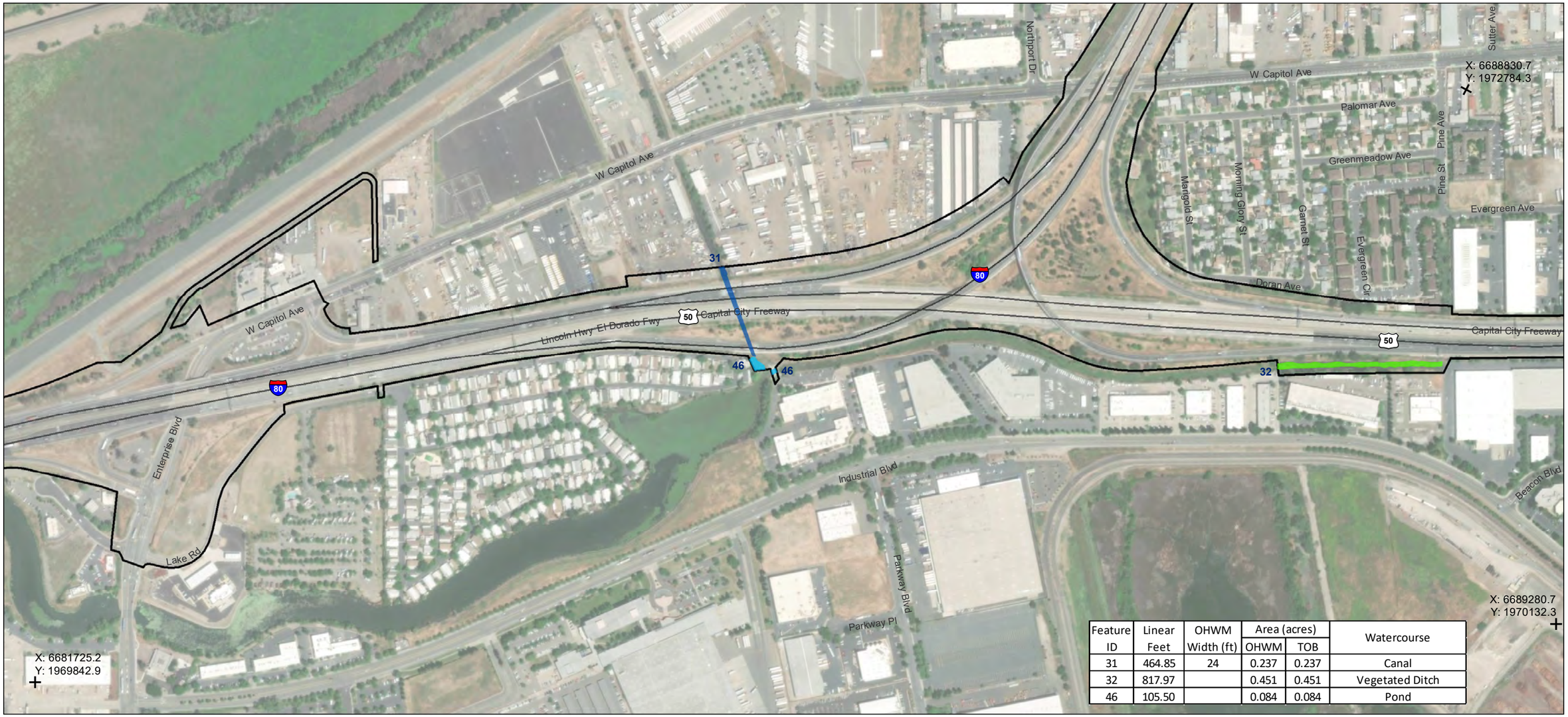
N
0 500 1,000
Feet
1:6,000

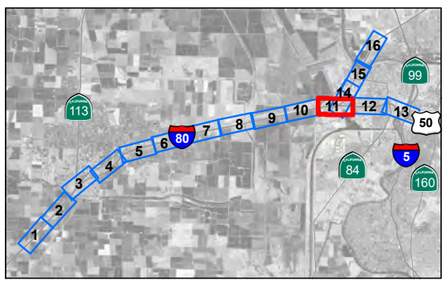
Caltrans

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Feature ID	Linear Feet	OHWM Width (ft)	Area (acres)		Watercourse
			OHWM	TOB	
31	464.85	24	0.237	0.237	Canal
32	817.97		0.451	0.451	Vegetated Ditch
46	105.50		0.084	0.084	Pond



Environmental Study Limits (1,147.38 acres)
Control Point
Culvert
Culvert

Sample Points
Upland
Wetland

Aquatic Resources
Canal
Drainage
Canal
Fresh Emergent Marsh
Perennial Drainage
Pond
Woody Riparian Wetland
Seasonal Wetland
Vegetated Ditch

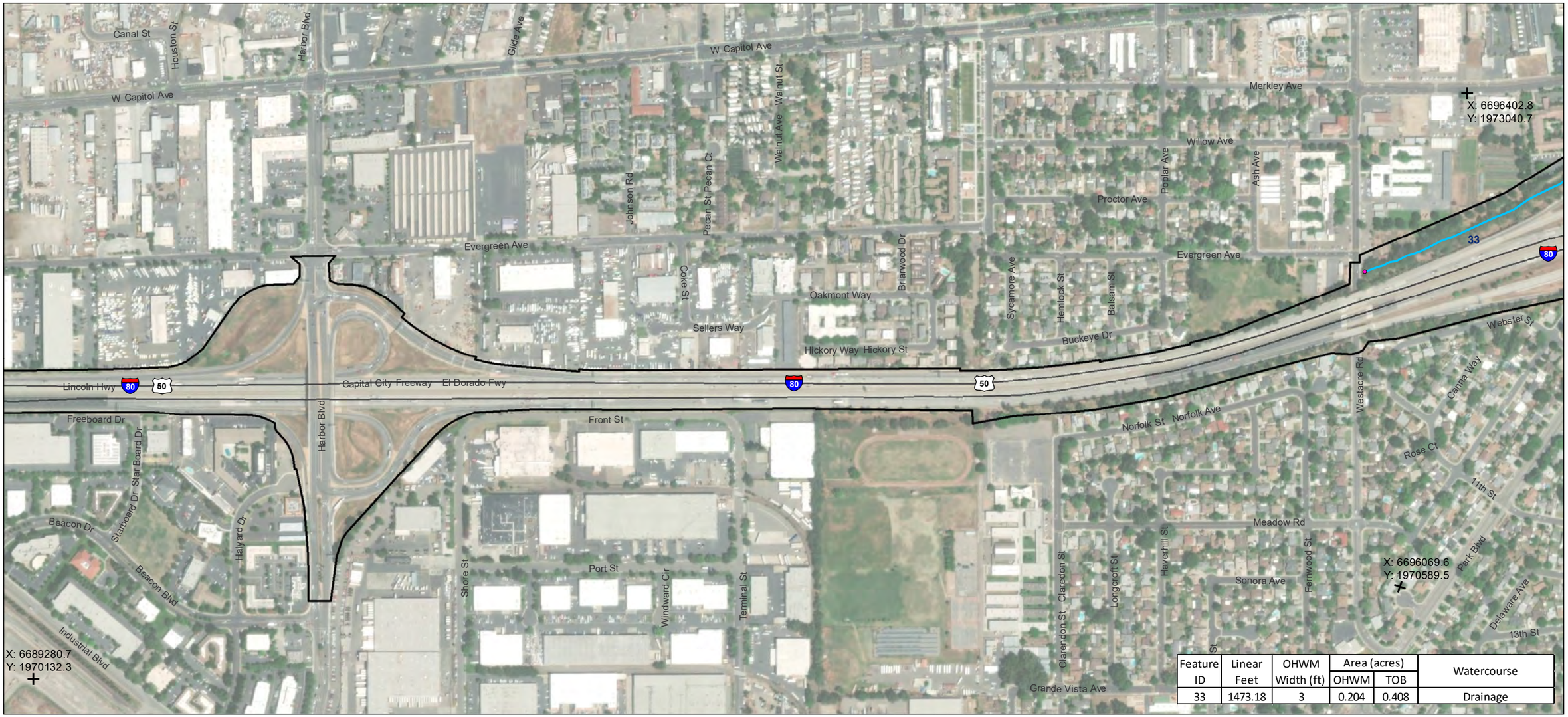
0 500 1,000
Feet
1:6,000

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2020
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

