Jurisdictional Delineation

US 101 Express Lanes Project

State of California
Department of Transportation
District 4

Santa Clara County, CA
Project No. 0412000459/EA 2G7100
US 101 PM 16.00–52.55
SR 85 PM 23.0–24.1

February 2014

Caltrans

US 101 Express Lanes Project

State of California
Department of Transportation
District 04

Santa Clara County, CA
Project No. 0412000459/EA 2G7100

US 101 PM 16.00–52.55
SR 85 PM 23.0–24.1

February 2014

Prepared By: Nicole Rucker Date: 1-29-14

Nicole Rucker, Biologist
URS Corporation
(408) 961-8451

Reviewed By: Frances Malamud-Roam Date: 2/4/14

signed for

Myla Ablog, Environmental Planner (Natural Sciences)
Office of Biological Sciences and Permits
California Department of Transportation, District 4
(510) 286-5651

Recommended for Approval By: Frances Malamud-Roam Date: 2/4/14

Frances Malamud-Roam, Senior Environmental Planner (Natural Sciences)
Office of Biological Sciences and Permits
California Department of Transportation, District 4
(510) 286-5376

Approved By: Hardeep Takhar Date: 2/4/14

Hardeep Takhar, Acting Office Chief
Office of Biological Sciences and Permits
California Department of Transportation, District 4
(510) 286-7182

Summary

This jurisdictional delineation report presents the results of a survey for wetlands and other waters of the United States performed within the biological study area (BSA) for the United States Highway 101 (US 101) Express Lanes Project in Santa Clara County, California. URS biologists formally delineated potential wetlands and other waters of the United States using the routine, on-site methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and guidance from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008).

Within the 1,816-acre BSA, 4.27 acres of potential jurisdictional waters of the United States were identified. Of the total acreage of potential waters of the United States identified in the BSA, 3.24 acres are potential other waters of the United States and 1.03 acres are potential jurisdictional wetlands. An additional 0.09 acre of potential non-jurisdictional (isolated) wetlands was also delineated. The results of this jurisdictional delineation are presented in order to request an approved jurisdictional determination from the U.S. Army Corps of Engineers (USACE) for all waters of the United States found within the BSA of the US 101 Express Lanes Project.

This page intentionally left blank

Contents

Figures and Graphs ..... **v**

Tables ..... **vi**

Abbreviated Terms ..... **vii**

1 Introduction **1**

1.1 Project Description 1

1.2 Biological Study Area 2

1.3 Definitions 2
1.3.1 Wetlands and Other Waters of the United States 2
1.3.2 Rapanos v. United States and Carabell v. Army Corps of Engineers 3
1.3.3 Wetlands and Other Waters Potentially Exempt from USACE Jurisdiction 7
1.3.4 Waters of the State and the Regional Water Quality Control Boards 9

2 Methods **11**

2.1 Three-Parameter Approach to Wetlands 11
2.1.1 Hydric Soils 11
2.1.2 Wetland Hydrology 12
2.1.3 Hydrophytic Vegetation 12

2.2 Delineating Other Waters of the U.S. 13

2.3 Field Data Collection 13

2.4 Climate 14

2.5 Soils in the Biological Study Area 14

2.6 Hydrology 19

2.7 Limitations that May Influence Results 20

3 Results **33**

3.1 Summary of Results 33

3.2 Potential Jurisdictional Waters of the United States 37
3.2.1 Other Waters of the United States 37
3.2.2 Wetlands 43

3.3 Potential Non-Jurisdictional Wetlands 46

3.4 Historic Water Features 46

3.5 Conclusion 47

4 References **49**

Appendix A Potentially Jurisdictional Wetlands and Waters of the United States in the Biological Study Area **51**

Appendix B Wetland Delineation Data Forms 193

Appendix C Photos of Representative Wetlands and Other Waters of the United States 289

Appendix D Vascular Plant List 303

Figures and Graphs

Figure 1. Project Vicinity.....5
Figure 2. Soils in BSA.....21
Figure 3. Watersheds and Streams in the BSA.....31

Graph 1. Total Monthly Precipitation for the San Jose Airport Weather Station.....14

Tables

Table 1: Survey Dates and Personnel 11
Table 2: Plant Indicator Status Categories 13
Table 3: Soil Series and Selected Characteristics 15
Table 4: Potentially Jurisdictional Waters of the United States in the Biological Study Area 33
Table 5: Potentially Jurisdictional Culverted Waters of the United States in the Biological Study Area 35
Table 6: Potentially Non-Jurisdictional Wetlands in the Biological Study Area.....36

Abbreviated Terms

BSA	Biological study area
Caltrans	California Department of Transportation
C.F.R	Code of Federal Regulations
CWA	(Federal) Clean Water Act of 1977
CWUS	Culverted Waters of the United States
EPA	U.S. Environmental Protection Agency
FAC	facultative
FACW	facultative wetland
HOT	high occupancy toll
HOV	high occupancy vehicle
HWUS	Historic Waters of the United States
NHD	National Hydrography Dataset
NJ-WL	Non-jurisdictional water of the U.S.
NRCS	Natural Resources Conservation Service
OBL	obligate wetland
OHWM	ordinary high water mark
PM	post mile
project	US 101 Express Lanes Project
RPW	relatively permanent water
RWQCB	Regional Water Quality Control Board
SR	State Route
TNW	traditional navigable water
UPL	obligate upland plants
US 101	United States Highway 101
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
VTA	Santa Clara Valley Transportation Authority
WUS	other waters of the United States
WWUS	Wetlands

This page intentionally left blank

1 Introduction

This report describes the methods and results of a jurisdictional delineation of waters of the United States (waters of the U.S.), including wetlands and other waters of the U.S., for the United States Highway 101 (US 101) Express Lanes Project (project) in Santa Clara County, California (Figure 1). URS conducted the jurisdictional delineation on behalf of the California Department of Transportation (Caltrans), in cooperation with the Santa Clara Valley Transportation Authority (VTA). The project limits along US 101 extend from post mile (PM) 16.00 to PM 52.55, just north of the Oregon Expressway/Embarcadero Road interchange in Palo to the East Dunne Avenue interchange in Morgan Hill. The project corridor includes a portion of State Route (SR) 85 in Mountain View from PM 23.0 at the US 101/SR 85 interchange to PM 24.1 just north of West Dana Street. Auxiliary lanes are proposed on US 101 in both directions between Great America Parkway and Lawrence Expressway. A larger biological study area (BSA) surrounds the project limits on US 101 and SR 85 and was evaluated for this jurisdictional delineation.

The objective of the delineation was to define, record, and map the portions of the project BSA that qualify as potential waters of the U.S.in order to request an approved jurisdictional determination from the U.S. Army Corps of Engineers (USACE).

1.1 Project Description

The US 101 Express Lanes Project proposes to convert the existing High Occupancy Vehicle (HOV) lanes along US 101 to High Occupancy Toll (HOT) lanes (hereafter known as express lanes). A second express lane would be added in each direction on US 101 within the overall project limits from the East Dunne Avenue interchange in Morgan Hill to the Santa Clara/San Mateo County line just north of the Oregon Expressway/Embarcadero Road interchange in Palo Alto. The project would also convert the US 101/ SR 85 HOV direct connectors in Mountain View to express lane connectors, restripe the northern 1.1 miles of SR 85 to introduce a buffer separating the mixed flow lanes from the express lanes, and connect the SR 85 express lanes to the US 101 express lanes. The project length is 36.55 miles on US 101 and 1.1 miles on SR 85, for a total of 37.65 miles (Figure 1). Project construction is scheduled to begin in 2015 and be completed by 2018.

1.2 Biological Study Area

The BSA includes 1,816 acres and extends beyond the physical limits of proposed project construction. The jurisdictional delineation covered the entire BSA in order to address potentially jurisdictional features within and adjacent to project construction areas (Appendix A, Sheets 1-40 and Detail Sheets 41-69).

The BSA includes the entire length of US 101 between the East Dunne Avenue interchange in Morgan Hill and just north of the Oregon Expressway/Embarcadero Road interchange in Palo Alto. In most areas along the US 101 corridor, the BSA boundary aligns with the right-of-way boundary, which is usually defined by a fence or by soundwalls that separate the freeway from nearby commercial and residential development. In addition, at the major freeway interchanges, the BSA widens to cover the median areas between roadways and freeway ramps.

1.3 Definitions

This section describes the legal definition of wetlands and other waters of the U.S.; modifications to the definition of waters of the U.S., wetlands and other waters potentially exempt from USACE jurisdiction; and waters of the state under the regulatory discretion of the Regional Water Quality Control Board (RWQCB).

1.3.1 Wetlands and Other Waters of the United States

Wetlands and other waters (e.g., rivers, streams) are subsets of "waters of the United States" and receive protection under Section 404 of the Clean Water Act (CWA). The USACE has primary federal responsibility under the CWA for administering regulations that concern waters and wetlands. In this regard, the USACE acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the CWA (Section 404), which governs specified activities in "waters of the United States," including wetlands.

As defined in the Code of Federal Regulations (33 C.F.R. 328.3[a]; 40 C.F.R. 230.3[s]), *waters of the United States* refers to:

> "(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural basins, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters which are or could

> be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the United States under the definition; (5) Tributaries of waters identified in paragraphs (1) through (4); (6) Territorial seas; and (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6)."

The USACE and the U.S. Environmental Protection Agency (EPA) define wetlands as, "Those areas that are saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for the life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

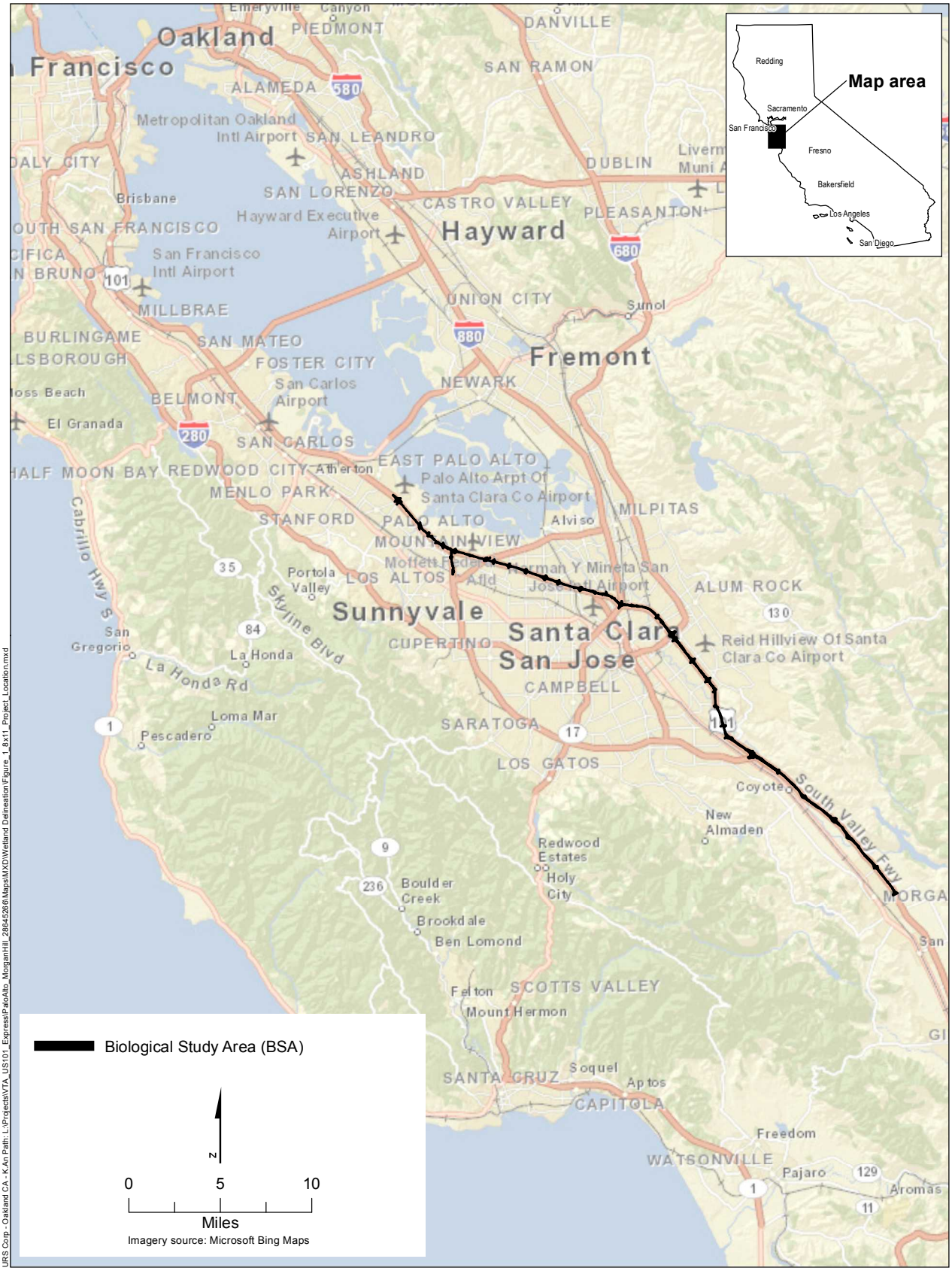
The term *other waters of the United States* is used to characterize water bodies (e.g., streams, rivers, creeks and channels) that exhibit an ordinary high water mark and evidence of hydrology, but are not wetlands.

1.3.2 Rapanos v. United States and Carabell v. Army Corps of Engineers

Two cases brought before the U.S. Supreme Court, *Rapanos v. United States* (No. 04-1034) and *Carabell v. Army Corps of Engineers* (No. 04-1384) (hereafter referred to together as *Rapanos*), challenged the USACE's interpretation of waters of the United States (USACE 2007). USACE had interpreted 33 U.S.C. 1362(7) of the CWA to regulate wetland areas that are separated from a tributary of a navigable water by a narrow, constructed berm, where evidence of an occasional hydrologic connection existed between the wetland and the tributary.

On June 19, 2006, the court ruling in *Rapanos* tightened the definition of waters of the United States. The decision stated that a water or wetland constitutes "navigable waters" under the CWA if it possesses a "significant nexus" to waters that are currently navigable or could feasibly be made navigable. On June 5, 2007, USACE and the EPA, in response to the ruling, issued a joint memorandum that put forth new guidelines for establishing whether wetlands or other waters of the United States fall within USACE jurisdiction (USACE 2007). In the guidelines, the agencies assert jurisdiction over traditional navigable waters (TNWs), wetlands adjacent to TNWs, non-navigable tributaries to TNWs that are relatively permanent waters (RPWs), and wetlands that abut RPWs.

This page intentionally left blank



URS Corp - Oakland CA - K:\An Path: L:\Projects\VTA_US101_Express\PaloAlto_MoganHill_2864526\Maps\MXD\Wetland Delineation\Figure_1_8x11_Project_Location.mxd

URS Caltrans
US 101 Express Lanes Project

Figure 1
Project Location and Regional Setting

The agencies may take jurisdiction over non-navigable tributaries that are not RPWs, wetlands that are adjacent to non-RPWs, and wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary. The agencies will generally not assert jurisdiction over swales, erosional features, or ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

1.3.3 Wetlands and Other Waters Potentially Exempt from USACE Jurisdiction

A number of exemptions from CWA regulations exist for areas that would otherwise qualify as waters of the United States. These exemptions are classified as either discretionary or non-discretionary exemptions. The ruling in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* created another type of exemption (described below).

1.3.3.1 Discretionary Exemptions

Exemption Criteria. As described in the discussion of USACE regulations in the November 13, 1986, *Federal Register*, certain areas that meet the technical definition of wetlands generally are not considered waters of the United States (33 C.F.R. 328.3[a]). However, USACE and EPA reserve the right to determine that a particular water body within the categories listed below is a water of the United States on a case-by-case basis. These categories are:

- Non-tidal drainage and irrigation ditches excavated on dry land
- Artificially irrigated areas that would revert to upland, if the irrigation ceased
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and that are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing
- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons
- Water filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States

Determination of Exemption. The technical definition of a wetland or non-wetland water of the United States that does not meet the USACE criteria for jurisdiction on the basis of *Rapanos* is briefly summarized below.

Features such as roadside ditches, drainage ditches, or irrigation canals that appear to have been excavated in uplands and do not convey or connect to other waters of the United States are considered non-jurisdictional waters under the USACE methodology. Many of these features are in areas with little or no topography indicative of a flow path to a seasonal stream (a stream that flows approximately 3 months a year) that eventually discharges to a TNW. Canals and ditches that do not maintain a flow connection with a TNW are considered isolated. Canals that transport water from a RPW that do not reconnect or recirculate water back to a RPW draining to a TNW are not considered jurisdictional. Likewise, any man-made drainage ditch that drains uplands to a RPW is not jurisdictional. An exception to this exemption may be a flood-irrigated field that is watered by a jurisdictional canal that is found to drain to a ditch leading to a RPW connected to a TNW. Several features meeting criteria for an exemption were identified in the BSA along the US 101 right-of-way.

1.3.3.2 Non-Discretionary Exemptions

Exemption Criteria. In addition to the discretionary exemptions described above, USACE regulations contain a non-discretionary exemption for waste treatment systems designed to meet the requirements of the CWA (33 C.F.R. 328.3[a][7]). Such areas, which include treatment ponds and lagoons, are not considered waters of the United States.

Determination of Exemption. No areas were found in the BSA that met the criteria for a non-discretionary exemption.

1.3.3.3 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers

Exemption Criteria. On January 9, 2001, the U.S. Supreme Court issued a decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*. The case involved the filling of hydrologically isolated waters that had formed from remnant excavation ditches on a 533-acre parcel. In the decision, the court denied USACE jurisdiction over isolated water bodies, which USACE had previously regulated using the "Migratory Bird Rule," which was established in 1986. The court defined isolated waters as any body of water that is non-navigable, intrastate, and lacking any significant nexus to navigable bodies of water.

Determination of Exemption. No wetlands or non-wetland waters of the United States are present in the project area that were designated as jurisdictional solely on the basis of the Migratory Bird Rule. Therefore, this ruling does not apply to the BSA.

1.3.4 Waters of the State and the Regional Water Quality Control Boards

Acting under the leadership of the State Water Resources Control Board and under the statutory authority of Section 401 of the CWA and the Porter-Cologne Water Quality Act, the Regional Water Quality Control Boards (RWQCBs) protect the beneficial uses of surface water and groundwater in California. The RWQCBs regulate all pollutant or nuisance discharges that may affect either surface waters or groundwaters of the state. In cases where the waters are excluded from regulation under the federal CWA, the RWQCBs may exercise jurisdiction over discharges into waters of the state, pursuant to the Porter-Cologne Act. In the absence of a legally approved formal protocol for delineating waters of the state, all potential waters of the U.S., as well as all isolated waters, are considered potential waters of the state.

This page intentionally left blank

2 Methods

This section describes the methods used to delineate potential jurisdictional wetlands and other waters of the U.S. in the BSA.

URS biologists formally delineated the potential wetlands and other waters of the U.S. in the BSA in March 2012 (Table 1). Wetlands were delineated in accordance with the routine on-site methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and using guidance from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual (Version 2.0): Arid West Region* (USACE 2008).

Table 1: Survey Dates and Personnel

Survey Type and Date	Personnel
Jurisdictional Delineation	
March 7, 2012	Casey Stewman, Joe Bandel
March 8, 2012	Casey Stewman, Joe Bandel
March 9, 2012	Casey Stewman, Joe Bandel
March 15, 2012	Casey Stewman, Joe Bandel
March 16, 2012	Casey Stewman, Joe Bandel

2.1 Three-Parameter Approach to Wetlands

The USACE methodology for delineating wetlands relies on a three-parameter approach to determine if an area is a potential jurisdictional wetland. The three parameters are hydric soil, wetland hydrology, and hydrophytic vegetation. Under normal circumstances (undisturbed conditions), a potential jurisdictional wetland must have positive wetland indicators of hydric soils, wetland hydrology, and a dominance of hydrophytic vegetation. Positive wetland indicators for these parameters include field indicators and published data (e.g., U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) lists of hydric soils). The following sections describe the general diagnostic characteristics and some of the typical positive wetland indicators for each parameter.