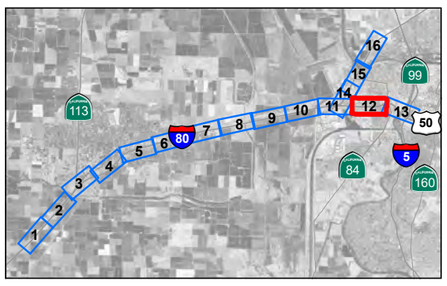
Delineated By: J. Holson and S. Creer
Delineation Dates: December 18, 21, 22, 28 and 29, 2020; February 19, 20-24, 2021; July 21, 2022

Figure 3
Mapped Potential Aquatic Features
Yolo 80 Corridor Improvement Project
Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California



Feature ID	Linear Feet	OHWM Width (ft)	Area (acres)		Watercourse
			OHWM	TOB	
33	1473.18	3	0.204	0.408	Drainage



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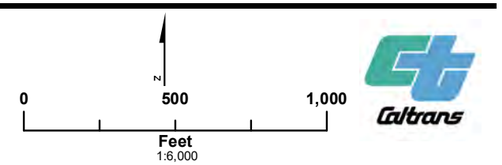

Caltrans

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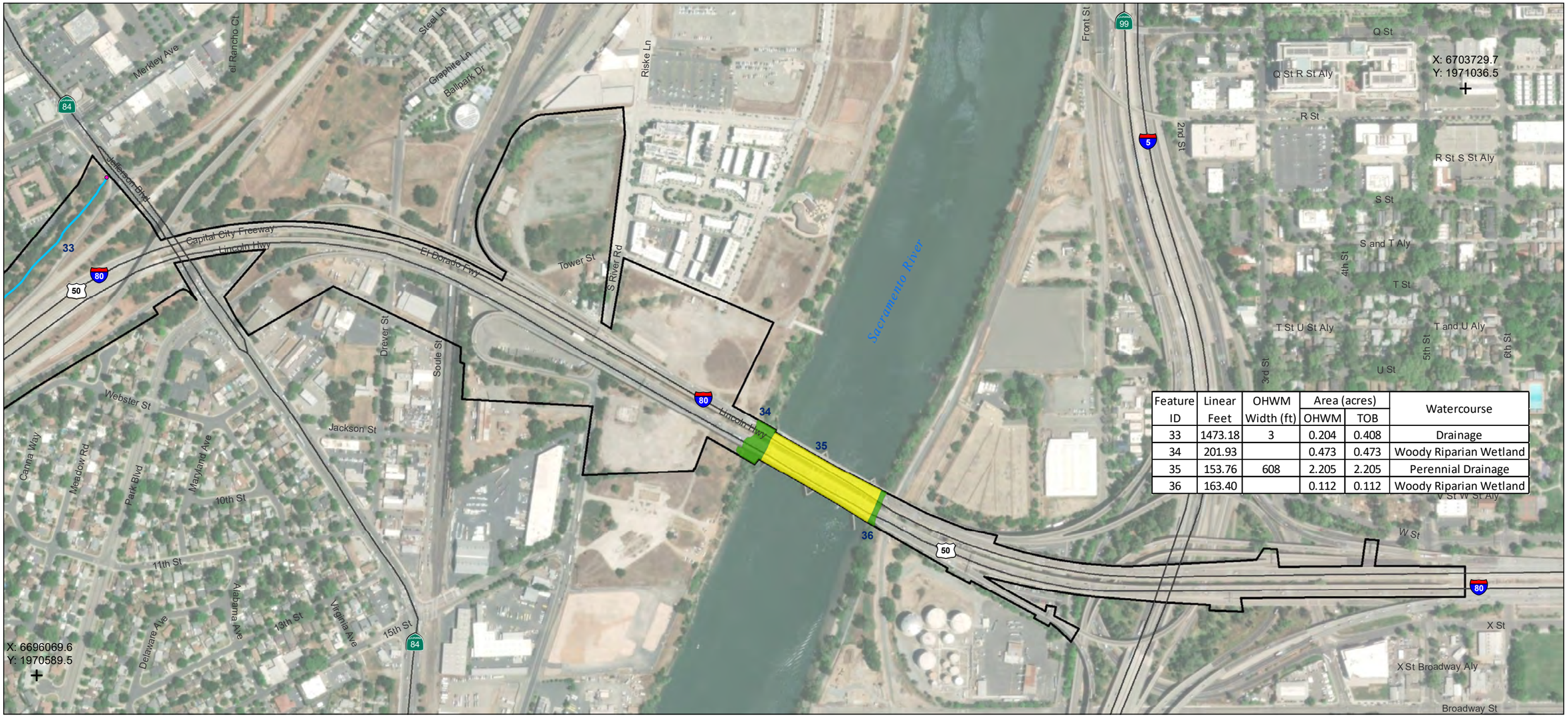
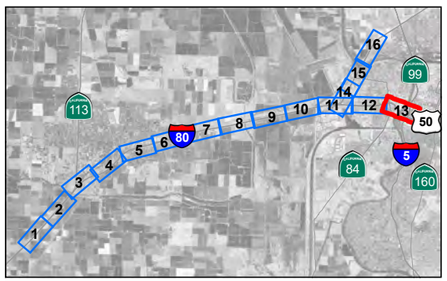


Feature ID	Linear Feet	OHWM Width (ft)	Area (acres)		Watercourse
			OHWM	TOB	
33	1473.18	3	0.204	0.408	Drainage
34	201.93		0.473	0.473	Woody Riparian Wetland
35	153.76	608	2.205	2.205	Perennial Drainage
36	163.40		0.112	0.112	Woody Riparian Wetland



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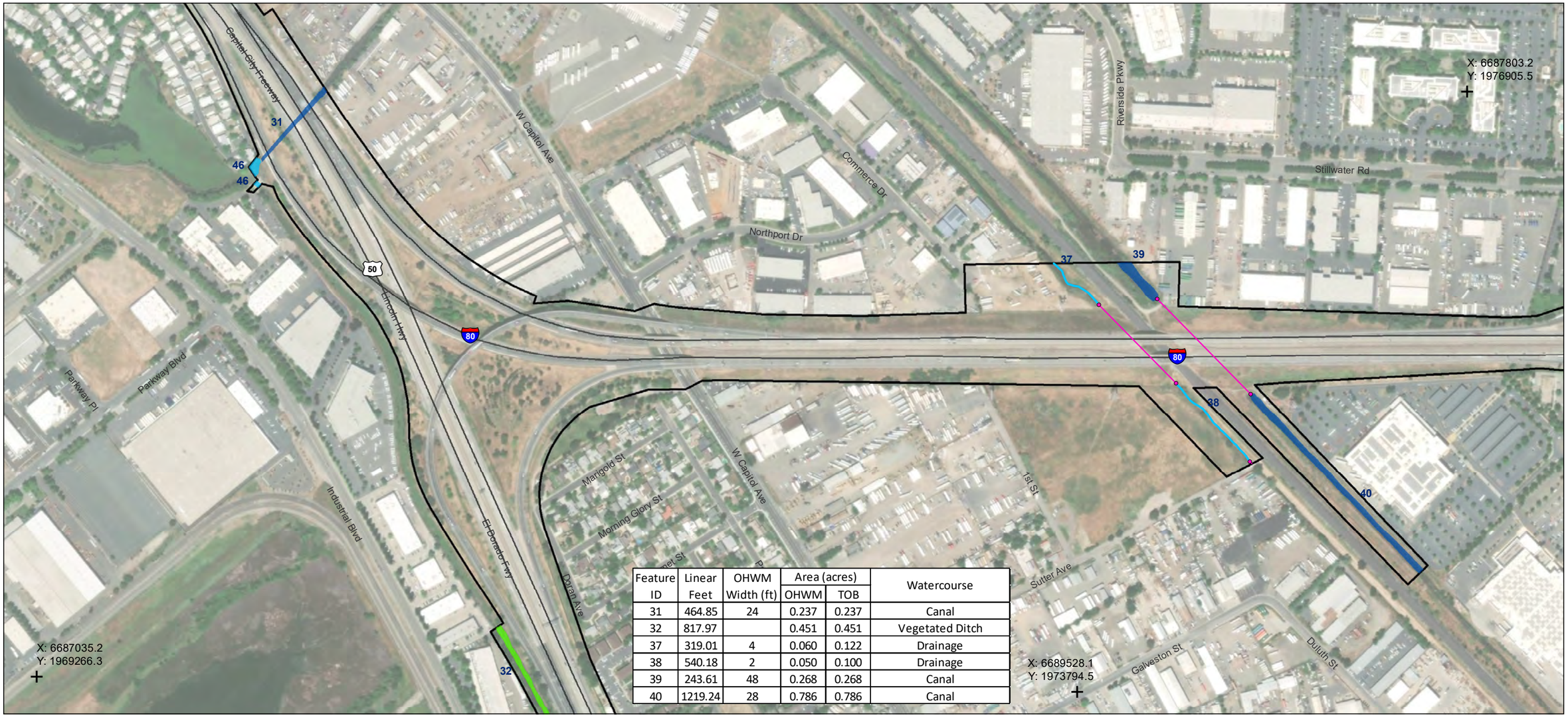
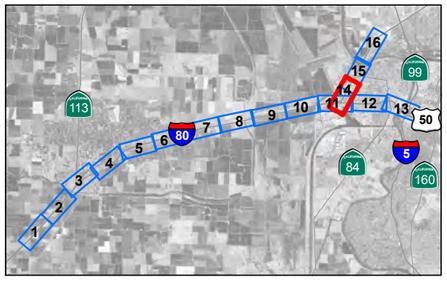