2.1.1 Hydric Soils

Soils are considered hydric if the soil is classified as hydric by the NRCS or if field indicators associated with reducing soil conditions are present. The NRCS defines a hydric soil as a soil that formed where conditions of saturation, flooding, or ponding occurred long enough during the growing season to develop anaerobic conditions in the upper portion of the soil profile. Local and national soil surveys published by the

NRCS are used to determine the types of soil present in an area. National and local hydric soil lists provide a checklist of soil types that are classified as hydric. Field indicators of hydric soils are identified in the *Field Indicators of Hydric Soils in the United States*: A *Guide for Identifying and Delineating Hydric Soils* (USDA-NRCS 2010). Field indicators may also include organic hydric soils (or histisols); histic epipedons; sulfidic material; aquic or peraquic moisture regimes; reduced soil conditions, as indicated by oxidized rhizospheres; soil color, including gleyed soils, soils with mottles, and/or low-matrix chroma; and iron and manganese concretions.

2.1.2 Wetland Hydrology

Wetland hydrology is defined as inundation or saturation in the upper 12 inches of the soil for at least 5 percent of the growing season in most years (Environmental Laboratory 1987). The growing season in the project area is approximately 254 days based on "frost-free days" (NRCS 1995a); 5 percent of the growing season is therefore approximately 13 days. Factors that influence hydrology include precipitation, topography, soil permeability, and plant cover. Primary indicators of wetland hydrology include inundation or saturation in the upper 12 inches, drift lines, sediment deposits, and drainage patterns. Secondary indicators include oxidized rhizospheres, water-stained leaves, local soil survey data, and the facultative (FAC)-neutral test of vegetation.

2.1.3 Hydrophytic Vegetation

Jurisdictional wetlands are typically dominated by hydrophytic plant species, specifically that more than 50 percent of the dominant plant species have an indicator status of FAC, facultative wetland (FACW), or obligate (OBL) (Reed 1988). As defined by the USACE (Environmental Laboratory 1987), hydrophytic vegetation is "the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present." Definitions for each of the plant indicator statuses are included in Table 2.

Table 2: Plant Indicator Status Categories

Indicator Category	Indicator Symbol	Definition
Obligate Wetland Plants	OBL	Plants that occur almost always (>99%) in wetlands under natural conditions, but which may also occur rarely (<1%) in non-wetlands.
Facultative Wetland Plants	FACW	Plants that occur usually (67%–99%) in wetlands but also occur (1–33%) in non-wetlands.
Facultative Plants	FAC	Plants with a similar likelihood (34%–66%) of occurring both in wetlands and non-wetlands.
Facultative Upland Plants	FACU	Plants that occur sometimes (1%–33%) in wetlands, but occur more often (67%–99%) in non-wetlands.
Obligate Upland Plants	UPL	Plants that occur rarely (<1%) in wetlands, but occur almost always (>99%) in non-wetlands under natural conditions.

Source: Reed 1988.

2.2 Delineating Other Waters of the U.S.

The locations and positions of potential other waters of the U.S. were determined based upon a field verification of features shown within the BSA in the National Hydrography Dataset (NHD) (USGS 2008) and on the U.S. Geological Survey (USGS) topographic quadrangle maps of the BSA. Potential other waters of the U.S. were delineated based upon the visible presence of an ordinary high water mark (OHWM), indicated by signs such as wrack lines, scour, debris build-up, and changes in the plant community.

Waters that were contained within underground culverts were not surveyed or delineated in the BSA. These underground culverts were either fully culverted within the BSA or the length of the culvert was inaccessible. The linear extent of each feature was estimated using the approximate position of the blue-line features depicted in the NHD. Due to missing blue-lines or incorrectly geo-referenced blue-lines in the NHD, the linear extent of the culverted waters of the U.S. (CWUS-7 to CWUS-17) were estimated based on the location of the upstream and downstream culvert openings as observed in the field or on aerial mapping. The USGS's National Map Viewer (USGS 2013) was used to determine if the culverts depicted in the NHD have connectivity to any TNWs.

2.3 Field Data Collection

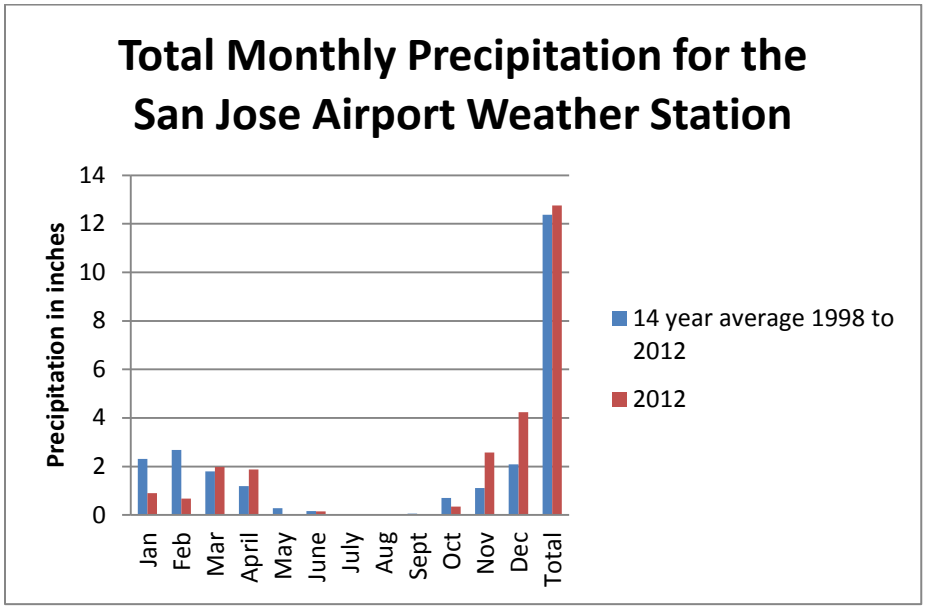
The boundaries of all waters, including wetlands and other waters of the U.S., were mapped in the field using a sub-meter accuracy Trimble© backpack Global Positioning System unit. Where feasible, data points were recorded at the location where wetland and upland datasheets were completed in each of the wetlands in the

BSA. Wetland boundaries were extrapolated based on similar variations in vegetation, hydrology, and topography. Maps depicting the waters of the U.S. within the BSA and wetland sample points are included in Appendix A. Copies of the delineation data forms and wetland determination forms are provided in Appendix B. Photographs of jurisdictional features are provided in Appendix C. A list of the vascular plants identified in the BSA is provided in Appendix D.

2.4 Climate

The jurisdictional delineation was conducted in the spring of 2012, near the end of the rainy season for the area. Precipitation during the 2011/2012 winter was considered normal with approximately 8.9 inches of rainfall (Western Regional Climate Center 2012). Therefore, it was assumed that at the time of the delineation, conditions were normal in the BSA. Graph 1 shows the precipitation in the San Jose area for 2012.

Graph 1. Total Monthly Precipitation for the San Jose Airport Weather Station



Source: Western Regional Climate Center 2012

2.5 Soils in the Biological Study Area

The online soil survey for Santa Clara County (NRCS 2012) was used to identify soil series within the BSA. Forty-five soil series and/or complexes occur along the project corridor. Seventeen of these soil units are composed of urban land complexes. Ten of these soils are listed as hydric soils in California (NRCS 1995b). The soils are from alluvium derived from metamorphic and sedimentary or metavolcanic rock. Table 3 lists the soil series and selected characteristics in the BSA. The soil series within the BSA are shown on Figure 2.

Table 3: Soil Series and Selected Characteristics

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
101	Urban land, 0 to 2 percent slopes	NA	NA	Basin floors	Disturbed and human transported material	No
102	Urban land, 0 to 2 percent slopes, alluvial fan	NA	NA	Alluvial fan, basin floors	Disturbed and human transported material	No
120	Aquic Xerothents, bay mud stratum, 0 to 2 percent slopes	Poorly drained	Moderately low to Moderately High	Basins, estuaries	Gravelly sandy loam, silty clay	No
130	Urban land-Still complex, 0 to 2 percent slopes	Well drained	Moderately high to high	Alluvial fans, flood plains	Sandy loam, very find sandy loam, silt loam, loam	No
131	Urban land-Elpaloalto complex, 0 to 2 percent slopes	Well drained	Moderately high	Alluvial fans	Clay loam, silty clay loam	Yes
135	Urban land-Stevens Creek complex, 0 to 2 percent slopes	Well drained	Moderately high	Alluvial fans	Sandy loam, silt loam, silty clay loam, clay loam	No
145	Urban land-Hangerone complex, 0 to 2 percent slopes, drained	Poorly drained	Moderately low to moderately high	Basin floors	Clay, clay loam, gravelly loam	Yes
146	Hangerone clay loam, drained, 0 to 2 percent slopes	Poorly drained	Moderately low to moderately high	Basin floors	Clay, clay loam, gravelly loam	Yes
150	Urban land-Embarcadero complex, 0 to 2 percent slopes, drained	Very poorly drained	Moderately low to moderately high	Basin floors	Clay loam, clay, silty clay	Yes
157	Novato clay, 0 to 1 percent slopes, protected	Very poorly drained	Very low to moderately high	Marshes	Clay	Yes

Table 3: Soil Series and Selected Characteristics

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
160	Urban land-Clear Lake complex, 0 to 2 percent slopes	Moderately well drained	Moderately low to moderately high	Basin floors	Silty clay	Yes
165	Urban land-Campbell complex, 0 to 2 percent slopes, protected	Moderately well drained	Moderately low to moderately high	Alluvial fans	Silt loam, silty clay loam	No
166	Campbell silt loam, 0 to 2 percent slopes, protected	Moderately well drained	Moderately low to moderately high	Alluvial fans	Silt loam, silty clay loam	No
169	Urban land-Elder complex, 0 to 2 percent slopes, protected	Somewhat excessively drained	High	Alluvial fans, streams	Slightly decomposed plant material, fine sandy loam	Yes
170	Urban land-Landelspark complex, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans	Slightly decomposed plant material, sandy loam, sandy clay loam, very gravelly sand, silty clay loam, clay loam, sandy clay loam	No
171	Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded	Somewhat excessively drained	High	Alluvial plains	Slightly decomposed plant material, fine sandy loam,	Yes
173	Canine Creek-Elder complex, 0 to 2 percent slopes, rarely flooded	Well drained	High	Streams	Fine sandy loam, extremely gravelly sandy loam	Yes
174	Urban land-Canine Creek-Elder complex, 0 to 2 percent slopes	Well drained	High	Alluvial fans	Fine sandy loam, extremely gravelly sandy loam	No

Table 3: Soil Series and Selected Characteristics

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
180	Urban land-Newpark complex, 0 to 2 percent slopes	Moderately well drained	Moderately high	Alluvial fans	Silty clay loam, fine sandy loam	No
185	Urban land-Bayshore complex, 0 to 2 percent slopes, drained	Poorly drained	Moderately high	Alluvial fans, basin floors	Loam, sandy clay loam, gravelly sandy loam	Yes
300	Urban land-Montara complex, 15 to 30 percent slopes	Somewhat excessively drained	Very low to moderately low	Hills	Sandy loam, gravelly sandy loam, cobbly sandy loam, bedrock	No
302	Montara-Rock outcrop complex, 30 to 50 percent slopes	Somewhat excessively drained	Very low to moderately low	Hills	Sandy loam, gravelly sandy loam, cobbly sandy loam, bedrock	No
303	Montara-Santerhill complex, 15 to 30 percent slopes	Somewhat excessively drained	Very low to moderately low	Hills	Sandy loam, gravelly sandy loan, cobbly sandy loam bedrock	No
305	Alo-Altamont complex, 15 to 30 percent slopes	Well drained	Very low to moderately low	Hills	Clay, silty clay, bedrock	No
309	Urban land-Altamont-Alo complex, 9 to 15 percent slopes	Well drained	Very low to moderately low	Hills	Clay loam, clay, bedrock	No
317	Urban land-Cropley complex, 0 to 2 percent slopes	Well drained	Moderately low to moderately high	Alluvial fans	Clay, sandy clay loam	No
315	Cropley clay, 0 to 2 percent slopes	Well drained	Moderately low to moderately high	Alluvial fans	Clay, sandy clay loam	No
AcE	Altamont clay, 15 to 30 percent slopes	Well drained	Very low to moderately low	Mountain slopes	Clay; weathered bedrock	No

Table 3: Soil Series and Selected Characteristics

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
ArA	Arbuckle gravelly loam, 0 to 2 percent slopes	Well drained	Moderately high to high	Terraces	Gravelly loam, very gravelly sandy loam	No
CID	Climara clay, 9 to 30 percent slopes	Well drained	Very low	Mountain slopes	Clay; unweathered bedrock	No
CoB	Cortina very gravelly loam, 0 to 5 percent slopes	Somewhat excessively drained	Moderately high to high	Floodplains	Very gravelly loam, very gravelly sandy loam	No
CrA	Cropley clay, 0 to 2 percent slopes	Well Drained	Moderately low to moderately high	Alluvial fans, terraces	Clay	No
DaD	Diablo clay, 9 to 15 percent slopes	Well drained	Moderately low	Mountain slopes	Clay, bedrock	No
GaA	Garretson loam, gravel substratum, 0 to 2 percent slopes	Well drained	Moderately high to high	Alluvial fans, stream terraces	Loam, very fine sandy loam, stratified sand	No
InG2	Inks rocky clay loam, 50 to 75 percent slopes, eroded	Somewhat excessively drained	Very low	Mountain slopes	Gravelly clay loam, un weathered bedrock	No
LrC	Los Robles clay loam, 2 to 9 percent slopes	Well drained	Moderately high	Alluvial fans	Clay loam, gravelly clay loam	No
McB	Maxwell clay, 0 to 5 percent slopes	Moderately well drained	Moderately low to moderately high	Alluvial fans	Clay, gravelly clay loam	No
MwF2	Montara rocky clay loam, 15 to 50 percent slopes, eroded	Somewhat excessively drained	Very low	Mountain slopes	Clay loam, unweathered bedrock	No
PoA	Pleasanton loam, 0 to 2 percent slopes	Well drained	Moderately high	Terraces, alluvial fans	Loam, clay loam, gravelly clay loam, gravelly sandy clay loam	No

Table 3: Soil Series and Selected Characteristics

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
Rg	Riverwash	NA	High	Drainageways	Sand, stratified coarse sand, sandy loam	No
SbE2	San Benito clay loam, 15 to 30 percent slopes, eroded	Well drained	Very low	Mountain slopes	Clay loam, silty clay loam, weathered bedrock	No
SbF3	San Benito clay loam, 30 to 50 percent slopes, severely eroded	Well drained	Very low	Mountain slopes	Clay loam, silty clay loam, weathered bedrock	No
SdA	San Ysidro loam, 0 to 2 percent slopes	Moderately well drained	Moderately low to moderately high	Terraces, alluvial fans	Loam, clay, clay loam, sandy clay loam, gravelly clay loam	No
YaA	Yolo loam, 0 to 2 percent slopes	Well drained	Moderately high	Alluvial fan, flood plains	Loam, stratified loam to silty clay loam	No
YeC	Yolo silty clay loam, 2 to 9 percent slopes	Well drained	Moderately high	Flood plains, alluvial fans	Silty clay loam, stratified loam	No

Source: NRCS 2012

Additionally, a mosaic of serpentine soils was observed within the Garreston loam (GaA) soil type south of the SR 85/US 101 interchange in San Jose (CSC 2010; USFWS 1998). Serpentine soils are characterized by high levels of magnesium and low levels of nitrogen, phosphorous, and potassium.

2.6 Hydrology

The BSA spans the Palo Alto, South Santa Clara Valley, Coyote Creek, and Guadalupe River watersheds. With the exception of Coyote Creek and South Santa Clara Valley, these watersheds drain the Santa Cruz Mountains into the southern and western sides of the Santa Clara Valley. Water flows onto the alluvial plain to the north and east of the Coast range and into San Francisco Bay. Coyote Creek drains the western side of the Diablo Range which is located on the eastern side of the Santa Clara Valley, south and east of San Jose, into San Francisco Bay. The South Santa

Clara Valley watershed flows southwest out of the Diablo mountain range to the Pajaro River and out to the Pacific Ocean near Watsonville (Figure 3).

2.7 Limitations that May Influence Results

The jurisdictional delineation was conducted during the early spring (March) of 2012 after a relatively normal year for precipitation (Graph 1) in the San Jose area.

All surface waters that are exposed and observable were surveyed and delineated. Waters that were entirely contained within underground culverts for their entire extent within the BSA were not delineated in the field, but are included on the maps and accounted for in the delineation. These features were not delineated in the field due to lack of permission to enter (most extended far beyond the boundaries of the BSA). Because underground culverts were inaccessible, they could not be sized accurately, and therefore the approximate acreages occupied by these underground features were not estimated. The linear extent of each feature was estimated using the approximate position of the features as depicted in the NHD (CWUS-1 to CUWS-6 and CWUS-18). Due to missing blue-lines or incorrectly geo-referenced blue-lines in the NHD, the linear extent of some culverted waters of the U.S. (CWUS-7 to CWUS-17) were estimated based on the location of the upstream and downstream culvert openings as observed in the field or on aerial mapping.

In a few locations, freshwater wetlands were present within streams within the BSA. Wetland soils and hydrology for these in-stream wetlands were assumed based upon the presence of standing water within and around in-stream wetland vegetation.

Biological Study Area (BSA)

Streams

Soil types of the BSA

- 120 - Aquic Xerorthents, bay mud subtratum, 0 to 2 percent slopes
- 131 - Urban land-Elpaloalto complex, 0 to 2 percent slopes
- 135 - Urban land-Stevens Creek complex, 0 to 2 percent slopes
- 145 - Urban land-Hangerone complex, 0 to 2 percent slopes, drained
- 150 - Urban land-Embarcadero complex, 0 to 2 percent slopes, drained
- 157 - Novato clay, 0 to 1 percent slopes, protected
- 165 - Urban land-Campbell complex, 0 to 2 percent slopes, protected
- 169 - Urban land-Elder complex, 0 to 2 percent slopes, protected
- 171 - Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded
- 185 - Urban land - Bayshore complex, 0 to 2 percent slopes, drained
- 317 - Urban land-Cropley complex, 0 to 2 percent slopes

Image source: ESRI Topographic Basemap
Soil data source: United States Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS), 2010

N

0 0.5 1
Miles

URS Corp - Oakland CA - K:\Anl\Path: L:\Projects\VTA_US101_Express\Palo Alto_Morgan\Hill_28645266\Maps\MXD\Wetland Delineation\Figure 2_11x17_Soils.mxd

Caltrans
US 101 Express Lanes

Figure 2, Sheet 1 of 5
Soils in the BSA

Biological Study Area (BSA)

Streams

Soil types of the BSA

- 101 - Urban land, 0 to 2 percent slopes, basins
- 102 - Urban land, 0 to 2 percent slopes, alluvial fans
- 130 - Urban land-Still complex, 0 to 2 percent slopes
- 131 - Urban land-Elpaloalto complex, 0 to 2 percent slopes
- 135 - Urban land-Stevens Creek complex, 0 to 2 percent slopes
- 145 - Urban land-Hangerone complex, 0 to 2 percent slopes, drained
- 165 - Urban land-Campbell complex, 0 to 2 percent slopes, protected
- 170 - Urban land-Landelspark complex, 0 to 2 percent slopes
- 185 - Urban land - Bayshore complex, 0 to 2 percent slopes, drained

Image source: ESRI Topographic Basemap
Soil data source: United States Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS), 2010

N

0 0.5 1
Miles

URS Corp - Oakland CA - K:\Arc Path\ L:\Projects\VTA_US101_ExpressLn\PaloAlto_Morgan\Hill_28645266\Maps\MXD\Wetland Delineation\Figure 2_11x17_Soils.mxd

Caltrans
US 101 Express Lanes

Figure 2, Sheet 2 of 5
Soils in the BSA

Biological Study Area (BSA)

Streams

Soil types of the BSA

- 101 - Urban land, 0 to 2 percent slopes, basins
- 130 - Urban land-Still complex, 0 to 2 percent slopes
- 131 - Urban land-Elpaloalto complex, 0 to 2 percent slopes
- 145 - Urban land-Hangerone complex, 0 to 2 percent slopes, drained
- 146 - Hangerone clay loam, drained, 0 to 2 percent slopes
- 160 - Urban land-Clear Lake complex, 0 to 2 percent slopes
- 165 - Urban land-Campbell complex, 0 to 2 percent slopes, protected
- 166 - Campbell silt loam, 0 to 2 percent slopes, protected
- 171 - Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded
- 173 - Canine Creek-Elder complex, 0 to 2 percent slopes, rarely flooded
- 174 - Urban land-Canine Creek-Elder complex, 0 to 2 percent slopes
- 180 - Urban land-Newpark complex, 0 to 2 percent slopes
- 302 - Montara-Rock outcrop complex, 30 to 50 percent slopes
- 303 - Montara-Santerhill complex, 15 to 30 percent slopes
- 317 - Urban land-Cropley complex, 0 to 2 percent slopes

Image source: ESRI Topographic Basemap
Soil data source: United States Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS), 2010

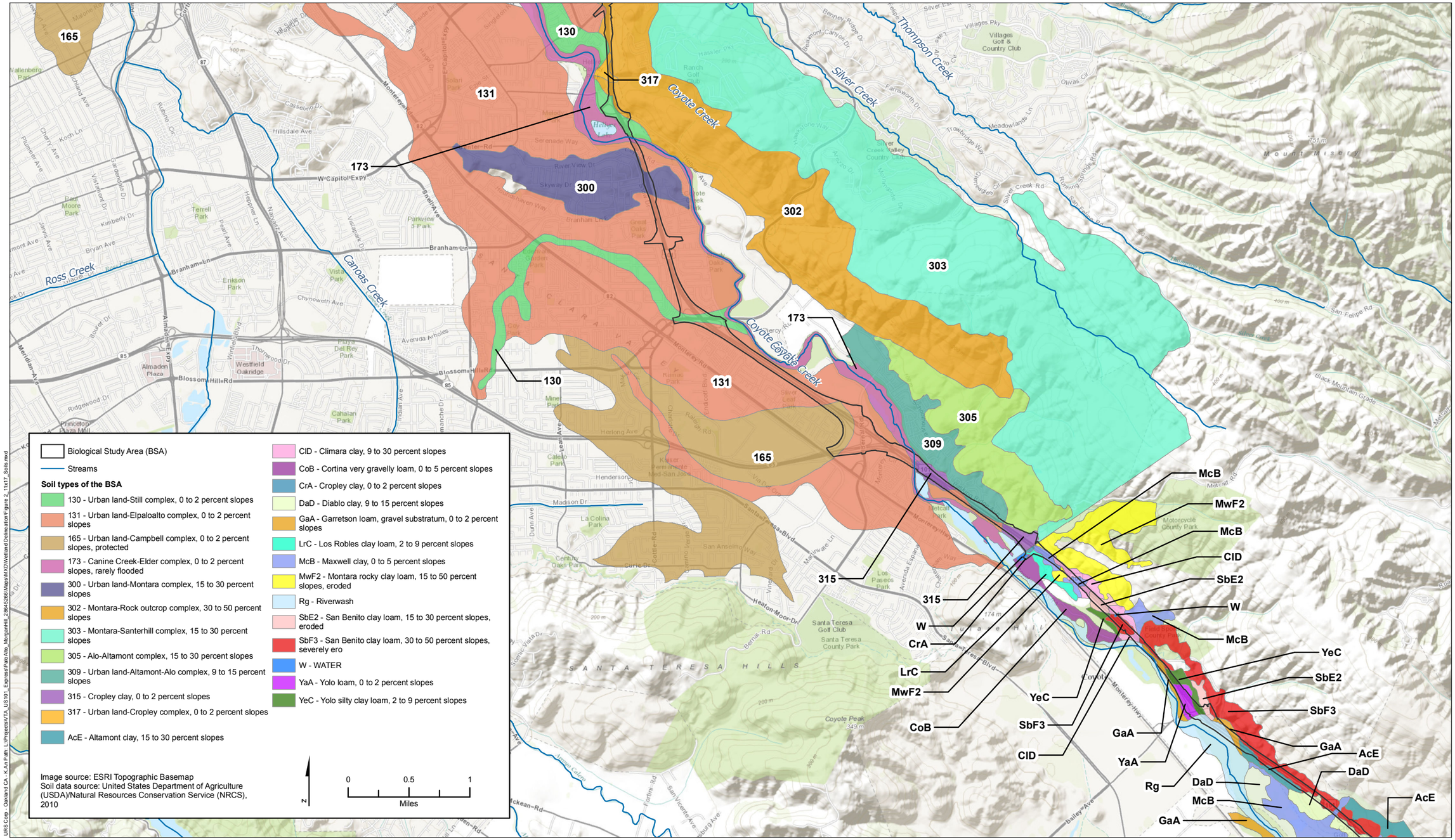
N

0 0.5 1
Miles

URS Corp - Oakland CA - K:\Arc\Path - L:\Projects\VTA_US101 - Express\Palo Alto_Morgan Hill_2864268\Maps\MXD\Wetland Delineation\Figure 2_11x17_Soils.mxd

Caltrans
US 101 Express Lanes

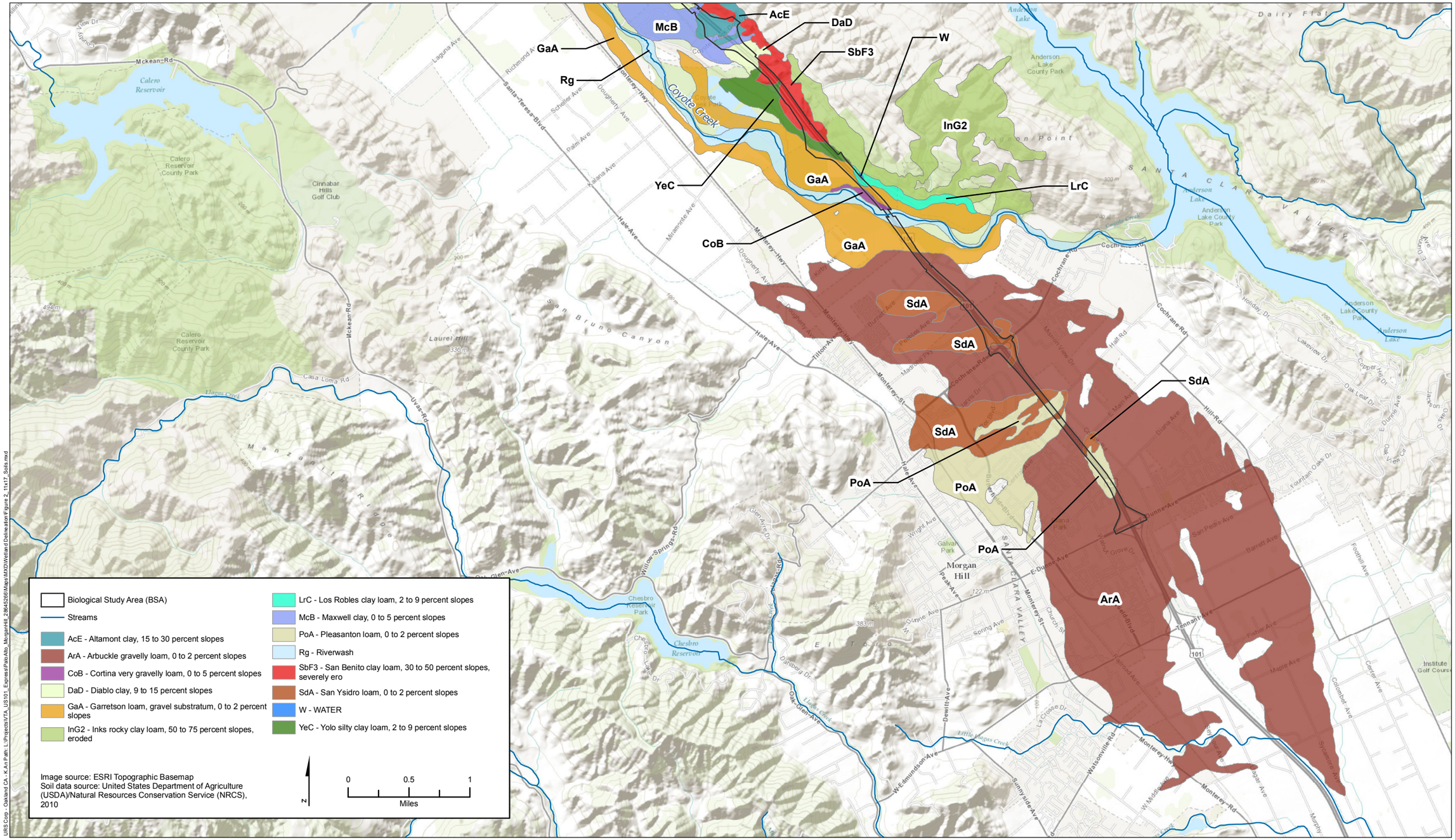
Figure 2, Sheet 3 of 5
Soils in the BSA



URS Corp - Oakland CA - K:\Arc\Path: L:\Projects\VTA_US101_Express\PaloAlto_MorganHill_28645266\Maps\MXD\Wetland Delineation\Figure 2_11x17_Soils.mxd

Caltrans
US 101 Express Lanes

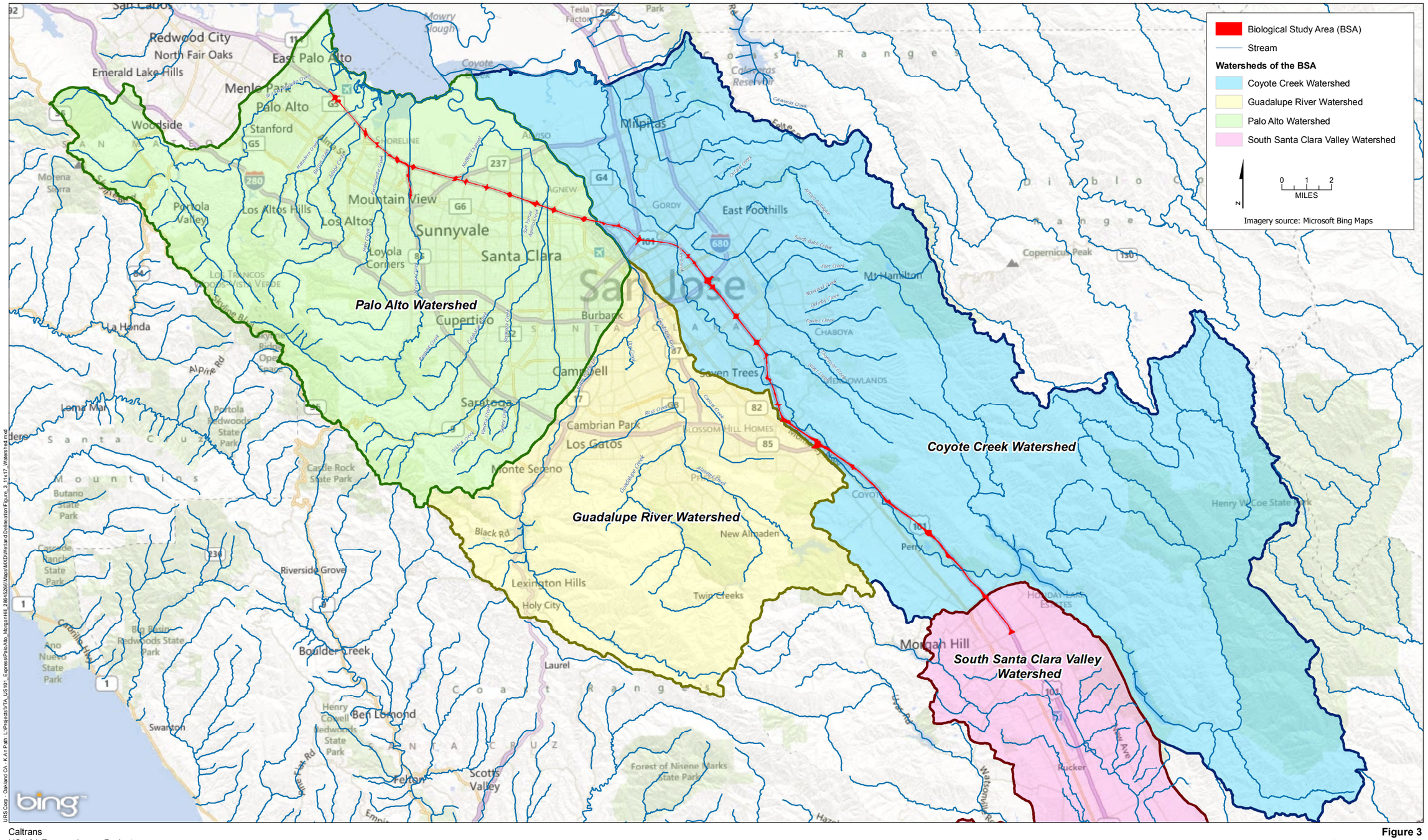
Figure 2, Sheet 4 of 5
Soils in the BSA



URS Corp - Oakland CA - K:\Jn\Path - L:\Projects\VTA_US101_Express\PaloAlto_Morganhill_2864526\Maps\MXD\Wetland Delineation\Figure 2_11x17_Soils.mxd

Caltrans
US 101 Express Lanes

Figure 2, Sheet 5 of 5
Soils in the BSA



URS Corp - Oakland CA - K:\Active Path - L:\Projects\VTA_US101 - Express\PaloAlto_Morgan\Mxd_2\8452661\Maps\MXD\Wetland Delineation\Figure_3_11x17_Watershed.mxd

Caltrans
US 101 Express Lanes Project

Figure 3
Watersheds and Streams in the BSA

3 Results

3.1 Summary of Results

The total area of potential waters of the U.S. delineated within the BSA is 4.27 acres (185,737 square feet). Of this acreage, 3.24 acres (140,665 square feet) are potential other waters of the U.S., and 1.03 acres (45,072 square feet) are potential wetlands. In addition 0.09 acre (3,570 square feet) of potential non-jurisdictional (isolated) wetlands were delineated in the BSA and two historic features, as indicated on old maps, were investigated and determined to be no longer present in the BSA.

The BSA contains 6,740 linear feet of culverts or other engineered structures that are either culverted throughout the length of the BSA or were inaccessible due to highway/roadway infrastructure within the BSA. Although these features were not delineated in the field due to lack of access and lack of entry permission (most extended far beyond the boundaries of the BSA), the features convey potentially jurisdictional waters of the U.S. and are therefore potentially jurisdictional.

Two historic waters of the United States (HWUS) were identified within the BSA. Although these features are defined as water bodies that are depicted on historic topographic maps and the NHD they were not identifiable as such during the field surveys.

Table 4 summarizes the area and length of each potential jurisdictional waters of the U.S. delineated in the BSA. Wetland features are identified by the water feature in which they are found, where applicable. All waters of the U.S. and potential non-jurisdictional features are mapped in Appendix A at a scale of 1 inch equals 500 feet and a scale of 1 inch equals 200 feet.

Table 4: Potentially Jurisdictional Waters of the United States in the Biological Study Area

Feature Type	Length (feet)	Delineated Area (Square feet[1])	Delineated Area (Acres[2])	Map Sheet Number
Other Waters of the U.S.				
CWUS-1 Permanente Creek – culverted water	209	2,487	0.06	Sheets 5 and 43
WUS-1 Coyote Creek	186	17,845	0.41	Sheets 36 and 37 and 69
WUS-2 Ephemeral drainage	506	1,533	0.04	Sheets 36 and 68
WUS-3 Intermittent drainage – canal	621	3,447	0.08	Sheets 35 and 36 and 68

Table 4: Potentially Jurisdictional Waters of the United States in the Biological Study Area

Feature Type	Length (feet)	Delineated Area (Square feet[1])	Delineated Area (Acres[2])	Map Sheet Number
WUS-4 Intermittent stream	37	140	<0.01	Sheets 34 and 66
WUS-5 Ephemeral drainage	72	111	<0.01	Sheets 34 and 65
WUS-6 Ephemeral drainage	54	67	<0.01	Sheets 34 and 65
WUS-7 Ephemeral drainage	51	159	<0.01	Sheets 34 and 65
WUS-8 Ephemeral drainage	34	144	<0.01	Sheets 34 and 65
WUS-9 Ephemeral drainage	44	104	<0.01	Sheets 34 and 65
WUS-10 Ephemeral drainage	25	188	<0.01	Sheets 34 and 65
WUS-11 Intermittent stream	217	369	0.01	Sheets 33 and 63
WUS-12 Coyote Creek	362	16,124	0.37	Sheets 29 and 58
WUS-13 Ephemeral drainage to Coyote Creek	153	1,113	0.03	Sheets 29 and 58
WUS-14 Coyote Creek	251	13,642	0.31	Sheets 24 and 57
WUS-15 Intermittent drainage ditch	30	85	<0.01	Sheets 24 and 56
WUS-16 Ephemeral drainage ditch	79	46	<0.01	Sheets 24 and 56
WUS-17 Silver Creek	165	8,643	0.20	Sheets 16 and 53
WUS-18 Coyote Creek	212	9,777	0.22	Sheets 16 and 53
WUS-19 Guadalupe River	292	23,897	0.55	Sheets 13 and 51
WUS-20 San Tomas Aquino Creek	183	6,055	0.14	Sheets 12 and 50
WUS-21 Calabazas Creek – intermittent drainage canal – concrete	221	3,270	0.08	Sheets 11 and 49
WUS-22 Mathilda Channel	169	2,105	0.05	Sheets 9 and 47
WUS-23 Stevens Creek	256	7,238	0.17	Sheets 7 and 46
WUS-24 Stevens Creek	236	5,848	0.13	Sheets 6 and 44
WUS-25 Intermittent stream	29	242	0.01	Sheets 35 and 67
WUS-26 Intermittent stream	51	691	0.02	Sheets 35 and 67
WUS-27 Ephemeral drainage	45	237	0.01	Sheets 34 and 66
WUS-28 Ephemeral drainage	94	356	0.01	Sheets 35 and 67
WUS-29 Ephemeral drainage	82	287	0.01	Sheets 35 and 67
WUS-30 Ephemeral drainage	22	106	<0.01	Sheets 33 and 64
WUS-31 Intermittent stream	53	295	0.01	Sheets 32 and 62
WUS-32 Ephemeral Drainage	37	105	<0.01	Sheets 36 and 69
WUS-33 Intermittent stream	23	91	<0.01	Sheets 34 and 66
WUS-34 Matadero Creek	162	6,488	0.15	Sheets 2 and 41
WUS-35 Adobe Creek	166	6,596	0.15	Sheets 3 and 42
WUS-36 Permanente Creek	56	734	0.02	Sheets 5 and 43
Subtotal	**5,485**	**140,665**	**3.24**	
Wetlands of the U.S.				
WWUS-1 Cattail-willow wetland – in drainage ditch	85	933	0.02	Sheets 36 and 68
WWUS-2 Cattail wetland – in canal	67	640	0.01	Sheets 36 and 68
WWUS-3 Cattail wetland – perennial in-stream	170	1,588	0.04	Sheets 34 and 66
WWUS-4 Cattail wetland – in-stream	12	106	<0.01	Sheets 33 and 63
WWUS-5 Freshwater marsh –	151	2,753	0.06	Sheets 33 and 63

Table 4: Potentially Jurisdictional Waters of the United States in the Biological Study Area

Feature Type	Length (feet)	Delineated Area (Square feet[1])	Delineated Area (Acres[2])	Map Sheet Number
perennial				
WWUS-6 Coyote Creek – perennial in-stream	56	2,077	0.05	Sheets 29 and 58
WWUS-7 Coyote Creek – perennial in-stream	531	19,357	0.44	Sheets 29 and 58
WWUS-8 Cattail-willow wetland – drains to Coyote Creek – in ditch	899	8,612	0.20	Sheets 23 and 55
WWUS-9 Cattail-willow wetland – in ditch	37	438	0.01	Sheets 24 and 56
WWUS-10 Seasonal bulrush wetland – to Guadalupe River	34	660	0.02	Sheets 13 and 51
WWUS-11 Cattail-bulrush wetland – perennial in-stream – Guadalupe	60	1,825	0.04	Sheets 13 and 51
WWUS-12 Perennial freshwater wetland	714	5,930	0.14	Sheets 29 and 59
WWUS-13 Perennial freshwater cattail wetland	18	153	<0.01	Sheets 29 and 59
Subtotal	**2,834**	**45,072**	**1.03**	
Total Potential Waters and Wetlands of the U.S.	**8,319**	**185,737**	**4.27**	

Source: URS Field Survey 2012

1. Square feet are rounded to the nearest foot
2. Acres are rounded to the nearest hundredth of an acre

CWUS = culverted waters of the United States
WUS = other waters of the United States
WWUS = wetland waters of the United States

Table 5 provides the lengths of the potentially jurisdictional culverted waters of the U.S. in the BSA that were not delineated. All culverted waters in the BSA are shown on the maps in Appendix A.