Feature ID	Linear Feet	OHWM Width (ft)	Area (acres) OHWM	Area (acres) TOB	Watercourse
31	464.85	24	0.237	0.237	Canal
32	817.97		0.451	0.451	Vegetated Ditch
37	319.01	4	0.060	0.122	Drainage
38	540.18	2	0.050	0.100	Drainage
39	243.61	48	0.268	0.268	Canal
40	1219.24	28	0.786	0.786	Canal



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Caltrans

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Aquatic Resources Delineation Report

Sacramento, Solano, and Yolo Counties, California

X: 6687803.2
Y: 1976905.5

X: 6690292.2
Y: 1981426.4

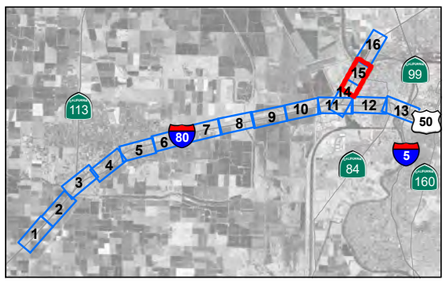
X: 6689528.1
Y: 1973794.5

X: 6692711.6
Y: 1980350.1

Riverside Pkwy
Stillwater Rd
Reed Ave
Sunset Ave
Sacramento River
Bryte Bend Rd
Garden Hwy
N Harbor Blvd
W River Dr
Riverpoint Dr
Kowr Dr
Riverpoint Cir
Harbor Blvd
Sunset Ave
Sutter Ave
1st St
Galveston St
Duluth St

37 39 38 40 41 42 43 44 SP-24 SP-23 42

Feature ID	Linear Feet	OHWM Width (ft)	Area (acres) OHWM	Area (acres) TOB	Watercourse
37	319.01	4	0.060	0.122	Drainage
38	540.18	2	0.050	0.100	Drainage
39	243.61	48	0.268	0.268	Canal
40	1219.24	28	0.786	0.786	Canal
41	219.09		0.234	0.234	Woody Riparian Wetland
42	150.76	659	2.207	2.207	Perennial Drainage
43	201.39		0.357	0.357	Woody Riparian Wetland
44	181.43	3	0.026	0.053	Drainage



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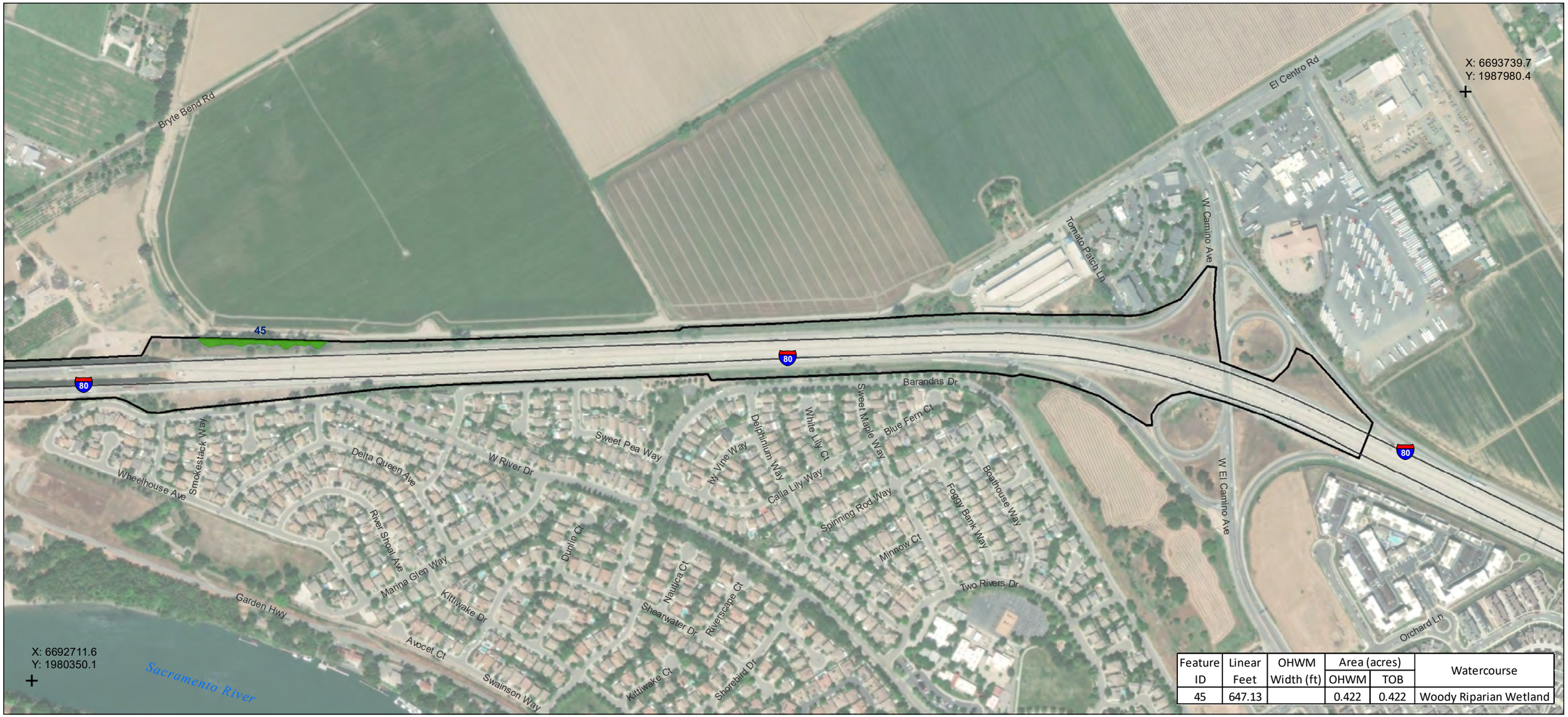
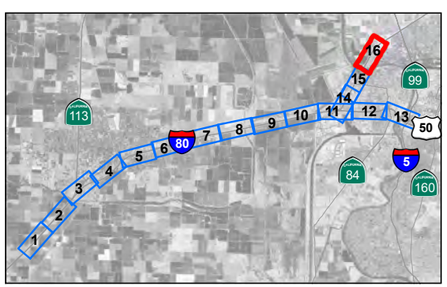


Feature ID	Linear Feet	OHWM Width (ft)	Area (acres)		Watercourse
			OHWM	TOB	
45	647.13		0.422	0.422	Woody Riparian Wetland



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Caltrans

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Mapped Potential Aquatic Features
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Sacramento, Solano, and Yolo Counties, California