Table 5: Potentially Jurisdictional Culverted Waters of the United States in the Biological Study Area

Feature Type	Length (feet)[1]	Appendix A Map Sheet Numbers[2]
CWUS-2 Culverted Waters	213.17	Sheets 7 and 45
CWUS-3 Culverted Waters	199.59	Sheets 9 and 47
CWUS-4 Culverted Waters	260.65	Sheets 31 and 61
CWUS-5 Culverted Waters	878.95	Sheets 32 and 62
CWUS-6 Culverted Waters	742.96	Sheets 33 and 63
CWUS-7 Culverted Waters	322.56	Sheets 33 and 64
CWUS-8 Culverted Waters	266.97	Sheets 34 and 65
CWUS-9 Culverted Waters	325.87	Sheets 34 and 65
CWUS-10 Culverted Waters	342.84	Sheets 34 and 65
CWUS-11 Culverted Waters	955.80	Sheets 34 and 66

Table 5: Potentially Jurisdictional Culverted Waters of the United States in the Biological Study Area

Feature Type	Length (feet)[1]	Appendix A Map Sheet Numbers[2]
CWUS-12 Culverted Waters	316.62	Sheets 35 and 67
CWUS-13 Culverted Waters	331.78	Sheets 35 and 67
CWUS-14 Culverted Waters	353.01	Sheets 35 and 67
CWUS-15 Culverted Waters	443.84	Sheets 36 and 68
CWUS-16 Culverted Waters	247.95	Sheets 36 and 68
CWUS-17 Culverted Waters	280.71	Sheets 36 and 69
CWUS-18 Culverted Waters	257.14	Sheets 10 and 48
Total Potential Culverted Waters of the United States	**6,740.41**	–

Source: USGS 2013

1. The length in linear feet for each feature was estimated based on aerial maps and the NHD.
2. In Appendix A, there are two sets of map sheets that show each feature; the first sheet number listed in Table 5 shows the feature at a scale of 1 inch equals 500 feet, and the second sheet number shows the feature at a scale of 1 inch equals 100 feet (a more detailed view).

CWUS = Culverted water of the United States

Table 6 provides the lengths of the potential non-jurisdictional wetlands in the BSA that were delineated. All potentially non-jurisdictional wetlands in the BSA are shown on the maps in Appendix A.

Table 6: Potentially Non-Jurisdictional Wetlands in the Biological Study Area

Feature Type	Length (feet)	Delineated Area (Square feet[1])	Delineated Area (Acres[2])	Appendix A Map Sheet Numbers[3]
NJ-WL-1 Cattail wetland – isolated	199	841	0.02	Sheets 24 and 56
NJ-WL-2 Seasonal wetland – drainage ditch – isolated	66	261	0.01	Sheets 24 and 56
NJ-WL-3 Cattail-bulrush wetland ditch – isolated	141	789	0.02	Sheets 18 and 54
NJ-WL-4 Seep-fed cattail wetland – isolated	228	1,285	0.03	Sheets 15 and 52
NJ-WL-5 Seep-fed cattail wetland – isolated	75	394	0.01	Sheets 15 and 52
Total Potential Non-Jurisdictional Waters and Wetlands of the U.S.	**709**	**3,570**	**0.09**	

Source: URS Field Survey 2012

1. Square feet are rounded to the nearest foot
2. Acres are rounded to the nearest hundredth of an acre
3. In Appendix A, there are two sets of map sheets that show each feature; the first sheet number listed in Table 5 shows the feature at a scale of 1 inch equals 500 feet, and the second sheet number shows the feature at a scale of 1 inch equals 100 feet (a more detailed view).

CWUS = culverted waters of the United States
WUS = other waters of the United States
WWUS = wetland waters of the United States

3.2 Potential Jurisdictional Waters of the United States

Potential jurisdictional waters of the U.S. in the BSA include perennial, intermittent, and ephemeral drainages and wetlands. The estimated areas of the delineated potential jurisdictional waters of the U.S. are listed in Table 4. The estimated lengths of the potentially jurisdictional culverted waters of the U.S. that were not delineated are listed in Table 5. All estimates of resources presented in this report are subject to change pending USACE official review and final jurisdictional determination.

3.2.1 Other Waters of the United States

3.2.1.1 Features Delineated in the Field

Thirty-six other waters of the U.S. features equaling 3.24 acres were mapped in the BSA. These include culverted other waters that were measured in the field.

Culverted Water –Permanente Creek (CWUS-1): This culverted water (0.06 acre, 2,487 square feet) is a 12-foot-square box culvert that conveys Permanente Creek under US 101 (see Appendix A, sheets 5 and 43; Appendix C, photograph 1).

Coyote Creek (WUS-1): This perennial stream (0.41 acre, 17,845 square feet) is the southernmost of four crossings of US 101 over Coyote Creek within the BSA. A Fremont cottonwood (*Populus fremontii*) riparian forest shades the creek at this location (see Appendix A, sheets 36, 37 and 69; Appendix C, photographs 2 and 3).

Ephemeral Drainage (WUS-2): This ephemeral drainage (0.04 acre, 1,533 square feet) is west of US 101 and WWUS-1 north of the US 101/Cochrane Road interchange and drains water to Coyote Creek (see Appendix A, sheets 36 and 68).

Intermittent Drainage – Canal (WUS-3): This intermittent drainage (0.08 acre, 3,447 square feet) carries water northward along the west side of the Santa Clara Valley. In the BSA, the canal is west of US 101 and north of the Cochrane Road interchange (see Appendix A, sheets 35, 36 and 68).

Intermittent Stream (WUS-4): This intermittent stream (<0.01 acre, 140 square feet) is at the east end of a drainage on the east side of the US 101/Coyote Creek Golf Drive interchange (see Appendix A, sheets 34 and 66).

Ephemeral Drainage (WUS-5): This ephemeral drainage (<0.01 acre, 111 square feet) confluences with WUS-6 on the east side of US 101 north of the US 101/Coyote Creek Golf Drive interchange. Along the banks of the drainage is Mt. Hamilton fountain thistle (*Cirsium fontinale*) (see Appendix A, sheets 34 and 65).

Ephemeral Drainage (WUS-6): This ephemeral drainage (<0.01 acre, 67 square feet) is on the east side of US 101 north of the US 101/Coyote Creek Golf Drive interchange. The stream drains the hills east of the BSA (see Appendix A, sheets 34 and 65).

Ephemeral Drainage (WUS-7): This ephemeral drainage (<0.01 acre, 159 square feet) is on the west side of US 101 and east of the US 101/Coyote Creek Golf Drive interchange and is a continuation of WUS-6 (see Appendix A, sheets 34 and 65).

Ephemeral Drainage (WUS-8): This ephemeral drainage (<0.01 acre, 144 square feet) is on the west side of US 101 east of the US 101/Coyote Creek Golf Drive interchange. A coast live oak (*Quercus agrifolia*) riparian woodland shades this drainage (see Appendix A, sheets 34 and 65).

Ephemeral Drainage (WUS-9): This ephemeral drainage (<0.01 acre, 104 square feet) is on the east side of US 101 and is a continuation of WUS-8 on the west side of US 101, north of Coyote Creek Golf Drive. The stream drains the hills east of the BSA (see Appendix A, sheets 34 and 65; Appendix C, photograph 4).

Ephemeral Drainage (WUS-10): This ephemeral drainage (<0.01 acre, 188 square feet) is on the west side of US 101 near the Coyote Creek Golf Course, north of the US 101/Coyote Creek Golf Drive interchange (see Appendix A, sheets 34 and 65).

Intermittent Stream (WUS-11): This intermittent stream (0.01 acre, 369 square feet) on the east side of US 101 south of Bailey Avenue connects two wetlands: WWUS-4 and WWUS-5 (see Appendix A, sheets 33 and 63).

Coyote Creek (WUS-12): This perennial stream (0.37 acre, 16,124 square feet) flows under US 101 at the US 101/SR 85 interchange in San Jose. The riparian corridor on either side of the bridge contained Fremont cottonwood, red willow (*Salix laevigata*), and coast live oak (see Appendix A, sheets 29 and 58; Appendix C, photographs 5 and 6).

Ephemeral Drainage to Coyote Creek (WUS-13): This feature (0.03 acre, 1,113 square feet) drains the west side of Coyote Creek just east of the US 101 overcrossing at Bernal Road. The channel lies within the floodplain of Coyote Creek. A canopy of Fremont cottonwood trees and arroyo willows (*Salix lasiolepis*) shade this drainage (see Appendix A, sheets 29 and 58; Appendix C, photograph 7).

Coyote Creek (WUS-14): This perennial stream (0.31 acre, 13,642 square feet) crosses under a US 101 four-span bridge and includes riparian trees such as Fremont cottonwoods and arroyo willows (see Appendix A, sheets 24 and 57; Appendix C, photographs 8 and 9).

Intermittent Drainage Ditch (WUS-15): This intermittent ditch (<0.01 acre, 85 square feet) drains water between two wetland areas, WWUS-8 and WWUS-9, in a ditch on the southbound side of US 101 north of Hellyer Avenue (see Appendix A, sheets 24 and 56).

Ephemeral Drainage Ditch (WUS-16): This ephemeral ditch (<0.01 acre, 46 square feet) is on the southbound side of US 101 north of Hellyer Avenue (see Appendix A, sheets 24 and 56).

Silver Creek (WUS-17): This channelized, intermittent stream (0.20 acre, 8,643 square feet) flows through the BSA north of the McKee Road interchange (see Appendix A, sheets 16 and 53; Appendix C, photograph 10).

Coyote Creek (WUS-18): This perennial stream (0.22 acre, 9,777 square feet) crosses US 101 south of the East Taylor Street/Mabury Road overcrossing. The creek has a Fremont cottonwood riparian forest along either side of the overcrossing (see Appendix A, sheets 16 and 53; Appendix C).

Guadalupe River (WUS-19): This perennial stream (0.55 acre, 23,897 square feet) crosses US 101 in a concrete and riprap-armored channel just north of the SR 87 interchange under a four-span bridge (see Appendix A, sheets 13 and 51; Appendix C, photographs 11 and 12).

San Tomas Aquino Creek (WUS-20): This perennial stream (0.14 acre, 6,055 square feet) flows under US 101 in a straight concrete channel between Great America Parkway and San Tomas Expressway (see Appendix A, sheets 12 and 50; Appendix C, photograph 13).

Calabazas Creek – Intermittent Drainage Canal – Concrete (WUS-21): This intermittent drainage (0.08 acre, 3,270 square feet) flows in a straight concrete channel underneath US 101 between Lawrence Expressway and Great America Parkway (see Appendix A, sheets 11 and 49).

Mathilda Channel (WUS-22): This intermittent drainage (0.05 acre, 2,105 square feet) flows in a straight concrete channel underneath US 101 east of the SR 237 interchange (see Appendix A, sheets 9 and 47; Appendix C, photograph 14).

Stevens Creek (WUS-23): This perennial stream (0.17 acre, 7,238 square feet) crosses under SR 85 south of the US 101 interchange in Mountain View in a concrete-lined channel (see Appendix A, sheets 7 and 46).

Stevens Creek (WUS-24): This perennial stream (0.13 acre, 5,848 square feet) crosses U.S. 101 in a concrete channel just south of the SR 85 interchange (see Appendix A, sheets 6 and 44).

Intermittent Stream (WUS-25): This intermittent stream (0.01 acre, 242 square feet) is on the west side of US 101 south of the US 101/Coyote Creek Golf Drive interchange. The stream is shaded by arroyo willow trees (see Appendix A, sheets 35 and 67).

Intermittent Stream (WUS-26): This intermittent stream (0.02 acre, 691 square feet) is on the west side of US 101 south of the US 101/Coyote Creek Golf Drive interchange. Mt. Hamilton fountain thistle occurs in this drainage (see Appendix A, sheets 35 and 67; Appendix C, photograph 15).

Ephemeral Drainage (WUS-27): This ephemeral drainage (0.01 acre, 237 square feet) is on the east side of US 101 south of the US 101/Coyote Creek Golf Drive interchange. Mt Hamilton fountain thistle occurs along the drainage (see Appendix A, sheets 34 and 66; Appendix C, photographs 16 and 17).

Ephemeral Drainage (WUS-28): This ephemeral drainage (0.01 acre, 356 square feet) is on the east side of the BSA south of the US 101/ Coyote Creek Golf Drive interchange (see Appendix A, sheets 35 and 67; Appendix C, photograph 18).

Ephemeral Drainage (WUS-29): This ephemeral drainage (0.01 acre, 287 square feet) is on the west side of US 101 (continuation of WUS-28) south of the US 101/ Coyote Creek Golf Drive interchange (see Appendix A, sheets 35 and 67).

Ephemeral Drainage (WUS-30): This ephemeral drainage (<0.01 acre, 106 square feet) is at the end of a culvert on the west side of US 101 near the Coyote Creek Golf Course, north of the US 101/Coyote Creek Golf Drive interchange (see Appendix A, sheets 33 and 64).

Intermittent Stream (WUS-31): This intermittent stream (0.01 acre, 295 square feet) drains the hills to the east of the BSA south of the US 101/Bailey Avenue interchange and enters a culvert east of US 101. A Fremont cottonwood riparian forest shades the stream (see Appendix A, sheets 32 and 62; Appendix C, photograph 19).

Ephemeral Drainage (WUS-32): This ephemeral drainage (<0.01 acre, 105 square feet) is on the west side of US 101 north of the US 101/Cochrane Road interchange (see Appendix A, sheets 36 and 69).

Intermittent Stream (WUS-33): This intermittent stream (<0.01 acre, 91 square feet) is on the west end of a drainage on the east side of the US 101/Coyote Creek Golf Drive interchange. Arroyo willows shaded the drainage (see Appendix A, sheets 34 and 66).

Matadero Creek (WUS-34): This perennial stream (0.15 acre, 6,488 square feet) flows through the BSA in an armored channel south of Oregon Expressway (see Appendix A, sheets 2 and 41).

Adobe Creek (WUS-35): This perennial stream (0.15 acre, 6,596 square feet) crosses the BSA in a concrete channel north of the San Antonio Road interchange (see Appendix A, sheets 3 and 42).

Permanente Creek (WUS-36): This perennial stream (0.02 acre, 734 square feet) is south of the Amphitheatre Parkway interchange and is concrete lined on both sides of US 101 (see Appendix A, sheets 5 and 43).

3.2.1.2 Features Delineated Based on Aerial Interpretation of Maps and the NHD

Culverted Water (CWUS-2): This culverted water (213.17 linear feet) flows under SR 85 between Moffett Boulevard and Middlefield Road (see Appendix A, sheets 7 and 45).

Culverted Water (CWUS-3): This culverted water (199.59 linear feet) flows under US 101 just south of WUS-22 (see Appendix A, sheets 9 and 47).

Culverted Water (CWUS-4): This culverted water (260.65 linear feet) flows under US 101 at Coyote Ranch Road (see Appendix A, sheets 31 and 61).

Culverted Water (CWUS-5): This culverted water (878.95 linear feet) is east of the Bailey Avenue overcrossing where an unnamed tributary to Coyote Creek flows along the east side of US 101 (see Appendix A, sheets 32 and 62).

Culverted Water (CWUS-6): This culverted water (742.96 linear feet) is south of the Bailey Avenue overcrossing where an unnamed tributary to Coyote Creek flows under US 101 (see Appendix A, sheets 33 and 63).

Culverted Water (CWUS-7): This culverted water (322.56 linear feet) is south of the Bailey Avenue overcrossing where an unnamed tributary to Coyote Creek flows under US 101 (see Appendix A, sheets 33 and 64).

Culverted Water (CWUS-8): This culverted water (266.97 linear feet) is south of the Bailey Avenue overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WUS-10 and the upstream culvert opening that is located outside of the BSA (see Appendix A, sheets 34 and 65).

Culverted Water (CWUS-9): This culverted water (325.87 linear feet) is south of the Bailey Avenue overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WUS-8 and WUS-9 (see Appendix A, sheets 34 and 65).

Culverted Water (CWUS-10): This culverted water (342.84 linear feet) is south of the Bailey Avenue overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between the confluence of WUS-5 and WUS-6 and WUS-7 (see Appendix A, sheets 34 and 65).

Culverted Water (CWUS-11): This culverted water (955.80 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WUS-27 and the downstream culvert opening that is located outside of the BSA (see Appendix A, sheets 34 and 66).

Culverted Water (CWUS-12): This culverted water (316.62 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WUS-28 and WUS-29 (see Appendix A, sheets 35 and 67).

Culverted Water (CWUS-13): This culverted water (331.78 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote

Creek flows under US 101. It is located between WUS-26 and the upstream culvert opening that was not delineated in the BSA (see Appendix A, sheets 35 and 67). Based on field observations, there were no distinguishable features that could be delineated adjacent to the culvert. It appeared the undelineated culverted water collects sheet flow that is then culverted under US 101 and flows into Coyote Creek as an ephemeral drainage.

Culverted Water (CWUS-14): This culverted water (353.01 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WUS-25 and the upstream culvert opening that is located outside of the BSA (see Appendix A, sheets 35 and 67).

Culverted Water (CWUS-15): This culverted water (443.84 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WWUS-2 and the upstream culvert opening that is located outside of the BSA (see Appendix A, sheets 36 and 68).

Culverted Water (CWUS-16): This culverted water (247.95 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WWUS-1 and the upstream culvert opening that is located outside of the BSA (see Appendix A, sheets 36 and 68).

Culverted Water (CWUS-17): This culverted water (280.71 linear feet) is south of the Coyote Creek Golf Drive overcrossing where an unnamed tributary to Coyote Creek flows under US 101. It is located between WUS-32 and the upstream culvert opening that is located outside of the BSA (see Appendix A, sheets 36 and 69).

Culverted Water (CWUS-18): This culverted water (257.14 linear feet) flows under North Fair Oaks Avenue, north of the US 101/North Fair Oaks Avenue interchange (see Appendix A, Sheets 10 and 48).

3.2.2 Wetlands

Several freshwater wetlands are present within streams within the BSA. Wetland soils and hydrology for these in-stream wetlands were assumed based upon the presence of standing water within and around in-stream wetland vegetation. Additional wetlands are located in roadside ditches. Approximately 1.03 acres of potential jurisdictional wetlands occur in the BSA.

Cattail-Willow Wetland – In Drainage Ditch (WWUS-1): This wetland (0.02 acre, 933 square feet) is on the west side of US 101 north of the US 101/Cochrane Road interchange between a culvert and an ephemeral drainage (WUS-2). The wetland contained arroyo willow and cattails (*Typha latifolia*) (see Appendix A, sheets 36 and 68).

Cattail Wetland – In Canal (WWUS-2): This wetland (0.01 acre, 640 square feet) is in a canal on the west side of US 101 north of the US 101/Cochrane Road interchange. The wetland was composed of cattails and yellow monkey flower (*Mimulus guttatus*) (see Appendix A, sheets 36 and 68).

Cattail Wetland – Perennial In-Stream (WWUS-3): This wetland (0.04 acre, 1,588 square feet) is on the east side of the US 101/Coyote Creek Golf Drive interchange and connects intermittent streams WUS-4 and WUS-33 (see Appendix A, sheets 34 and 66**;** Appendix C, photographs 20 and 21).

Cattail Wetland – In-Stream (WWUS-4): This wetland (<0.01 acre, 106 square feet) is on the east side of US 101 south of the US 101/Bailey Avenue interchange. The wetland is dominated by cattails (see Appendix A, sheets 33 and 63; Appendix C, photograph 22).

Freshwater Marsh – Perennial (WWUS-5): This wetland (0.06 acre, 2,753 square feet) is composed of Mt. Hamilton fountain thistle, tall flatsedge (*Cyperus eragrostis*), and white hedge nettle (*Stachys albens*) and is on the east side of the BSA south of the US 101/Bailey Avenue interchange (see Appendix A, sheets 33 and 63; Appendix C, photograph 23).

Coyote Creek – Perennial In-Stream (WWUS-6): This wetland (0.05 acre, 2,077 square feet) is within the banks of Coyote Creek on the west side of US 101 south of the northbound US 101/westbound SR 85 interchange and is largely composed of red willow (see Appendix A, sheets 29 and 58).

Coyote Creek – Perennial In-Stream (WWUS-7): This wetland (0.44 acre, 19,357 square feet) is within the banks of Coyote Creek on the east side of US 101 south of the northbound US 101/westbound SR 85 interchange and is mostly composed of sandbar willow (*Salix exigua*) (see Appendix A, sheets 29 and 58; Appendix C, photograph 24).