Appendix B Aquatic Resource Survey Results

Table B.1. Wetland Features

Feature ID	Feature Type	Cowardin Class	Linear Feet	Potentially Jurisdictional Area (acre[s])		
				USACE	RWQCB	CDFW
01	Vegetated Ditch	R4SB7	2,589.62	0.756	0.756	0.756
07	Woody Riparian Wetland	RP1F0	1,707.93	2.072	2.072	0.000
08	Seasonal Wetland	RP1F0	431.20	2.592	2.592	0.000
09	Fresh Emergent Marsh	PEM1	348.63	0.360	0.360	0.000
10	Woody Riparian Wetland	RP1F0	80.62	0.135	0.135	0.000
11	Fresh Emergent Marsh	PEM1	17.53	0.001	0.001	0.000
12	Woody Riparian Wetland	RP1F0	245.11	0.240	0.240	0.000
13	Seasonal Wetland	PEM2	230.85	0.375	0.375	0.000
14	Fresh Emergent Marsh	PEM1	39.26	0.038	0.038	0.000
17	Seasonal Wetland	PEM2	76.32	0.065	0.065	0.00
18	Vegetated Ditch	R4SB7	2,074.67	0.897	0.897	0.897
19	Vegetated Ditch	R4SB7	10,913.11	5.431	5.431	5.431
20	Seasonal Wetland	PEM2	18.31	0.011	0.011	0.00
21	Seasonal Wetland	PEM2	14.13	0.009	0.009	0.000
22	Vegetated Ditch	R4SB7	80.91	0.009	0.009	0.009
23	Woody Riparian Wetland	RP1F0	221.59	0.656	0.656	0.000
24	Seasonal Wetland	PEM2	286.41	0.950	0.950	0.00
26	Vegetated Ditch	R4SB7	19.69	0.009	0.009	0.009
28	Woody Riparian Wetland	RP1F0	178.63	0.252	0.252	0.252
30	Woody Riparian Wetland	RP1F0	116.20	0.107	0.107	0.107
32	Vegetated Ditch	R4SB7	817.97	0.451	0.451	0.451
34	Woody Riparian Wetland	RP1F0	201.93	0.473	0.473	0.473
36	Woody Riparian Wetland	RP1F0	163.40	0.112	0.112	0.112
41	Woody Riparian Wetland	RP1F0	219.09	0.234	0.234	0.234
43	Woody Riparian Wetland	RP1F0	201.39	0.357	0.357	0.357
45	Woody Riparian Wetland	RP1F0	647.13	0.422	0.422	0.422
		Totals	**21,941.63**	**17.014**	**17.014**	**9.510**

Table B.2. Other Waters

Feature ID	Feature Type	Cowardin Class	Linear Feet	Potentially Jurisdictional Area (acre[s])		
				USACE	RWQCB	CDFW
02	Canal	R4x	18.67	0.005	0.005	0.005
03	Canal	R4x	631.80	0.117	0.117	0.117
04	Canal	R4x	402.42	0.075	0.075	0.075
05	Canal	R4x	139.91	0.027	0.027	0.027
06	Perennial Drainage (Putah Creek)	R2UB1	424.77	0.196	0.196	0.196
15	Pond	L2UB	387.18	1.534	1.534	1.534
16	Pond	L2UB	1032.14	1.966	1.966	1.966
25	Canal	R3x	13.85	0.008	0.008	0.008
27	Intermittent Drainage	R4SB5	1,875.70	0.259	0.259	0.519
29	Perennial Drainage (Prospect Slough)	R2UB3	418.73	1.084	1.084	1.084
31	Canal	R3x	464.85	0.237	0.237	0.237
33	Ephemeral Drainage	R4SB5	1473.18	0.204	0.204	0.408
35	Perennial Drainage (Sacramento River)	R2UB	153.76	2.205	2.205	2.205
37	Intermittent Drainage	R4SB5	319.01	0.060	0.060	0.122
38	Intermittent Drainage	R4SB5	540.18	0.050	0.050	0.100
39	Canal	R4x	243.61	0.268	0.268	0.268
40	Canal	R4x	1219.24	0.786	0.786	0.786
42	Perennial Drainage (Sacramento River)	R2UB	150.76	2.207	2.207	2.207
44	Ephemeral Drainage	R4SB5	181.43	0.026	0.026	0.053
46	Pond	L2UB	105.5	0.084	0.084	0.084
		Totals:	**10,196.69**	**11.398**	**11.398**	**12.001**

Appendix C Representative Photographs

Photo 1. View to the west of Feature 01, a vegetated ditch.

Photo 2. View to the west of Feature 01, a vegetated ditch.

Photo 3. View to the northwest of roadside culvert.

Photo 4. View to the northwest of Sampling Point 04, in an upland.

Photo 5. View to the east of Sampling Point 05, in an upland.

Photo 6. View to east of Feature 03, a canal.

Photo 7. View to the northwest of Feature 03, a canal.

Photo 8. View to the southwest Sampling Point 6, in an upland.

Photo 9. View to the southwest of South Putah Creek, Feature 6.

Photo 10. View to the southeast of South Putah Creek, Feature 6.

Photo 11. View to the northeast of Feature 7, a woody riparian wetland, and wetland Sampling Point 9

Photo 12. View to the northeast of Feature 8, a seasonal wetland and wetland Sampling Point 10.

Photo 13. View to the northeast of Features 07 (riparian wetland) and 08 (seasonal wetland), as well as upland Sampling Point 11.

Photo 14. View to the south of Feature 09, a fresh emergent marsh, in the Yolo Bypass.

Photo 15. View to the north of Feature 09, a fresh emergent marsh, in the Yolo Bypass.

Photo 16. View to the northeast of Feature 13, a seasonal wetland, in the Yolo Bypass.

Photo 17. View to the southwest of Feature 14, a fresh emergent marsh, in the Yolo Bypass and wetland Sampling Point 14.

Photo 18. View to the south of Feature 14, a fresh emergent marsh, in the Yolo Bypass.

Photo 19. View to the northeast of Feature 15, a pond, in the Yolo Bypass.

Photo 20. View to the northeast of Feature 16, a pond, in the Yolo Bypass.

Photo 21. View to the east of Feature 17, a seasonal wetland and wetland Sampling Point 16.

Photo 22. View to the east of upland Sampling Point 17.

Photo 23. View to the northwest of Feature 23, a woody riparian wetland, in the Yolo Bypass.

Photo 24. View to the north of Feature 24, a seasonal wetland, in the Yolo Bypass.

Photo 25. View to the southwest of Feature 22, a vegetated ditch, in the Yolo Bypass.

Photo 26. View to the southwest of Prospect Slough (Feature 29) in the Yolo Bypass.

Photo 27. View to the west of Prospect Slough (Feature 29) in the Yolo Bypass, as well as Feature 27.

Photo 28. View to the northwest of Feature 37, an intermittent drainage.

Photo 29. View to the east of Feature 32, a vegetated ditch.

Photo 30. View to the southwest of Feature 33, an ephemeral drainage.

Photo 31. View to the northeast of Feature 33, an ephemeral drainage.

Photo 32. View to the southeast of the Sacramento River (Feature 35).

Photo 33. View to the southwest of Features 34, a woody riparian wetland, and Feature 35 (Sacramento River).

Photo 34. View to the north of the Sacramento River (Feature 42).

Photo 35. View to the southwest of the Sacramento River (Features 41 and 42).

Photo 36. View to the north of Feature 45, a woody riparian wetland.

Appendix D Sample Point and OHWM Datasheets

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 02/23/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 01
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R3E SN01
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 3
Subregion (LRR): C | Lat: 38.486817 | Long: -121.806727 | Datum: WGS84
Soil Map Unit Name: Capay Silty Clay Loam, 0 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N 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 ____ No X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 ft rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus parvifolia* / Siberian elm, Chinese elm, Lacebark elm	30	Yes	UPL
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Paspalum dilatatum* / Dallis grass	90	Yes	FAC
2. *Distichlis spicata* / Salt grass	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	130 (A)		450 (B)

Prevalence Index = B/A = 3.46

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 01

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	65					Loamy clay	
0-16	10YR 5/3	45						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 02/23/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 02
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R1E SN36
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Concave | Slope (%): 3
Subregion (LRR): C | Lat: 38.49077002 | Long: -121.80309621 | Datum: WGS84
Soil Map Unit Name: Capay Silty Clay Loam, 0 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Typha latifolia* / Broadleaf cattail, Broad-leaved cattail	55	Yes	OBL
2. *Distichlis spicata* / Salt grass	50	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	105	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55	
FACW species	0	x 2 =	0	
FAC species	50	x 3 =	150	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	105	(A)	205	(B)

Prevalence Index = B/A = 1.95

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 02

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Clay	
3-16	10YR 3/2	95	2.5YR 4/8	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Oxidized rhizo at 5%

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 02/23/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 03
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R1E SN36
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 1
Subregion (LRR): C | Lat: 38.4907669 | Long: -121.80309309 | Datum: WGS84
Soil Map Unit Name: Capay Silty Clay Loam, 0 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N 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		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X
Is the Sampled Area within a Wetland?	Yes		No	X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Avena fatua* / Wildoats, Wild oat	40	Yes	UPL
2. *Plantago lanceolata* / Ribwort, English plantain	20	Yes	FAC
3. *Geranium molle* / Crane's bill geranium	10	No	UPL
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	50	x 5 =	250
Column Totals:	70 (A)		310 (B)

Prevalence Index = B/A = 4.43

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 03

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	60					Clay	
0-16	10YR 5/6	40	2.5YR 4/8				Loamy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 12/18/2020
Applicant/Owner: CalTrans | State: CA | Sampling Point: 04
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R2E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Concave | Slope (%): 1
Subregion (LRR): C | Lat: 38.493901 | Long: -121.797534 | Datum: WGS84
Soil Map Unit Name: Capay silty clay loam, 0 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N 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 X No ____
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Borderline. No soils and weak hydrology.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Cyperus eragrostis* / Tall cyperus	75	Yes	FACW
2. *Sorghum halepense* / Johnsongrass, Johnson grass	25	Yes	FACU
3. *Distichlis spicata* / Salt grass	3	No	FAC
4. *Rumex crispus* / Curly dock	1	No	FAC
5.			
6.			
7.			
8.			
	104	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	4	x 3 =	12
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	104 (A)		262 (B)

Prevalence Index = B/A = 2.52

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 04

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	50						
0-12	10YR 3/2	49	5YR 5/6	1	C	M	Loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 05
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R2E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 0
Subregion (LRR): C | Lat: 38.5044513 | Long: -121.78481472 | Datum: WGS84
Soil Map Unit Name: Capay silty clay loam, 0 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 ft rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii* / Fremont cottonwood	45	Yes	FAC
2.			
3.			
4.			
	45	= Total Cover	

Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft rad)			
1. *Festuca perennis* / Italian rye grass	40	Yes	FAC
2. *Rumex crispus* / Curly dock	1	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	41	= Total Cover	

Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	86	x 3 =	258
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	86 (A)		258 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: 05

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 06
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R2E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.5069196 | Long: -121.78497738 | Datum: WGS84
Soil Map Unit Name: Capay silty clay loam, 0 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N 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 X No ____
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Swale.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft rad)			
1. *Salix exigua* / Narrowleaf willow	30	Yes	FACW
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Avena fatua* / Wildoats, Wild oat	15	Yes	UPL
2. *Lepidium latifolium* / Perennial pepperweed	10	Yes	FAC
3. *Phalaris aquatica* / Harding grass	10	Yes	FACU
4. *Rumex crispus* / Curly dock	5	No	FAC
5.			
6.			
7.			
8.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	15	x 3 =	45
FACU species	10	x 4 =	40
UPL species	15	x 5 =	75
Column Totals:	70 (A)		220 (B)

Prevalence Index = B/A = 3.14

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 06

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100					Clay	
10-16	10YR 5/6	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 07
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R2E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 2
Subregion (LRR): C | Lat: 38.51811029 | Long: -121.77151955 | Datum: WGS84
Soil Map Unit Name: Rw: Riverwash (456110) | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation N, Soil N, or Hydrology N 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 ___ No X
Hydric Soil Present? Yes ___ No ___
Wetland Hydrology Present? Yes ___ No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 ft rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus latifolia* / Oregon ash	55	Yes	FACW
2. *Quercus lobata* / Valley oak, Valley oak, Roble	25	Yes	FACU
3.			
4.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft rad)			
1. *Rubus armeniacus* / Himalayan blackberry	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Avena fatua* / Wildoats, Wild oat	45	Yes	UPL
2. *Cichorium intybus* / Chicory	20	Yes	FACU
3. *Melilotus officinalis* / Yellow sweetclover	10	No	FACU
4. *Hirschfeldia incana* / Mustard	3	No	UPL
5. *Raphanus sativus* / Jointed charlock, Radish	2	No	UPL
6. *Cynodon dactylon* / Bermuda grass	1	No	FACU
7. *Aira caryophyllea* / Silvery hairgrass, Silver hair grass	1	No	FACU
8.			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	10	x 3 =	30
FACU species	57	x 4 =	228
UPL species	50	x 5 =	250
Column Totals:	172 (A)		618 (B)

Prevalence Index = B/A = 3.59

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:

SOIL

Sampling Point: 07

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/3	100					Silty clay	
5-16	10YR 3/2	50	5YR 4/6	5	C	M	Silty clay	
5-16	10YR 4/3	45					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Although redox was observed it did not meet deifinitions in F6 or F8. In particular, does not meet soil indicator F6 as that indicator specifies redox has to be entirely within top 12 inches and this redox goes down to 16 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 08
Investigator(s): J. Holson, S. Creer | Section, Township, Range:
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Concave | Slope (%): 10
Subregion (LRR): C | Lat: 38.52371502 | Long: -121.7679307 | Datum: WGS84
Soil Map Unit Name: Yolo loam, 0 to 4 percent | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Avena fatua* / Wildoats, Wild oat	45	Yes	UPL
2. *Vicia sativa* / Spring vetch	30	Yes	FACU
3. *Sorghum halepense* / Johnsongrass, Johnson grass	2	No	FACU
4.			
5.			
6.			
7.			
8.			
	77	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	32	x 4 =	128
UPL species	45	x 5 =	225
Column Totals:	77 (A)		353 (B)

Prevalence Index = B/A = 4.58

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: 08

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rip rap/fill

Depth (inches): 10

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 09
Investigator(s): J. Holson, S. Creer | Section, Township, Range: T8N R2E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Concave | Slope (%): 2
Subregion (LRR): C | Lat: 38.52376874 | Long: -121.76785207 | Datum: WGS84
Soil Map Unit Name: Yolo loam, 0 to 4 percent | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 ft rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii* / Fremont cottonwood	75	Yes	FAC
2.			
3.			
4.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Xanthium strumarium* / Cocklebur	3	Yes	FAC
2. *Cyperus eragrostis* / Tall cyperus	3	Yes	FACW
3. *Cynodon dactylon* / Bermuda grass	3	Yes	FACU
4. *Melilotus officinalis* / Yellow sweetclover	2	No	FACU
5. *Avena fatua* / Wildoats, Wild oat	1	No	UPL
6.			
7.			
8.			
	12	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	78	x 3 =	234
FACU species	5	x 4 =	20
UPL species	1	x 5 =	5
Column Totals:	87 (A)		265 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 09

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	45	2.5YR 4/6	5	C	M	Sandy clay	
0-12	10YR 4/4	50						
12-16	10YR 4/1	100					Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Solano | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 10
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R2E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 2
Subregion (LRR): C | Lat: 38.52380117 | Long: -121.76783119 | Datum: WGS84
Soil Map Unit Name: Yolo loam, 0 to 4 percent | NWI classification: PEM1Cx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft rad)			
1. *Polypogon monspeliensis* / Annual beard grass, Annual beard grass, Rabbitfoot grass	25	Yes	FACW
2. *Xanthium strumarium* / Cocklebur	20	Yes	FAC
3. *Pseudognaphalium luteoalbum* / Jersey cudweed	10	No	FAC
4. *Polygonum persicaria* / Spotted ladysthumb	10	No	OBL
5. *Cyperus eragrostis* / Tall cyperus	10	No	FACW
6. *Epilobium brachycarpum* / Willow herb	3	No	FAC
7. *Melilotus officinalis* / Yellow sweetclover	3	No	FACU
8.			
	81	= Total Cover	

Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10	
FACW species	35	x 2 =	70	
FAC species	33	x 3 =	99	
FACU species	3	x 4 =	12	
UPL species	0	x 5 =	0	
Column Totals:	81	(A)	191	(B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	90	5YR 4/6	10	C	M	Sandy clay	
5-16	10YR 4/4	100			C	M	Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- X Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 02/24/2021
Applicant/Owner: Caltrans | State: CA | Sampling Point: 11
Investigator(s): J. Holson, S. Creer | Section, Township, Range:
Landform (hillslope, terrace, etc): Velley bottom | Local relief (concave, convex, none): None | Slope (%): 0
Subregion (LRR): C | Lat: 38.563967° | Long: -121.637309° | Datum: WGS84
Soil Map Unit Name: Sacramento Soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Cynodon dactylon* / Bermuda grass	25	Yes	FACU
2. *Cyperus eragrostis* / Tall cyperus	20	Yes	FACW
3. *Lepidium latifolium* / Perennial pepperweed	20	Yes	FAC
4. *Distichlis spicata* / Salt grass	15	No	FAC
5.			
6.			
7.			
8.			
	80	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	70	x 3 =	210
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	160 (A)		490 (B)