Cattail-Willow Wetland – Drains to Coyote Creek – In Ditch (WWUS-8): This wetland (0.20 acre, 8,612 square feet) is located in a roadside ditch along the southbound side of US 101 north of Hellyer Avenue (see Appendix A, sheets 23 and 55).

Cattail-Willow Wetland – In Ditch (WWUS-9): This wetland (0.01 acre, 438 square feet) is in the roadside ditch along the southbound side of US 101 north of Hellyer Avenue and south of WWUS-8 (see Appendix A, sheets 24 and 56).

Seasonal Bulrush Wetland – To Guadalupe River (WWUS-10): This wetland (0.02 acre, 660 square feet) is on the north side of US 101 under the northbound SR 87 on-ramp to northbound US 101. The wetland is in a low spot between two culverts that connect to a stormwater system and to the Guadalupe River (see Appendix A, sheets 13 and 51).

Cattail-Bulrush Wetland – Perennial In-Stream –Guadalupe River – (WWUS-11): This wetland (0.04 acre, 1,825 square feet) is adjacent to Guadalupe River within the ordinary high water mark. The wetland was mostly composed of cattails and bulrush (*Scirpus americanus*) (see Appendix A, sheets 13 and 51).

Perennial Freshwater Wetland (WWUS-12): This wetland (0.14 acre, 5,930 square feet) occurs in a roadside ditch along the west side of US 101 near the Coyote Creek Freshwater Wetland Project just south of the US 101/SR 85 interchange in San Jose. The wetland consisted of a few inches of water covered with aquatic plants including common duckweed (*Lemna minor*), creeping water primrose (*Ludwigia peploides*), watercress (*Rorippa nasturtium-aquaticum*), and water fern (*Azolla filiculoides*). Along the edges of the wetland was nutsedge. This wetland is fed by runoff from the residential development on the east side of US 101, which flows in a culvert under US 101 to connect with the wetland (see Appendix A, sheets 29 and 59; Appendix C, photograph 26).

Perennial Freshwater Cattail Wetland (WWUS-13): This wetland (<0.01 acre, 153 square feet) is in a roadside ditch along the east side of US 101 near Metcalf Road. This wetland is fed by a drainage culvert from the nearby residential development. The wetland is composed of cattails (see Appendix A, sheets 29 and 59; Appendix C, photograph 27).

3.3 Potential Non-Jurisdictional Wetlands

Five wetland features in the BSA satisfy the three parameters (hydrology, hydric soils and hydric plant) described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) for jurisdictional wetlands (Table 6). However, based on evaluation in the field, these wetlands appear to lack a significant nexus to a TNW. Therefore, the features may be considered isolated and non-jurisdictional wetlands based on guidance from the Rapanos decision (see Section 1.3.2).

Cattail Wetland – Isolated (NJ-WL-1): This isolated wetland (0.02 acre, 841 square feet) is in a drainage ditch on the northbound side of US 101 north of Hellyer Avenue (see Appendix A, sheets 24 and 56).

Seasonal Wetland – Drainage Ditch – Isolated (NJ-WL-2): This isolated wetland (0.01 acre, 261 square feet) is in a drainage ditch within the loop ramp area of the southbound on-ramp to US 101 from Hellyer Avenue (see Appendix A, sheets 24 and 56).

Cattail-Bulrush Wetland Ditch – Isolated (NJ-WL-3): This isolated wetland (0.02 acre, 789 square feet) is in the median area of the US 101/I-280/I-680 interchange. The wetland is connected to a stormwater drain system with no apparent connection to a navigable water (see Appendix A, sheets 18 and 54).

Seep-fed Cattail Wetland – Isolated (NJ-WL-4): This isolated wetland (0.03 acre, 1,285 square feet) is in the median area between southbound US 101 and the southbound off-ramp to Oakland Road. The wetland is fed from seep water coming from the hillside (see Appendix A, sheets 15 and 52; Appendix C, photograph 27).

Seep-fed Cattail Wetland – Isolated (NJ-WL-5): This isolated wetland (0.01 acre, 394 square feet) is also in the median area between the southbound US 101 and the southbound off-ramp to Oakland Road. Like NJ-WL-4, this wetland is fed from seep water coming from the hillside (see Appendix A, sheets 15 and 52; Appendix C, photograph 28).

3.4 Historic Water Features

Two historic waters of the United States (HWUS) were identified within the BSA. Historic waters are defined as water bodies that are depicted on historic topographic maps and the NHD but were not identifiable as such during field surveys.

HWUS-1 was originally located east of the SR 85/US 101 interchange in San Jose (see Appendix A, sheets 29 and 58). Based on the NHD, it appears that this feature may have been an unnamed tributary to Coyote Creek. At present, there is no defined bed and bank at this location, and no indication of a channel. It appears that commercial development in the area may have altered topography and hydrology to such an extent that water no longer flows into or out of this area in a defined channel.

HWUS-2 was originally located northeast of the Metcalf Road overcrossing and flowed west through the BSA into Coyote Creek (see Appendix A, sheets 30 and 60). Based on an analysis of aerial photographs and the field survey, it appears this feature has been diverted outside of the BSA into a culvert, where it is conveyed southward.

3.5 Conclusion

Based upon the results of a delineation of waters of the U.S. in the project area, 4.27 acres of potentially jurisdictional waters of the U.S. were identified and mapped. This total includes 3.24 acres of potentially jurisdictional other waters of the U.S. and 1.03 acres of potentially jurisdictional wetlands that may fall under the jurisdiction of the USACE pursuant to Section 404 of the CWA. Approximately 0.09 acres of potentially non-jurisdictional wetlands were also identified and mapped in the BSA. The determination of these features as isolated and lacking a significant nexus with potentially jurisdictional features is documented on the Wetland Determination Forms included in Appendix B.

This page intentionally left blank

4 References

CSC (County of Santa Clara). 2010. Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan. Accessed January 20, 2012.

Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineers Waterways Experiment Station.

NRCS (Natural Resources Conservation Service). 1995a. WETS Table Documentation. Portland, OR. Available at: http://www.wcc.nrcs.usda.gov/climate/wets_doc.html.

NRCS 1995b. *Hydric Soils of California.*

NRCS. 2012. Online web soil survey http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

Reed, P.B. 1988. *National List of Plant Species That Occur in Wetlands: California (Region 0).* U.S. Fish and Wildlife Service Biology Report 88 (26.10). 135 pp.

USFWS (U.S. Fish and Wildlife Service). 1998. *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area*. Portland, Oregon. 330+ pp.

USACE (U.S. Army Corps of Engineers). 2007. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States. June 5.

USACE. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0),* ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USDA-NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2010. *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils.* Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric

Soils.Available at: ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/FieldIndicators_v7.pdf

USDA-SCS (U.S. Department of Agriculture–Soil Conservation Service). 1961. Soil Survey of Santa Clara and San Mateo County, California. U.S. Department of Agriculture, Washington, D.C.

USGS (U.S. Geological Survey in cooperation with the U.S. Environmental Protection Agency). 2008. National Hydrography Dataset (NHD).

USGS. 2013. The National Map Viewer 2.0. URL: http://viewer.nationalmap.gov/viewer/. Last updated May 2013.

Western Regional Climate Center. 2012. Monthly Precipitation Data for San Jose. Available at: http://www.wrcc.dri.edu.

Appendix A Potentially Jurisdictional Wetlands and Waters of the United States in the Biological Study Area

This appendix contains the following maps:

- Potentially Jurisdictional Wetlands and Waters of the United States in the BSA: The Index and Sheets 1 through 40 show the entire BSA and all of the wetlands and other waters of the U.S. at a scale of 1 inch equals 500 feet.
- Detail of Potentially Jurisdictional Wetlands and Waters of the United States in the BSA: Sheets 41 through 69 show the wetlands and other waters of the U.S. in the BSA at a scale of 1 inch equals 200 feet.

This page intentionally left blank

N

0 250 500

Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 1
Mapped Waters and Wetlands in the BSA

N

0 250 500

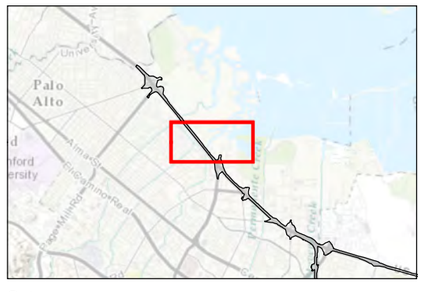
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 2
Mapped Waters and Wetlands in the BSA



N

0 250 500

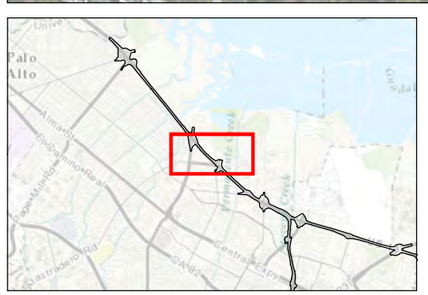
Feet

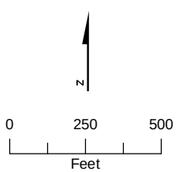
Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 3
Mapped Waters and Wetlands in the BSA





Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 4
Mapped Waters and Wetlands in the BSA

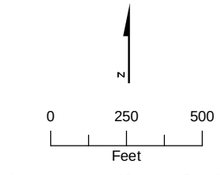
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 5
Mapped Waters and Wetlands in the BSA

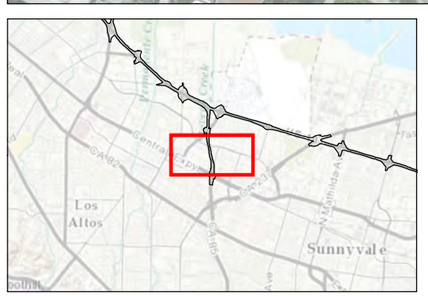


Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 6
Mapped Waters and Wetlands in the BSA



N

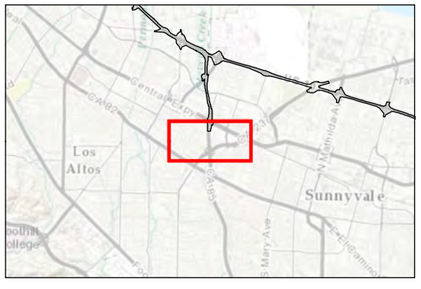
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 7
Mapped Waters and Wetlands in the BSA



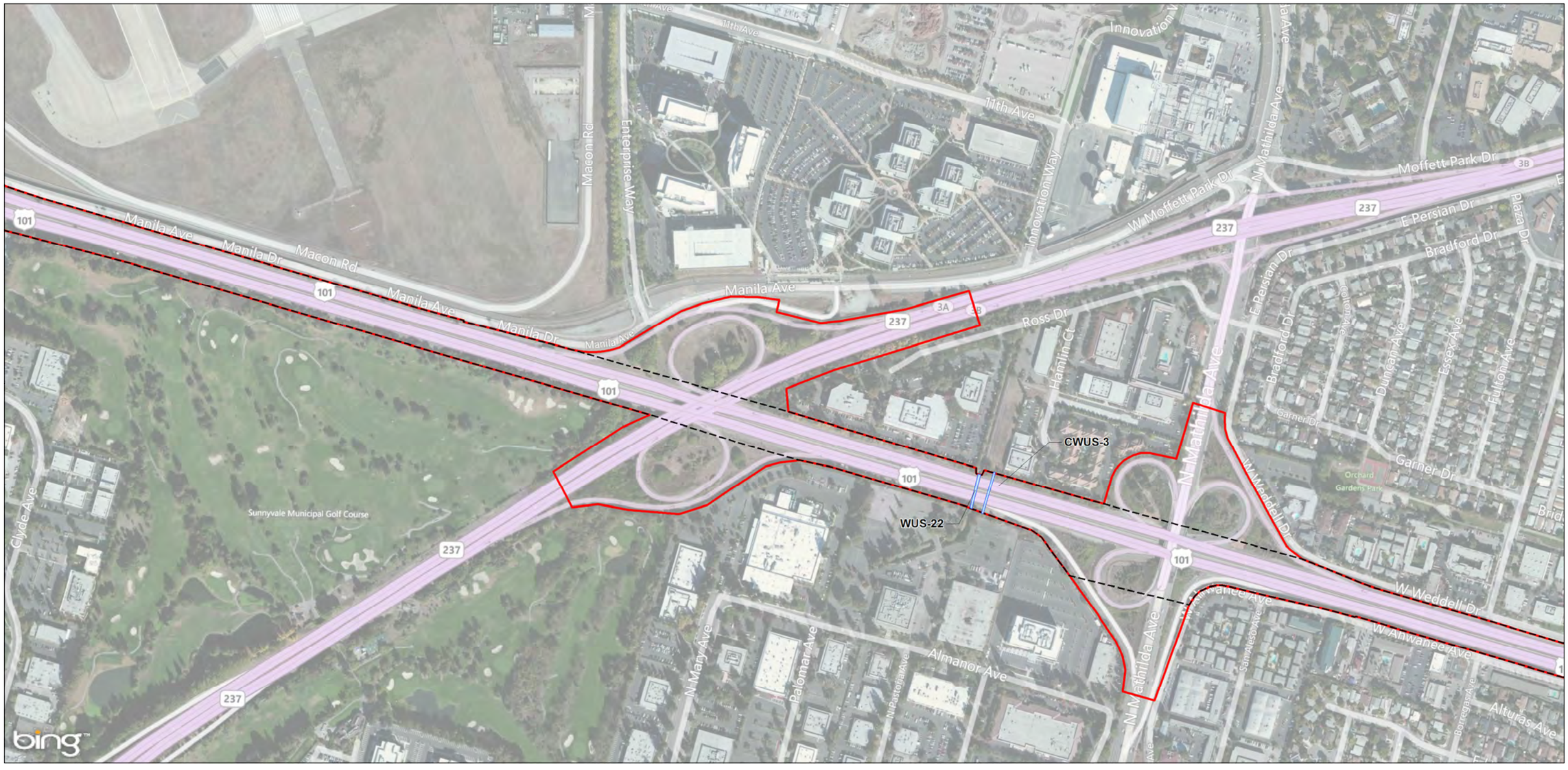
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 8
Mapped Waters and Wetlands in the BSA



N

0 250 500

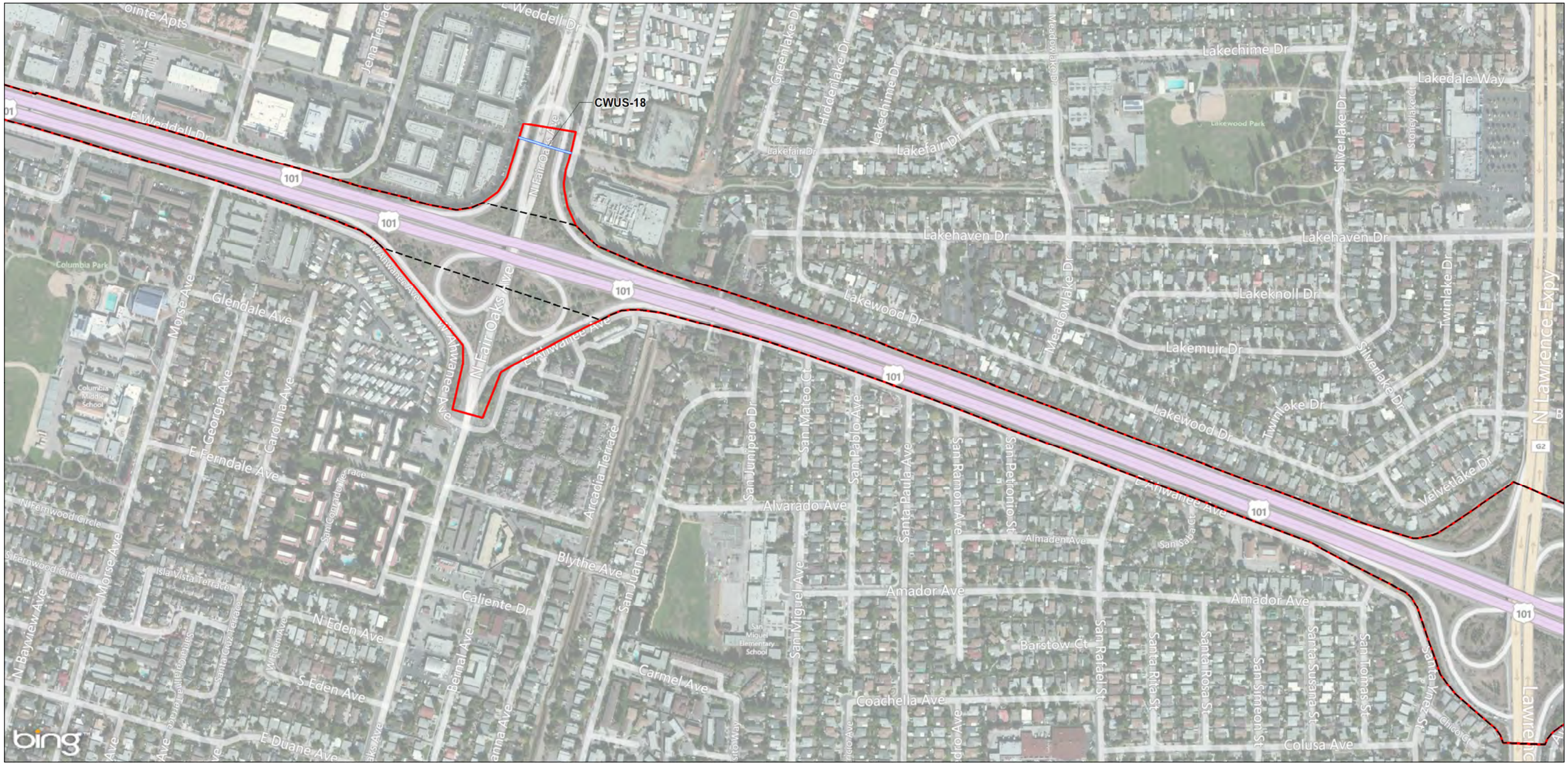
Feet

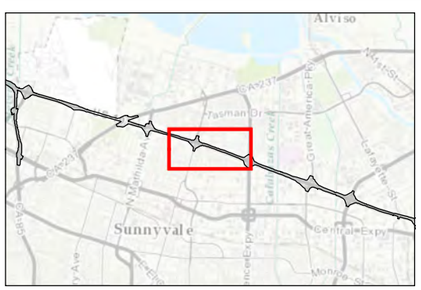
Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 9
Mapped Waters and Wetlands in the BSA