Prevalence Index = B/A = 3.06

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 02/24/2021
Applicant/Owner: Caltrans | State: CA | Sampling Point: 12
Investigator(s): J. Holson, S. Creer | Section, Township, Range:
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Concave | Slope (%): 3
Subregion (LRR): C | Lat: 38.564081° | Long: -121.637385° | Datum: WGS84
Soil Map Unit Name: Sacramento soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	30	Yes	FACW
2.			
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1. *Salix exigua* / Narrowleaf willow	15	Yes	FACW
2.			
3.			
4.			
5.			
	15	= Total Cover	

Herb Stratum (Plot size:)			
1. *Cynodon dactylon* / Bermuda grass	25	Yes	FACU
2. *Lepidium latifolium* / Perennial pepperweed	15	Yes	FAC
3. *Bromus hordeaceus* / Soft brome	15	Yes	FACU
4. *Sorghum halepense* / Johnsongrass, Johnson grass	10	No	FACU
5.			
6.			
7.			
8.			
	65	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 10

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	30	x 3 =	90
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	220 (A)		670 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	93	5YR 5/8	7	C	M	Loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- X Sediment Deposits (B2) **(Nonriverine)**
- X Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 02/24/2021
Applicant/Owner: Caltrans | State: CA | Sampling Point: 13
Investigator(s): J. Holson, S. Creer | Section, Township, Range:
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Concave | Slope (%): 2
Subregion (LRR): C | Lat: 38.564027° | Long: -121.637212° | Datum: WGS84
Soil Map Unit Name: Sacramento Soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Cynodon dactylon* / Bermuda grass	25	Yes	FACU
2. *Xanthium strumarium* / Cocklebur	20	Yes	FAC
3. *Lepidium latifolium* / Perennial pepperweed	20	Yes	FAC
4. *Rumex crispus* / Curly dock	5	No	FAC
5.			
6.			
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 10

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	140 (A)		470 (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 13

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	95	5YR 5/6	5	C	M	Loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- X Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 14
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN03
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.56469839 | Long: -121.62931432 | Datum: WGS84
Soil Map Unit Name: Sacramento soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Schoenoplectus acutus* / Hardstem bulrush	40	Yes	OBL
2. *Mentha pulegium* / Pennyroyal	20	Yes	OBL
3. *Dipsacus fullonum* / Wild teasel	10	No	FAC
4. *Picris echioides* / Bristly oxtongue	3	No	FAC
5.			
6.			
7.			
8.			
	73	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	0	x 2 =	0
FAC species	13	x 3 =	39
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	73 (A)		99 (B)

Prevalence Index = B/A = 1.36

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 14

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/2	92	5YR 5/6	8	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 3

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 18

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 15
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN03
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 1
Subregion (LRR): C | Lat: 38.56473956 | Long: -121.6292644 | Datum: WGS84
Soil Map Unit Name: Sacramento soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Medicago polymorpha* / California burclover	30	Yes	FACU
2. *Avena fatua* / Wildoats, Wild oat	20	Yes	UPL
3. *Distichlis spicata* / Salt grass	10	No	FAC
4. *Xanthium strumarium* / Cocklebur	5	No	FAC
5. *Picris echioides* / Bristly oxtongue	2	No	FAC
6. *Grindelia stricta* / Gumweed	1	No	FACW
7.			
8.			
	68	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	17	x 3 =	51
FACU species	30	x 4 =	120
UPL species	20	x 5 =	100
Column Totals:	68 (A)		273 (B)

Prevalence Index = B/A = 4.01

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: 15

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): 3

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 18

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 16
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN03
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.56650927 | Long: -121.62481483 | Datum: WGS84
Soil Map Unit Name: Sacramento soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:
In a flat-bottomed excavated cell (ag)

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Typha latifolia* / Broadleaf cattail, Broad-leaved cattail	15	Yes	OBL
2. *Schoenoplectus acutus* / Hardstem bulrush	10	Yes	OBL
3. *Xanthium strumarium* / Cocklebur	5	No	FAC
4. *Trifolium subterraneum* / Subterranean clover	2	No	UPL
5.			
6.			
7.			
8.			
	32	= Total Cover	

Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	32 (A)		50 (B)

Prevalence Index = B/A = 1.56

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 16

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	90	5YR 5/8	10	C	M	Clay	
12-16	10YR 4/2	90	7.5YR 6/8	10	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Ox rhizosphere at 5%

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 17
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN03
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.5666019 | Long: -121.62471144 | Datum: WGS84
Soil Map Unit Name: Sacramento soils, flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
In a flat-bottomed excavated cell (ag)

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Avena fatua* / Wildoats, Wild oat	30	Yes	UPL
2. *Carduus pycnocephalus* / Italian thistle	10	Yes	UPL
3. *Trifolium subterraneum* / Subterranean clover	5	No	UPL
4. *Silybum marianum* / Milk thistle	3	No	UPL
5. *Oenothera biennis* / Small flowered evening primrose, Common evening-primrose	2	No	FACU
6.			
7.			
8.			
	50	= Total Cover	

Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	48	x 5 =	240
Column Totals:	50 (A)		248 (B)

Prevalence Index = B/A = 4.96

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: 17

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	100	10B 4/1		C		Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 18
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN02
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.56903748 | Long: -121.60910357 | Datum: WGS84
Soil Map Unit Name: Willows soils, overwash, 0 percent slopes, frequently flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation N, Soil N, or Hydrology N 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 ___	No X	**Is the Sampled Area within a Wetland?**	Yes ___ No X
Hydric Soil Present?	Yes ___	No X		
Wetland Hydrology Present?	Yes ___	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Avena fatua* / Wildoats, Wild oat	80	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	80	x 5 =	400
Column Totals:	80 (A)		400 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: 18

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	98	5YR 5/8	2	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Shovel refusal @ 8 inches

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 19
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN02
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.56916165 | Long: -121.60913993 | Datum: WGS84
Soil Map Unit Name: Willows soils, overwash, 0 percent slopes, frequently flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft rad)			
1. *Salix exigua* / Narrowleaf willow	60	Yes	FACW
2.			
3.			
4.			
5.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Xanthium strumarium* / Cocklebur	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		135 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 19

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	85	5YR 5/8	15	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Ox rhizo at 5%

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/08/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 20
Investigator(s): S. Creer; J. Holson | Section, Township, Range: T8N R3E SN02
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Flat | Slope (%): 0
Subregion (LRR): C | Lat: 38.56925989 | Long: -121.60915495 | Datum: WGS84
Soil Map Unit Name: Willows soils, overwash, 0 percent slopes, frequently flooded | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Xanthium strumarium* / Cocklebur	45	Yes	FAC
2. *Rumex crispus* / Curly dock	20	Yes	FAC
3. *Conyza canadensis* / Canadian horseweed	10	No	UPL
4. *Cyperus eragrostis* / Tall cyperus	3	No	FACW
5. *Epilobium brachycarpum* / Willow herb	3	No	FAC
6. *Picris echioides* / Bristly oxtongue	2	No	FAC
7.			
8.			
	83	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 25

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	83 (A)		266 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 20

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	90	7.5YR 5/8	10	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 02/23/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 21
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R3E SN01
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 3
Subregion (LRR): C | Lat: 38.57300309 | Long: -121.58274954 | Datum: WGS84
Soil Map Unit Name: Sacramento Silty Clay Loam, 0 to 2 percent slopes, dry | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	85	Yes	FACW
2.			
3.			
4.			
	85	= Total Cover	

Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft rad)			
1. *Polygonum persicaria* / Spotted ladysthumb	40	Yes	OBL
2. *Bromus diandrus* / Ripgut brome, Ripgut grass	10	No	UPL
3. *Daucus carota* / Carrot, Carrot, Queen anne's lace	5	No	UPL
4.			
5.			
6.			
7.			
8.			
	55	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	15	x 5 =	75
Column Totals:	140 (A)		285 (B)

Prevalence Index = B/A = 2.04

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 21

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	95	5YR 5/8	5	C	M	Loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 02/23/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 22
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T8N R3E SN01
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 5
Subregion (LRR): C | Lat: 38.57301806 | Long: -121.58266315 | Datum: WGS84
Soil Map Unit Name: Sacramento Silty Clay Loam, 0 to 2 percent slopes, dry | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft rad)			
1. *Daucus carota* / Carrot, Carrot, Queen anne's lace	30	Yes	UPL
2. *Rumex crispus* / Curly dock	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	50	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	50 (A)		210 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: 22