N

0 250 500

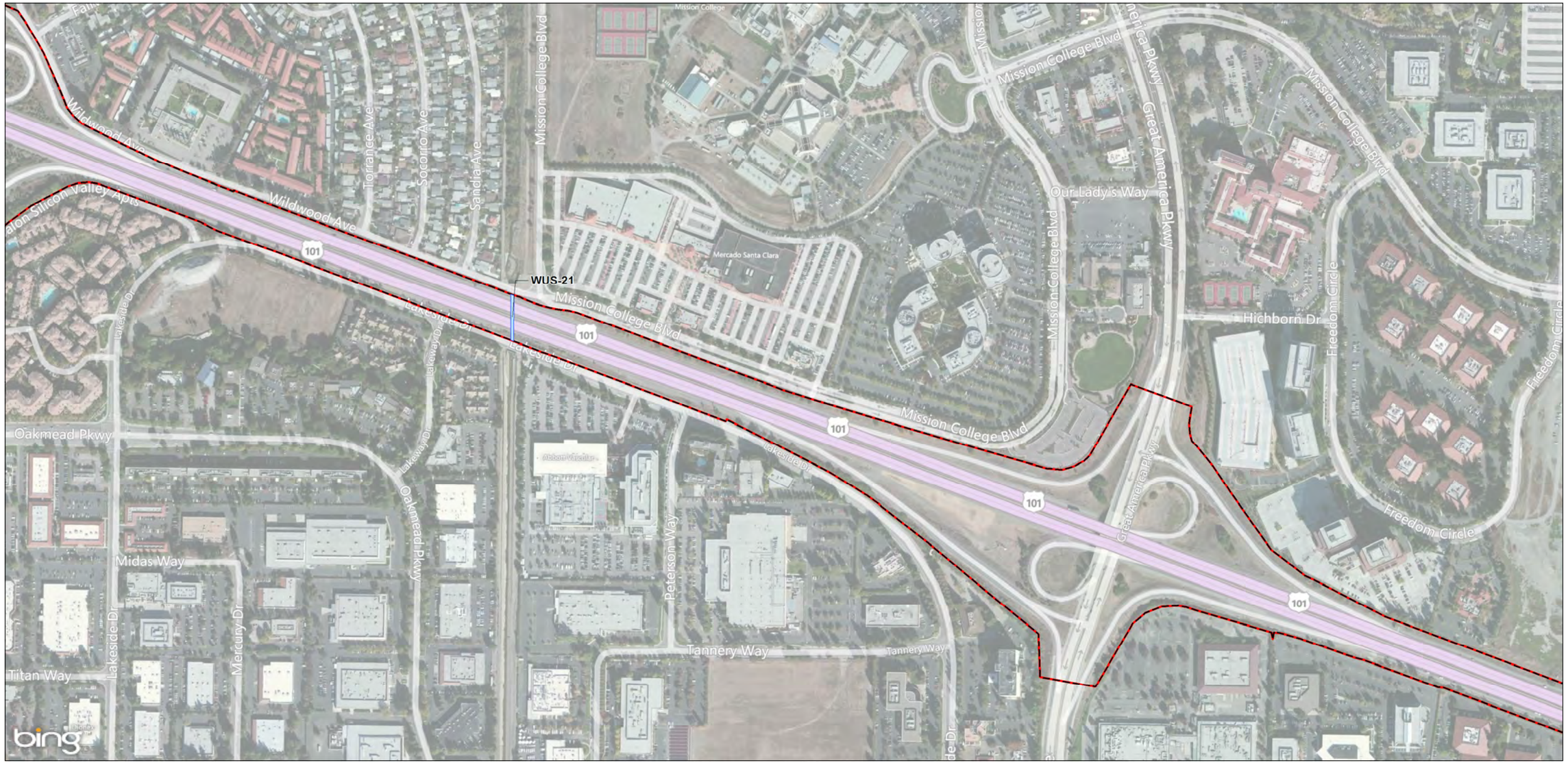
Feet

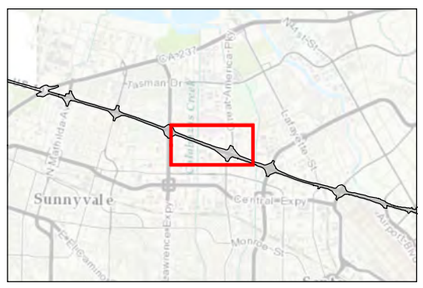
Imagery source: Microsoft Bing Maps

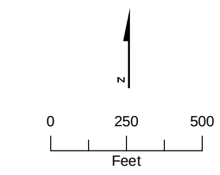
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 10
Mapped Waters and Wetlands in the BSA







Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 11
Mapped Waters and Wetlands in the BSA

Potentially jurisdictional other waters of the U.S.
Potentially jurisdictional wetland
Potentially non-jurisdictional wetland
Historic waters of the U.S.
Sample Points
Project Area
Biological Study Area (BSA)

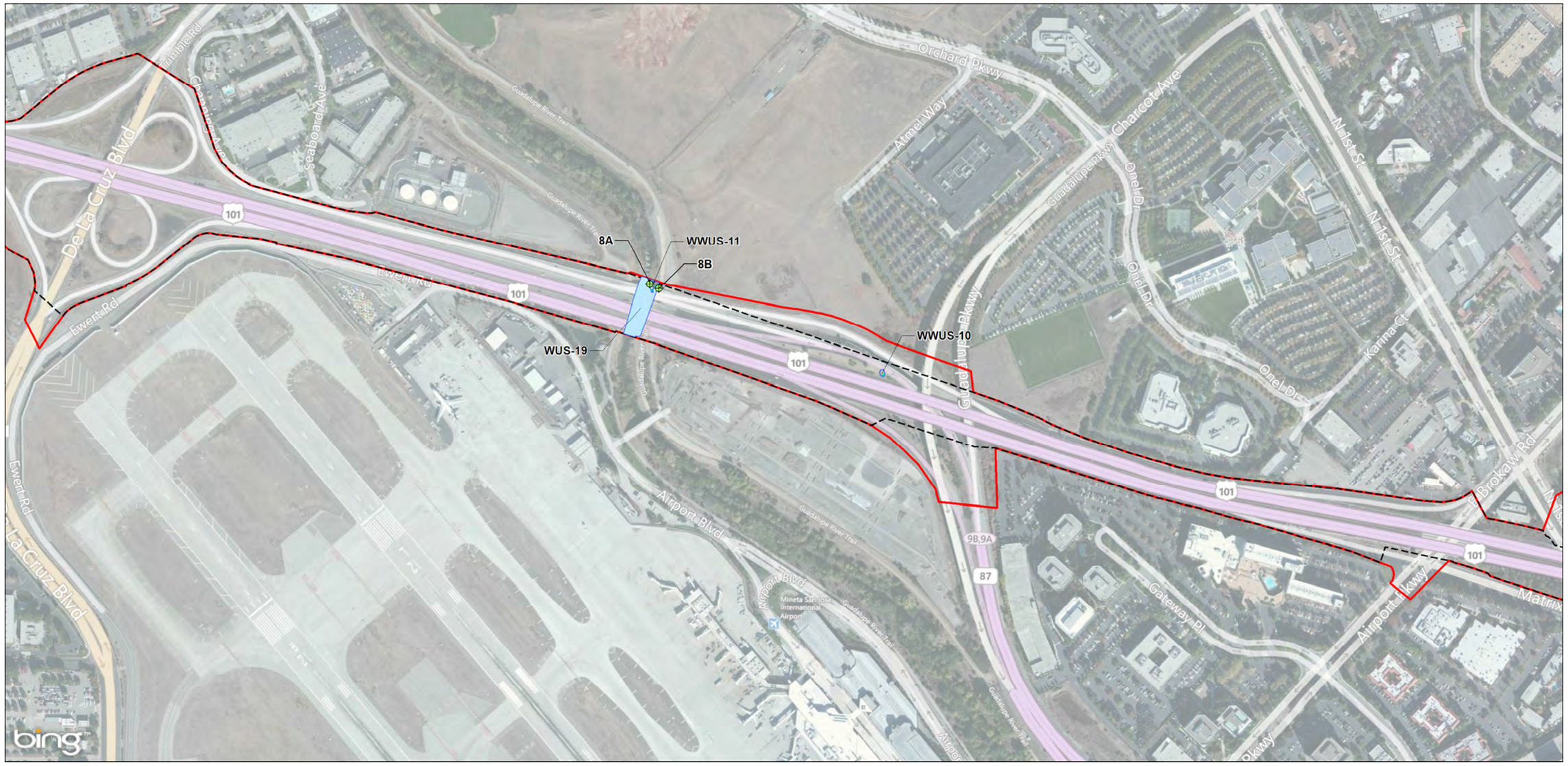
N

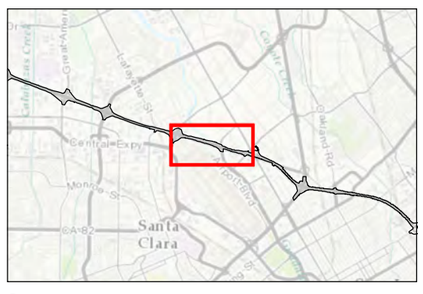
0 250 500
Feet

Imagery source: Microsoft Bing Maps

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 12
Mapped Waters and Wetlands in the BSA





N

0 250 500

Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 13
Mapped Waters and Wetlands in the BSA

N

0 250 500

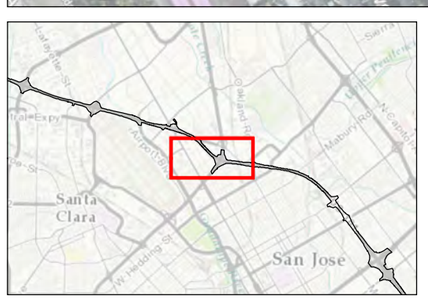
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 14
Mapped Waters and Wetlands in the BSA



N

0 250 500

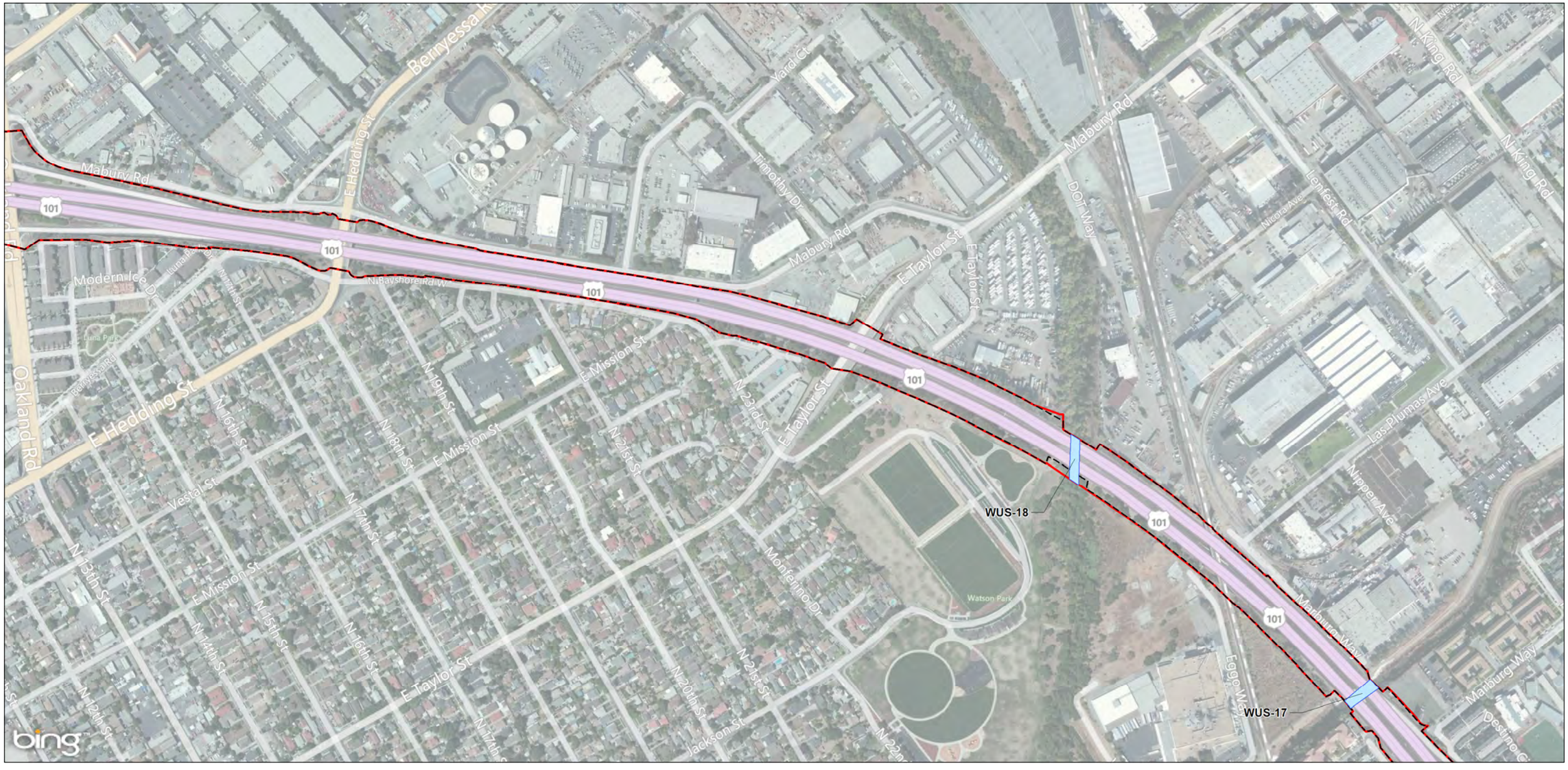
Feet

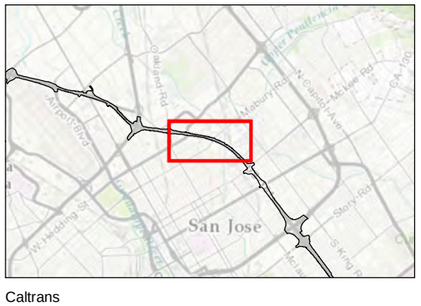
Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 15
Mapped Waters and Wetlands in the BSA





N

0 250 500

Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 16
Mapped Waters and Wetlands in the BSA

N

0 250 500

Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 17
Mapped Waters and Wetlands in the BSA

N

0 250 500

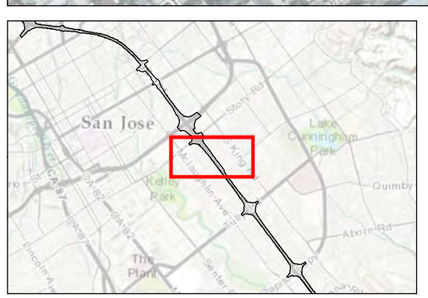
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 18
Mapped Waters and Wetlands in the BSA



N

0 250 500

Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

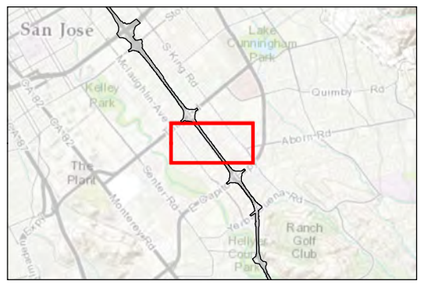
Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 19
Mapped Waters and Wetlands in the BSA

0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)



N

0 250 500

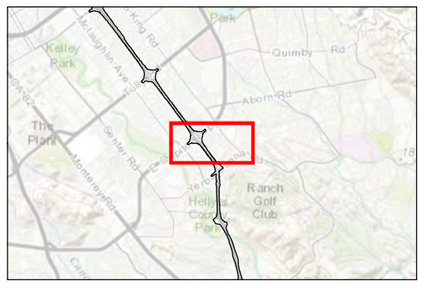
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 21
Mapped Waters and Wetlands in the BSA



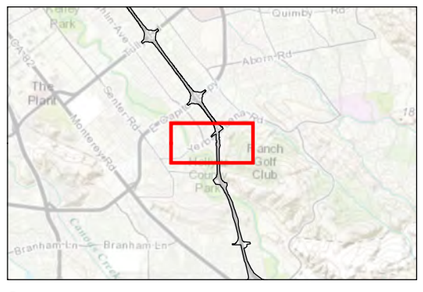
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 22
Mapped Waters and Wetlands in the BSA



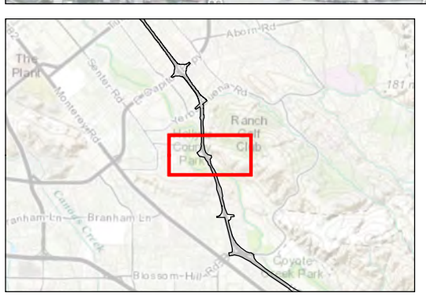
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 23
Mapped Waters and Wetlands in the BSA



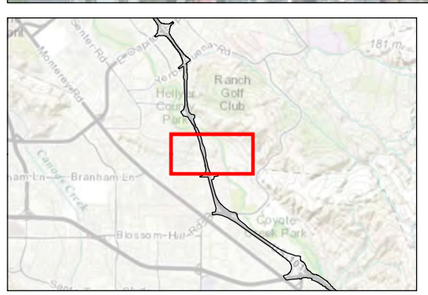
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

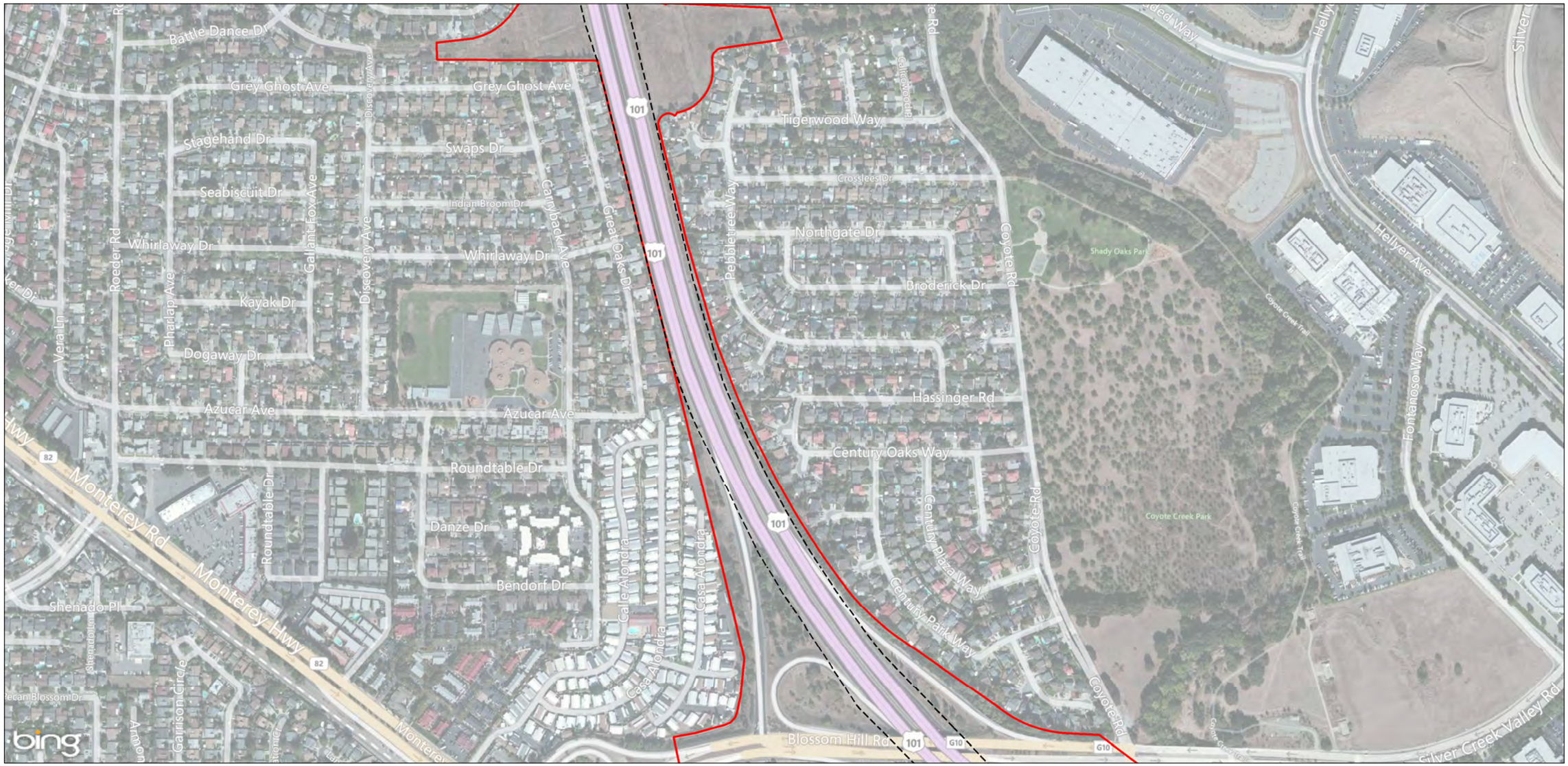
Appendix A, Sheet 24
Mapped Waters and Wetlands in the BSA

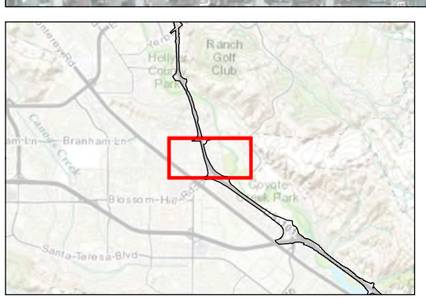


0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)





N

0 250 500

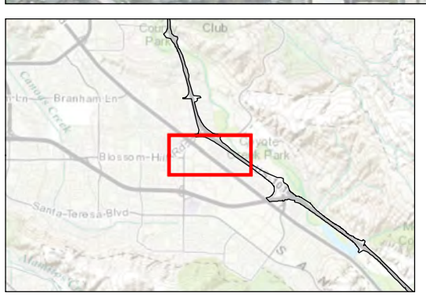
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 26
Mapped Waters and Wetlands in the BSA



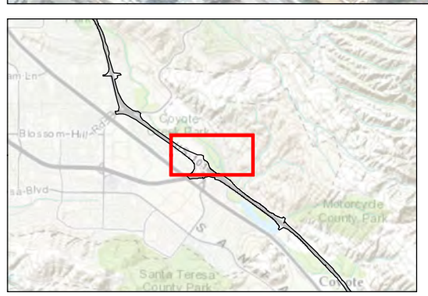
0 250 500
Feet

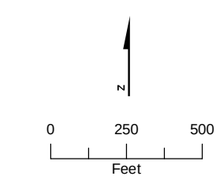
Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