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 23
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T9N R4E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 10
Subregion (LRR): C | Lat: 38.59730018 | Long: -121.54837436 | Datum: WGS84
Soil Map Unit Name: Sycamore silt loam, 0 to 1 percent slopes | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii* / Fremont cottonwood	5	Yes	FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft rad)			
1. *Baccharis pilularis* / Coyote brush	30	Yes	UPL
2. *Fraxinus latifolia* / Oregon ash	2	No	FACW
3.			
4.			
5.			
	32	= Total Cover	
Herb Stratum (Plot size: 5 ft rad)			
1. *Festuca perennis* / Italian rye grass	65	Yes	FAC
2. *Elymus glaucus* / Blue wildrye, Blue or western wild-rye	15	No	FACU
3. *Vicia villosa* / Hairy vetch, Hairy vetch, Winter vetch	2	No	UPL
4.			
5.			
6.			
7.			
8.			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	70	x 3 =	210
FACU species	15	x 4 =	60
UPL species	32	x 5 =	160
Column Totals:	119 (A)		434 (B)

Prevalence Index = B/A = 3.65

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 23

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/6	100					Clayey sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rip rap

Depth (inches): 8

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Yolo 80 Corridor Improvement Project | City/County: Yolo | Sampling Date: 01/07/2021
Applicant/Owner: CalTrans | State: CA | Sampling Point: 24
Investigator(s): J. Holson; S. Creer | Section, Township, Range: T9N R4E
Landform (hillslope, terrace, etc): Valley bottom | Local relief (concave, convex, none): Convex | Slope (%): 10
Subregion (LRR): C | Lat: 38.59733098 | Long: -121.54809443 | Datum: WGS84
Soil Map Unit Name: Water | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N 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 X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	45	Yes	FACW
2.			
3.			
4.			
	45	= Total Cover	

Sapling/Shrub Stratum (Plot size: 10 ft rad)			
1. *Salix exigua* / Narrowleaf willow	10	Yes	FACW
2. *Fraxinus latifolia* / Oregon ash	5	Yes	FACW
3.			
4.			
5.			
	15	= Total Cover	

Herb Stratum (Plot size: 5 ft rad)			
1. *Festuca perennis* / Italian rye grass	2	Yes	FAC
2. *Bromus diandrus* / Ripgut brome, Ripgut grass	2	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	4	= Total Cover	

Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	64 (A)		136 (B)

Prevalence Index = B/A = 2.13

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 24

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/4	93	5YR 5/8	7	C	M	Clayey sand	
4-12	2.5Y 4/4	100					Clayey sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rip rap

Depth (inches): 12

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Surface Soil Cracks (B6)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

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

Remarks:

CT_drainage 2.2

Project	CALTrans Wetlands
ID	128098
Survey Date	01/07/2021
User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson

Drainage Description

Feature ID	06 (Putah Creek)
Drainage Condition	01 - Natural
Regime	Perennial
Regime Evidence	Water present year round.

Measurements (in feet)

OHWM Width (FEET)	32
OHWM Depth (FEET)	1.5
TOB Width (FEET)	40
TOB Depth (FEET)	8

OHWM Attributes

Primary OHWM Indicator(s): break in slope, change in vegetation

Secondary OHWM Indicators: erosion/scour

Substrate above OHWM: UNK

Substrate below OHWM: 01 - clay silt (<0.05 mm)

Water present?	Yes
Depth (feet)	1

Canopy and Vegetation

Riparian Canopy Present?	Yes
Total Canopy Cover (%)	25 (CDFW only)

Canopy Species 1

Taxon	
Absolute Cover (%)	
Comments	CDFW canopy only; juvenile trout observed. Becomes more channelized under overpass.
Photo	Photos 9 and 10 in Appendix C

CT_drainage 2.2

Project	CALTrans Wetlands
ID	128207
Survey Date	01/08/2021

User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson
Drainage Description	
Feature ID	27
Drainage Condition	03 - Artificial
Describe	Ditch
Regime	Intermittent
Regime Evidence	
Measurements (in feet)	
OHWM Width (FEET)	3
OHWM Depth (FEET)	.3
TOB Width (FEET)	5
TOB Depth (FEET)	3
OHWM Attributes	
Primary OHWM Indicator(s)	break in slope, change in vegetation
Secondary OHWM Indicators	erosion/scour
Substrate above OHWM	01 - clay silt (<0.05 mm)
Substrate below OHWM	01 - clay silt (<0.05 mm)
Water present?	Yes
Depth (feet)	.25
Canopy and Vegetation	
Riparian Canopy Present?	No
Comments	Ag ditch excavated in uplands.
Photo	None

CT_drainage 2.2

Project	CALTrans Wetlands
ID	128227
Survey Date	01/08/2021
User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson
Drainage Description	
Feature ID	19
Drainage Condition	03 - Artificial
Describe	Ag Ditch *classified and mapped as vegetated ditch based on vegetation
Regime	Intermittent
Regime Evidence	Water present on and off
Measurements (in feet)	
OHWM Width (FEET)	8

OHWM Depth (FEET)	1.5
TOB Width (FEET)	25
TOB Depth (FEET)	6

OHWM Attributes	
Primary OHWM Indicator(s)	
Secondary OHWM Indicators	
Substrate above OHWM	
Substrate below OHWM	
Water present?	Yes
Depth (feet)	1.5

Canopy and Vegetation	
Riparian Canopy Present?	No
Comments	Ludwigia; ranunculus; typhus

Photo:

CT_drainage 2.2

Project	CALTrans Wetlands
ID	128260
Survey Date	01/08/2021
User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson

Drainage Description	
Feature ID	19
Drainage Condition	03 - Artificial

Describe	Ag Canal
Regime	Intermittent
Regime Evidence	Water present on and off

Measurements (in feet)	
OHWM Width (FEET)	See aerial photo (Approx 30')
OHWM Depth (FEET)	.5
TOB Width (FEET)	Same as OHWM
TOB Depth (FEET)	3.5

OHWM Attributes	
Primary OHWM Indicator(s)	
Secondary OHWM Indicators	
Substrate above OHWM	
Substrate below OHWM	
Water present?	Yes
Depth (feet)	.25

Canopy and Vegetation	
Riparian Canopy Present?	No
Comments	Unvegetated. Supports riparian veg. Schoenoplectus; Salix goodingii
Photo	None

CT_drainage 2.2

Project	CALTrans Wetlands
ID	132486
Survey Date	02/22/2021
User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson

Drainage Description	
Feature ID	35
Drainage Condition	01 - Natural
Regime	Perennial
Regime Evidence	TNW; Sacramento River

Measurements (in feet)	
OHWM Width (FEET)	
OHWM Depth (FEET)	
TOB Width (FEET)	
TOB Depth (FEET)	

OHWM Attributes	
Primary OHWM Indicator(s)	break in slope, change in vegetation
Secondary OHWM Indicators	bank undercut

Substrate above OHWM	01 - clay silt (<0.05 mm), 02 - sand (0.05 - 2 mm), 03 - gravel (2 mm - 1 cm)
Substrate below OHWM	
Water present?	Yes
Depth (feet)	

Canopy and Vegetation	
Riparian Canopy Present?	Yes
Total Canopy Cover (%)	60

Canopy Species 1	
Taxon	*Salix gooddingii* / Gooding's willow, Goodding's black willow
Absolute Cover (%)	40

Canopy Species 2	
Taxon	*Salix exigua* / Narrowleaf willow
Absolute Cover (%)	20
Comments	See aerial for mapping. Sacramento River
Photo	Appendix C, Photos 33-35

CT_drainage 2.2

Project	CALTrans Wetlands
ID	132796
Survey Date	02/23/2021
User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson

Drainage Description	
Feature ID	25
Drainage Condition	03 - Artificial
Describe	Canal - Prospect Slough
Regime	Perennial
Regime Evidence	Aerial, Toe Drain Canal

Measurements (in feet)	
OHWM Width (FEET)	
OHWM Depth (FEET)	
TOB Width (FEET)	
TOB Depth (FEET)	50