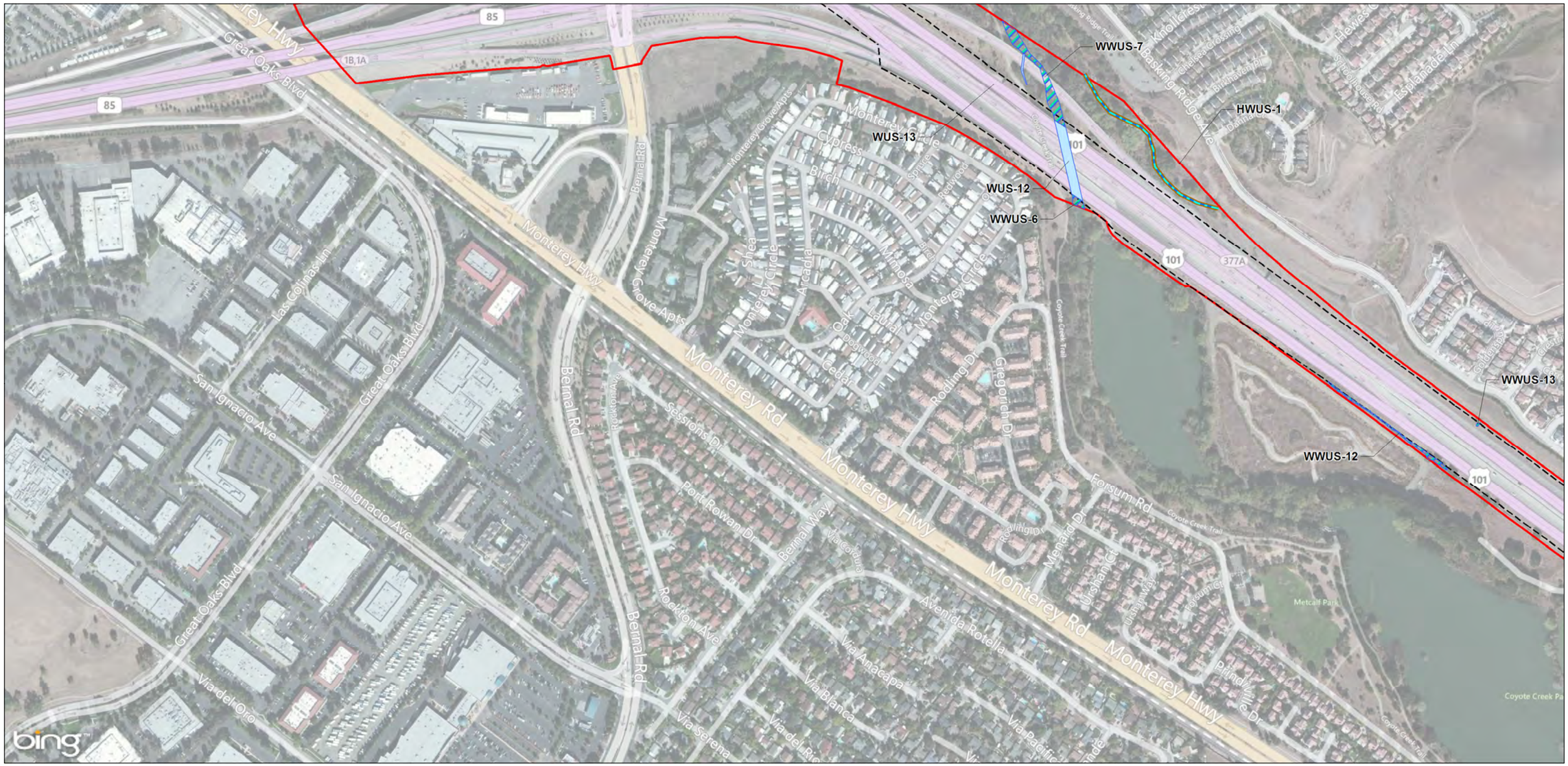
Appendix A, Sheet 27
Mapped Waters and Wetlands in the BSA

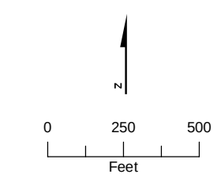




Imagery source: Microsoft Bing Maps

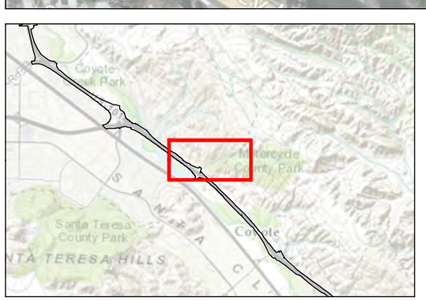
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)





Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)



N

0 250 500

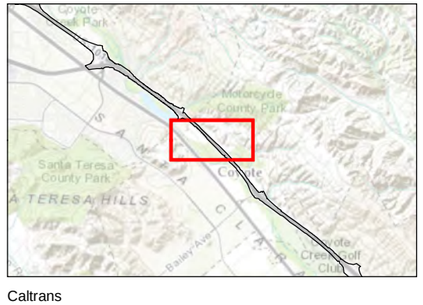
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 30
Mapped Waters and Wetlands in the BSA



N

0 250 500

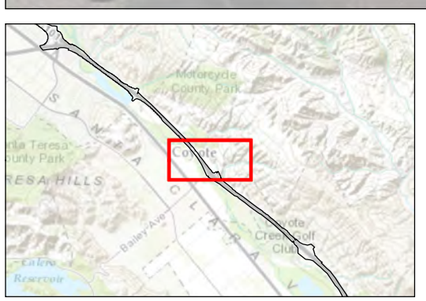
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

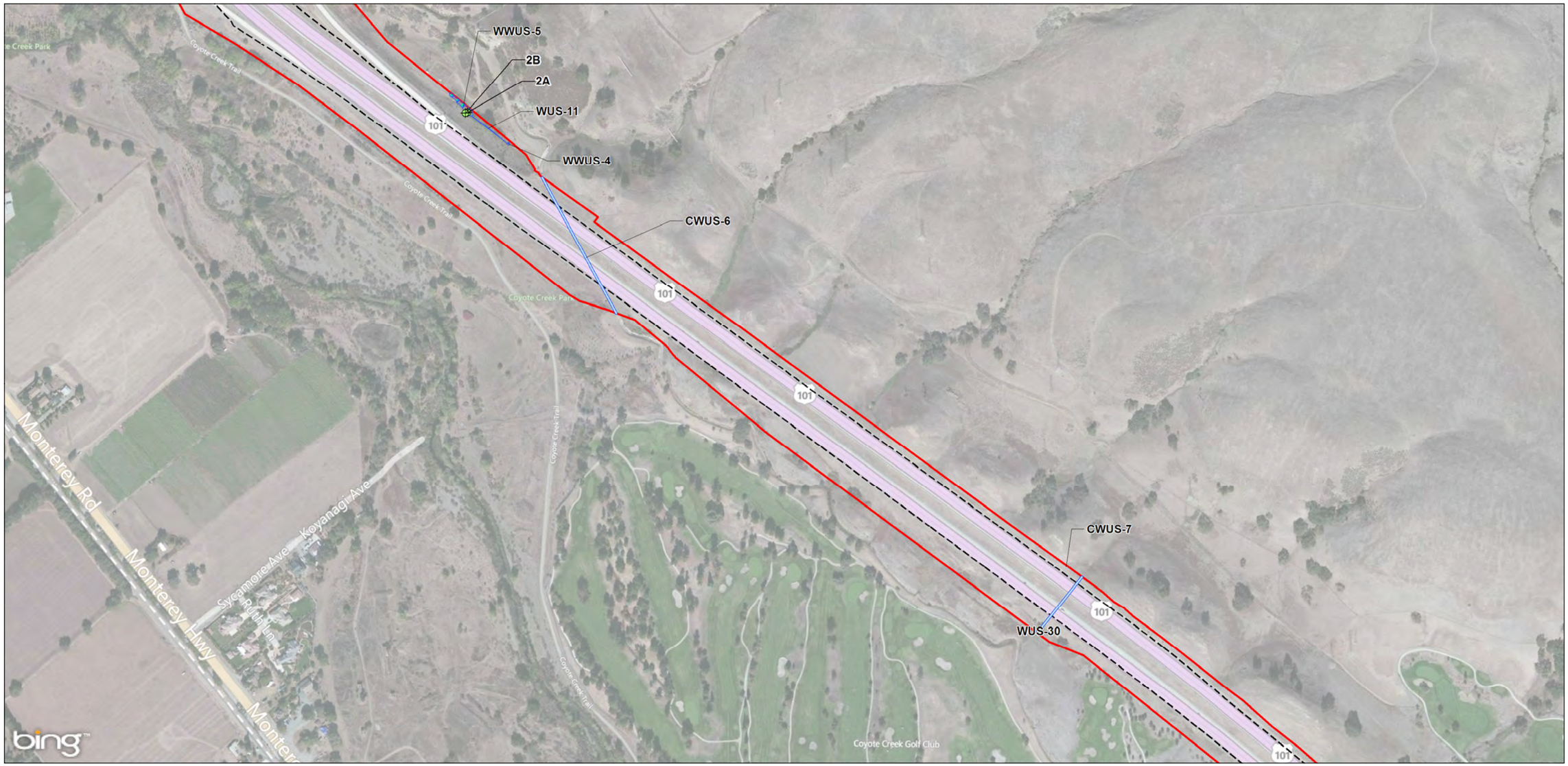
Appendix A, Sheet 31
Mapped Waters and Wetlands in the BSA

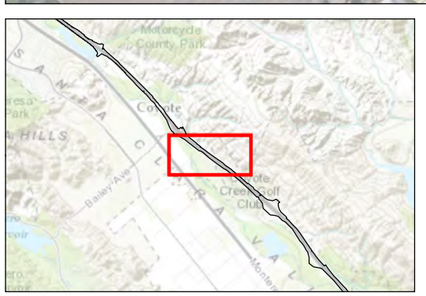


0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)





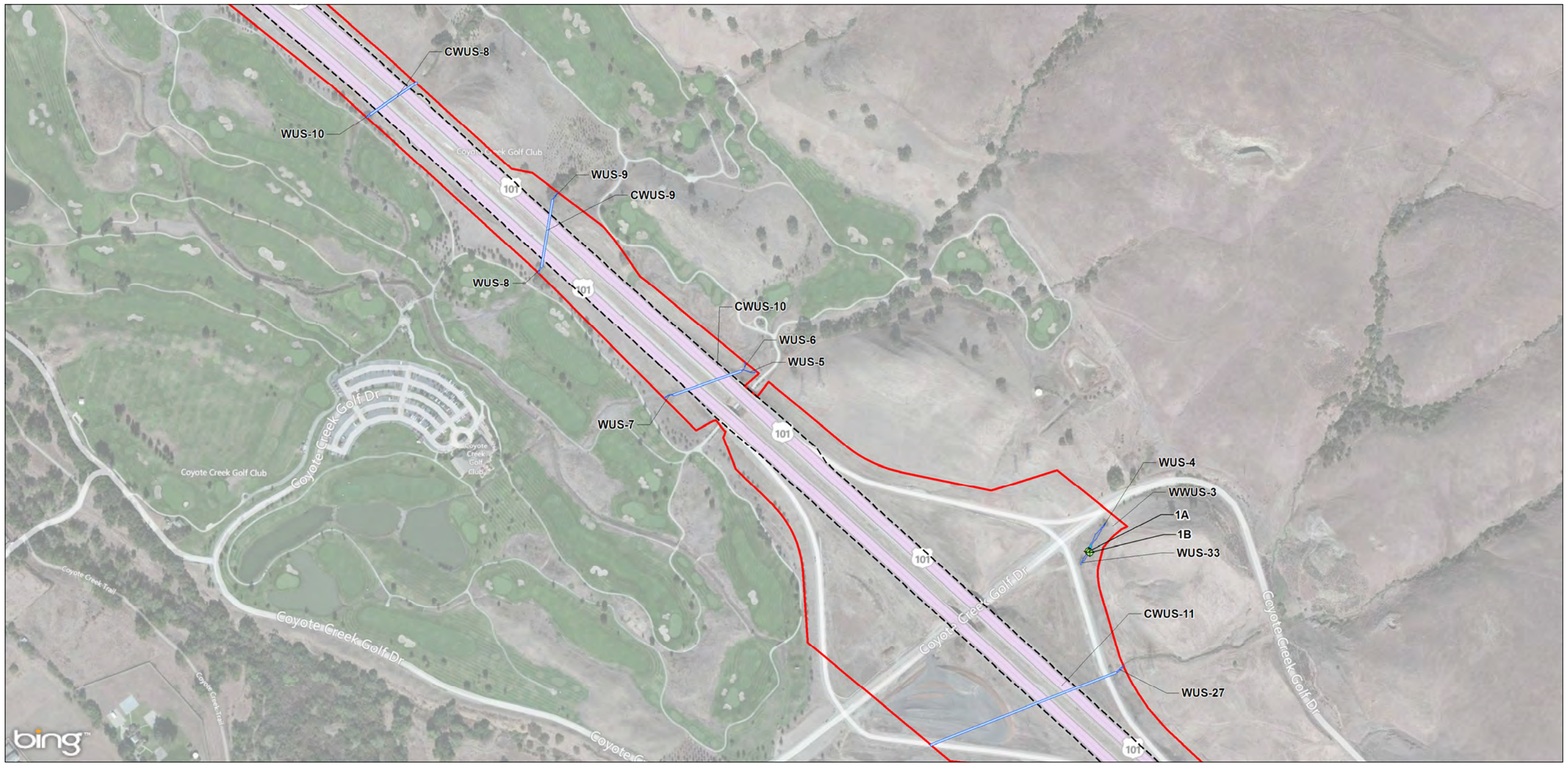
0 250 500
Feet

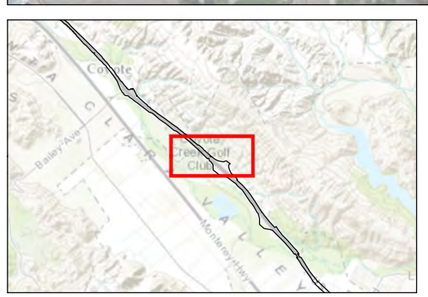
Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 33
Mapped Waters and Wetlands in the BSA

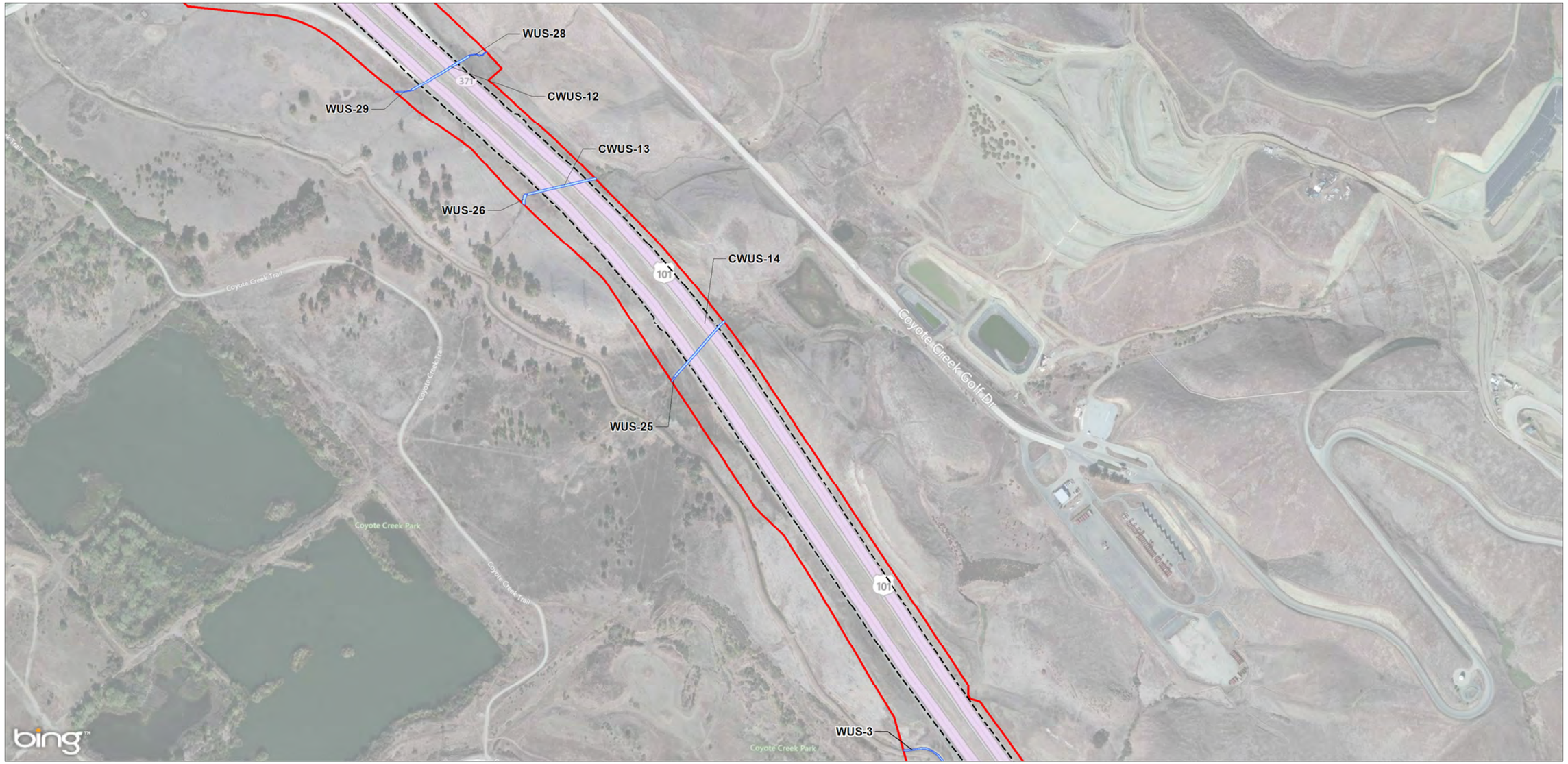


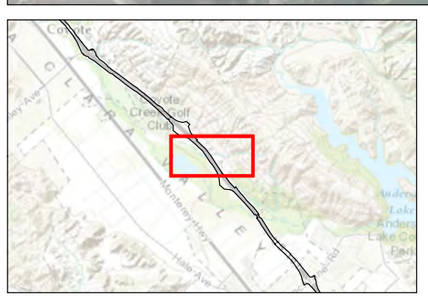


0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)