OHWM Attributes	
Primary OHWM Indicator(s)	break in slope, change in vegetation
Secondary OHWM Indicators	bank undercut, drift/wrack, erosion/scour, root exposure, shelving
Substrate above OHWM	01 - clay silt (<0.05 mm), 02 - sand (0.05 - 2 mm)
Substrate below OHWM	
Water present?	Yes

Depth (feet)	
Canopy and Vegetation	
Riparian Canopy Present?	Yes
Total Canopy Cover (%)	60
Canopy Species 1	
Taxon	*Salix gooddingii* / Gooding's willow, Goodding's black willow
Absolute Cover (%)	40
Comments	See aerial for mapping. Test pits for veg.
Photo	None

CT_drainage 2.2

Project	CALTrans Wetlands
ID	132797
Survey Date	02/23/2021
User	Sheryl Creer
Surveyor Name	S. Creer, J. Holson
Drainage Description	
Feature ID	33
Drainage Condition	03 - Artificial
Describe	Ditch
Regime	Ephemeral
Regime Evidence	Not holding water after rains
Measurements (in feet)	
OHWM Width (FEET)	3
OHWM Depth (FEET)	2
TOB Width (FEET)	10
TOB Depth (FEET)	7
OHWM Attributes	
Primary OHWM Indicator(s)	break in slope, change in vegetation
Secondary OHWM Indicators	drift/wrack, erosion/scour
Substrate above OHWM	01 - clay silt (<0.05 mm), 02 - sand (0.05 - 2 mm)
Substrate below OHWM	01 - clay silt (<0.05 mm)
Water present?	No
Canopy and Vegetation	
Riparian Canopy Present?	No
Comments	Veg is quercus lobata; ditch
Photo	Appendix C, Photos 31 and 33

Appendix E Plant Species Observed

Table E-1. Plant Species Observed

Scientific Name	Common Name	Wetland Indicator Status	Origin
Adoxaceae (Muskroot Family)			
Sambucus nigra ssp. *caerulea*	blue elderberry	FAC	native
Anacardiaceae (Sumac Family)			
Schinus molle	Peruvian pepper tree	UPL	non-native (invasive)
Apiaceae (Carrot Family)			
Daucus carota	carrot	FACU	non-native (invasive)
Foeniculum vulgare	fennel	—	non-native (invasive)
Apocynaceae (Milkweed Family)			
Nerium oleander	oleander	—	non-native (invasive)
Vinca major	vinca	—	non-native (invasive)
Araliaceae (Ginseng Family)			
Hedera helix	English ivy	FACU	non-native (invasive)
Asteraceae (Sunflower Family)			
Carduus pycnocephalus l. pycnocephalus	Italian thistle	—	non-native
Centaurea solstitialis	yellow starthistle	—	non-native (invasive)
Cichorium intybus	chicory	FACU	non-native
Erigeron canadensis	Canada horseweed	FACU	native
Grindelia stricta	gumweed	FACW	native
Pseudognaphalium luteoalbum	Jersey cudweed	FACW	non-native
Silybum marianum	milk thistle	—	non-native (invasive)
Betulaceae (Birch Family)			
Alnus rhombifolia	white alder	FACW	native
Betula occidentalis	water birch	FACW	native
Brassicaceae (Mustard Family)			
Capsella bursa-pastoris	shepherd's purse	FACU	non-native
Hirschfeldia incana	mustard	—	non-native (invasive)
Lepidium latifolium	perennial pepperweed	FAC	non-native (invasive)
Raphanus sativus	jointed charlock	—	non-native (invasive)

Scientific Name	Common Name	Wetland Indicator Status	Origin
Cupressaceae (Cypress Family)			
Sequoia sempervirens	Coast redwood	—	native
Cyperaceae (Sedge Family)			
Cyperus eragrostis	tall cyperus	FACW	native
Schoenoplectus acutus var. *occidentalis*	tule	OBL	native
Dipsacaceae (Teasel Family)			
Dipsacus fullonum	wild teasel	FAC	non-native (invasive)
Fabaceae (Legume Family)			
Albizia julibrissin	silktree	—	non-native
Medicago polymorpha	California burclover	FACU	non-native (invasive)
Melilotus officinalis	yellow sweetclover	FACU	non-native (invasive)
Robinia pseudoacacia	black locust	FACU	non-native (invasive)
Trifolium subterraneum	subterranean clover	—	non-native
Vicia sativa	spring vetch	UPL	non-native
Vicia villosa	hairy vetch	—	non-native (invasive)
Fagaceae (Oak Family)			
Quercus agrifolia	coast live oak	—	native
Quercus lobata	valley oak	FACU	native
Quercus wislizeni	interior live oak, chapparal oak	—	native
Geraniaceae (Geranium Family)			
Erodium cicutarium	coastal heron's bill	—	non-native (invasive)
Geranium molle	crane's bill geranium	—	non-native (invasive)
Juglandaceae (Walnut Family)			
Juglans regia	English walnut	—	non-native
Lamiaceae (Mint Family)			
Mentha pulegium	pennyroyal	OBL	non-native (invasive)
Myrtaceae (Myrtle Family)			
Eucalyptus sp.	—	—	non-native (invasive)

Scientific Name	Common Name	Wetland Indicator Status	Origin
Oleaceae (Olive Family)			
Fraxinus latifolia	Oregon ash	FACW	native
Ligustrum japonicum	Japanese privet	UPL	non-native
Onagraceae (Evening-Primrose Family)			
Epilobium brachycarpum	willow herb	—	native
Oenothera biennis	small flowered evening primrose	FACU	non-native
Oxalidaceae (Oxalis Family)			
Oxalis pes-caprae	Bermuda buttercup	—	non-native (invasive)
Papaveraceae (Poppy Family)			
Eschscholzia californica	California poppy	—	native
Plantaginaceae (Plantain Family)			
Plantago lanceolata	ribwort	FACU	non-native (invasive)
Platanaceae (Sycamore Family)			
Platanus racemosa	California sycamore	FACW	native
Poaceae (Grass Family)			
Aira caryophyllea	silvery hairgrass	FACU	non-native (invasive)
Arundo donax	giant reed	FACW	non-native (invasive)
Avena fatua	wildoats	—	non-native (invasive)
Bromus diandrus	ripgut brome	—	non-native (invasive)
Cortaderia sp.	—	—	non-native (invasive)
Cynodon dactylon	Bermuda grass	FACU	non-native (invasive)
Distichlis spicata	salt grass	FACW	native
Elymus glaucus	blue wildrye	FACU	native
Festuca perennis	Italian rye grass	FAC	non-native
Hordeum marinum ssp. *gussoneanum*	barley	FAC	non-native
Hordeum murinum	foxtail barley	FAC	non-native (invasive)
Oryza sativa	domestic rice	OBL	non-native
Paspalum dilatatum	dallis grass	FAC	non-native
Phalaris aquatica	Harding grass	FACU	non-native (invasive)

Scientific Name	Common Name	Wetland Indicator Status	Origin
Polypogon monspeliensis	annual beard grass	FACW	non-native (invasive)
Sorghum halepense	Johnsongrass	FACU	non-native (invasive)
Stipa miliacea var. *miliacea*	smilo grass	—	non-native
Polygonaceae (Buckwheat Family)			
Persicaria hydropiperoides	water pepper	OBL	native
Rumex crispus	curly dock	FAC	non-native (invasive)
Rosaceae (Rose Family)			
Cotoneaster sp.	—	—	non-native (invasive)
Prunus dulcis	almond	—	non-native
Rubus armeniacus	Himalayan blackberry	FAC	non-native (invasive)
Rubus ursinus	California blackberry	FACU	native
Rubiaceae (Madder Family)			
Galium sp.	—	—	native
Salicaceae (Willow Family)			
Populus fremontii ssp. *fremontii*	cottonwood	FAC	native
Populus nigra	Lombardy poplar	—	non-native
Salix exigua	narrowleaf willow	FACW	native
Salix gooddingii	Gooding's willow	FACW	native
Sapindaceae (Soapberry Family)			
Acer macrophyllum	bigleaf maple	FACU	native
Acer negundo	Boxelder	FAC	native
Solanaceae (Nightshade Family)			
Nicotiana glauca	tree tobacco	FAC	non-native (invasive)
Typhaceae (Cattail Family)			
Typha latifolia	broadleaf cattail	OBL	native
Ulmaceae (Elm Family)			
Ulmus parvifolia	Siberian elm	UPL	non-native
Viscaceae (Mistletoe Family)			
Phoradendron leucarpum	American mistletoe	—	native