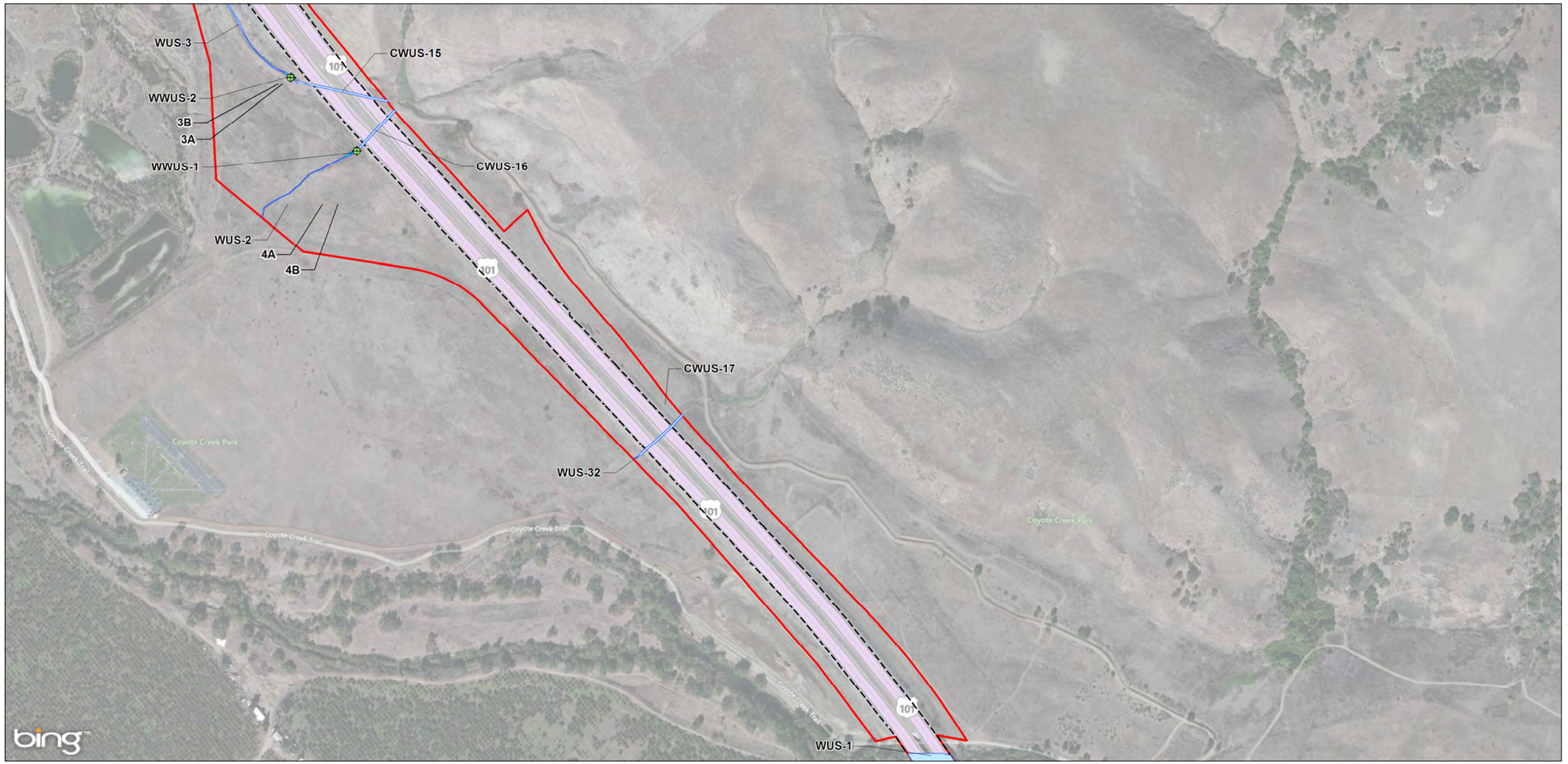
0 250 500
Feet

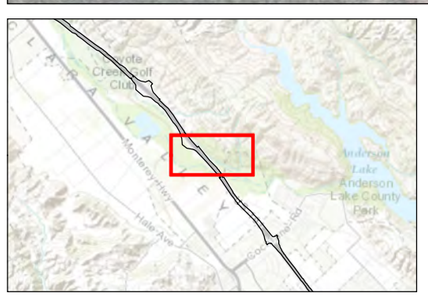
Imagery source: Microsoft Bing Maps

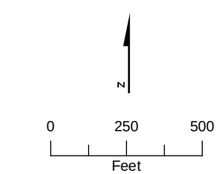
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 35
Mapped Waters and Wetlands in the BSA

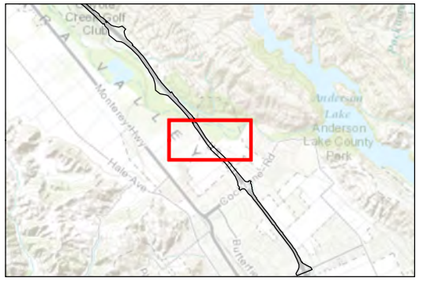






Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)



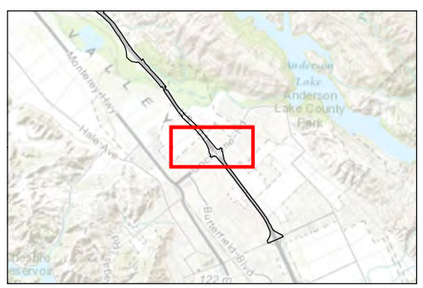
0 250 500
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 37
Mapped Waters and Wetlands in the BSA



N

0 250 500

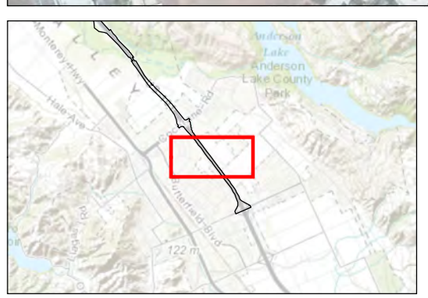
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 38
Mapped Waters and Wetlands in the BSA



N

0 250 500

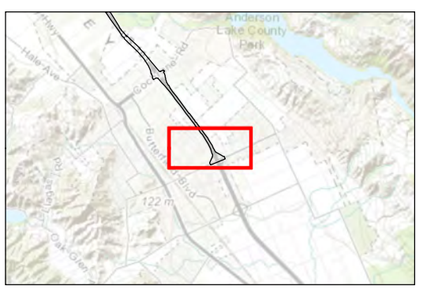
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 39
Mapped Waters and Wetlands in the BSA



N

0 250 500

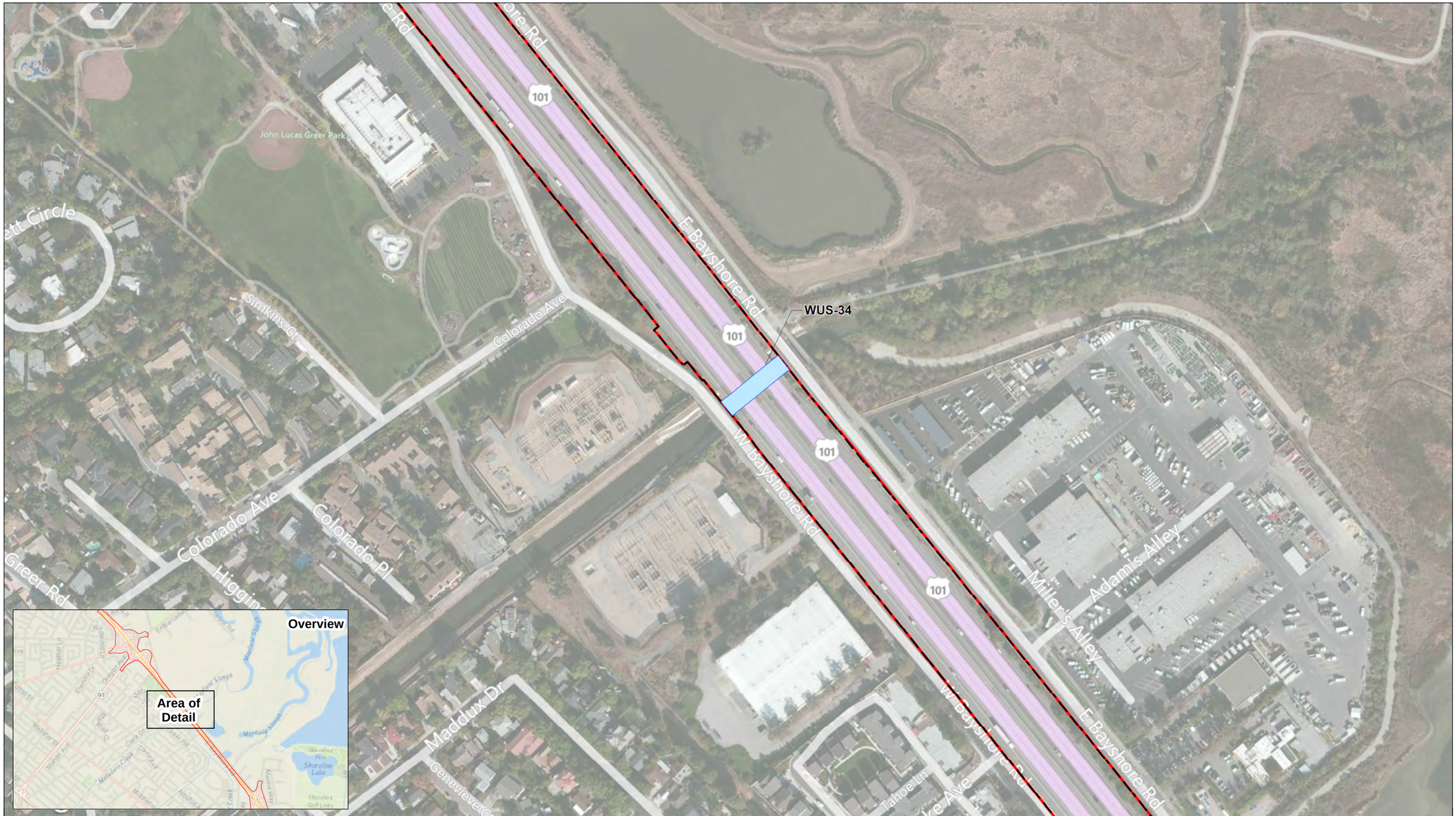
Feet

Imagery source: Microsoft Bing Maps

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Sample Points
- Project Area
- Biological Study Area (BSA)

Caltrans
US 101 Express Lanes Project

Appendix A, Sheet 40
Mapped Waters and Wetlands in the BSA



N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 41

N

0 100 200

Feet

1 INCH = 200 FEET

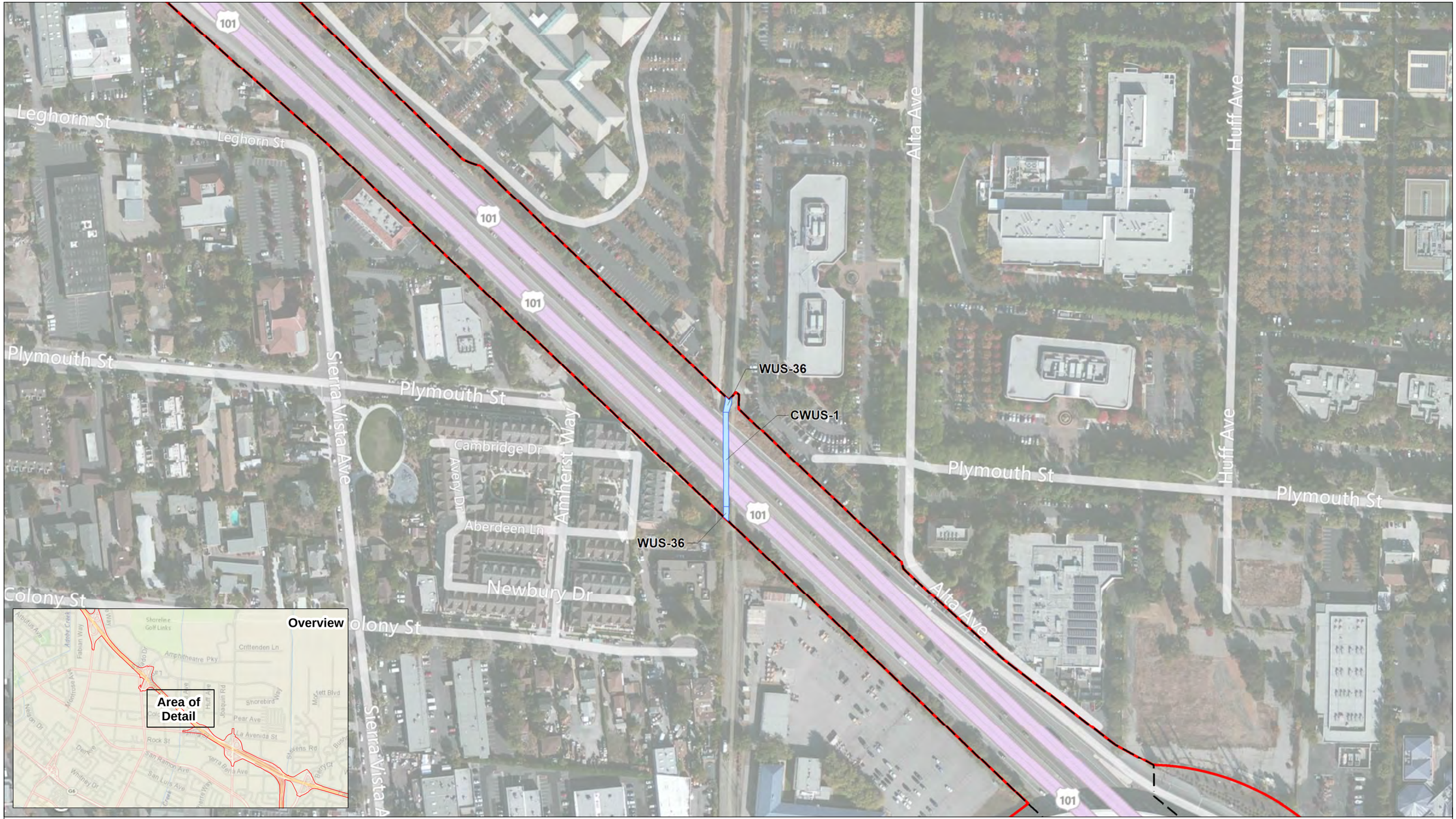
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 42



N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

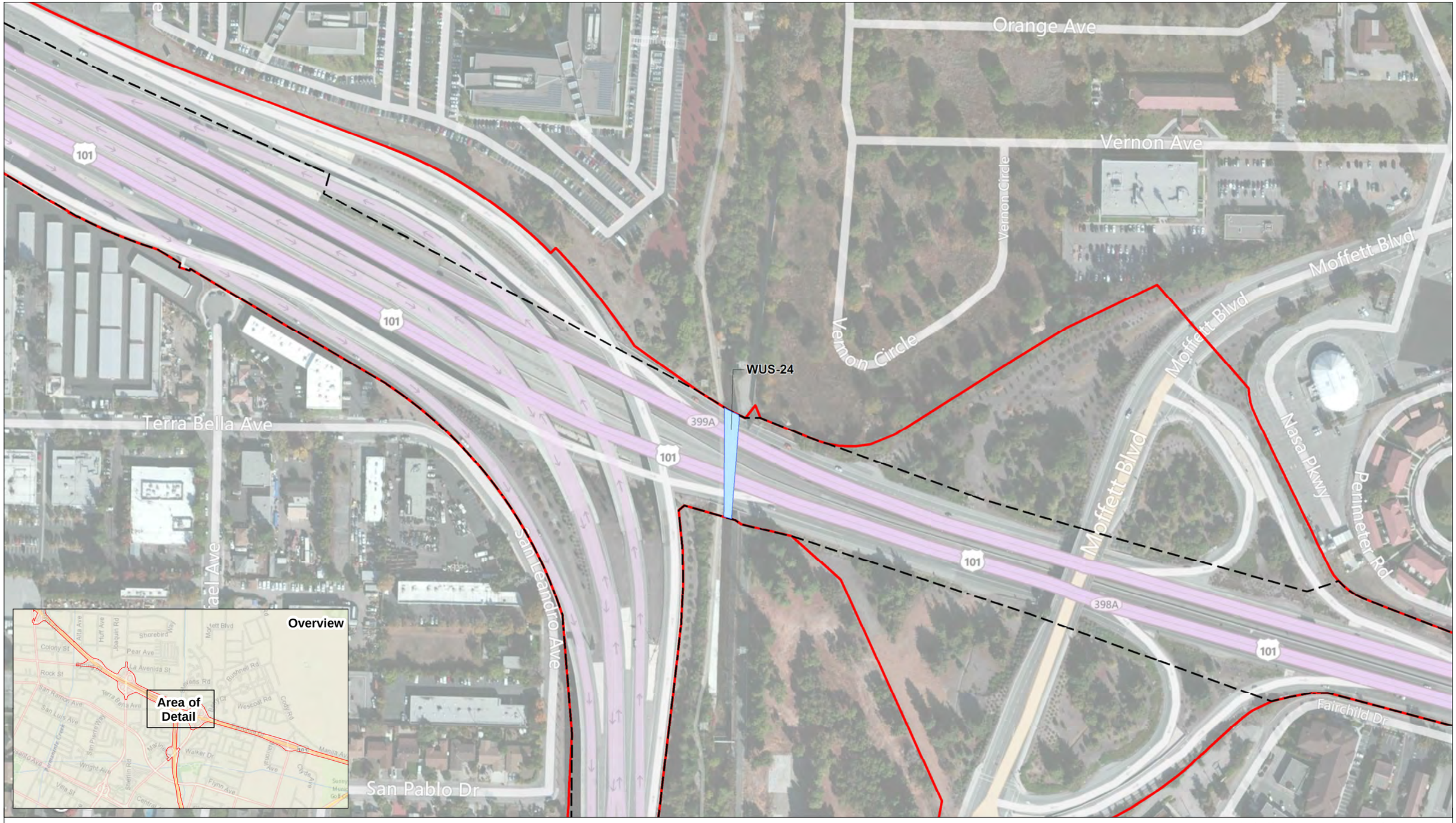
Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

Caltrans

DECEMBER 2013

APPENDIX A: SHEET 43



N

0 100 200

Feet

1 INCH = 200 FEET

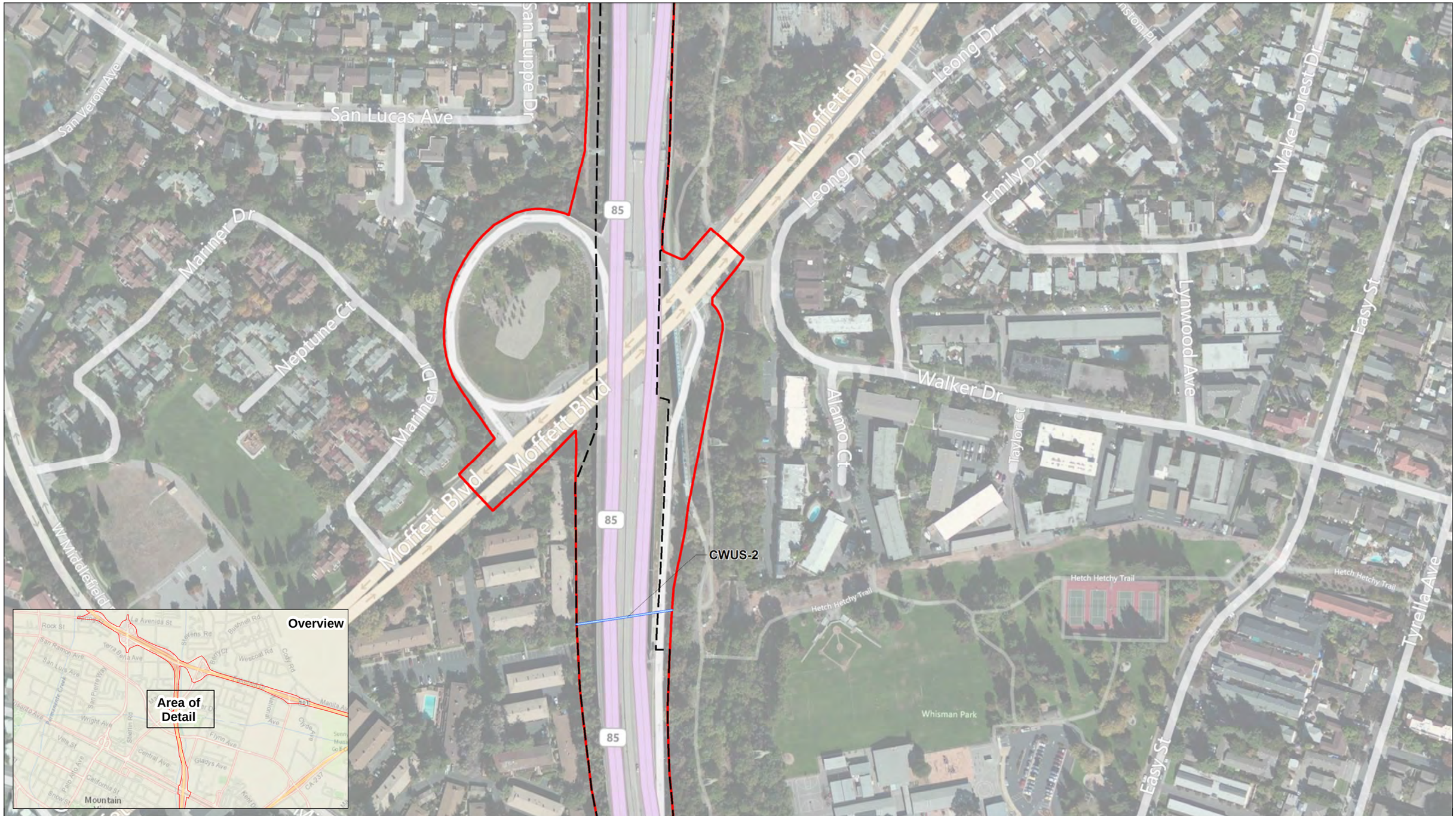
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 44



N

0 100 200

Feet

1 INCH = 200 FEET

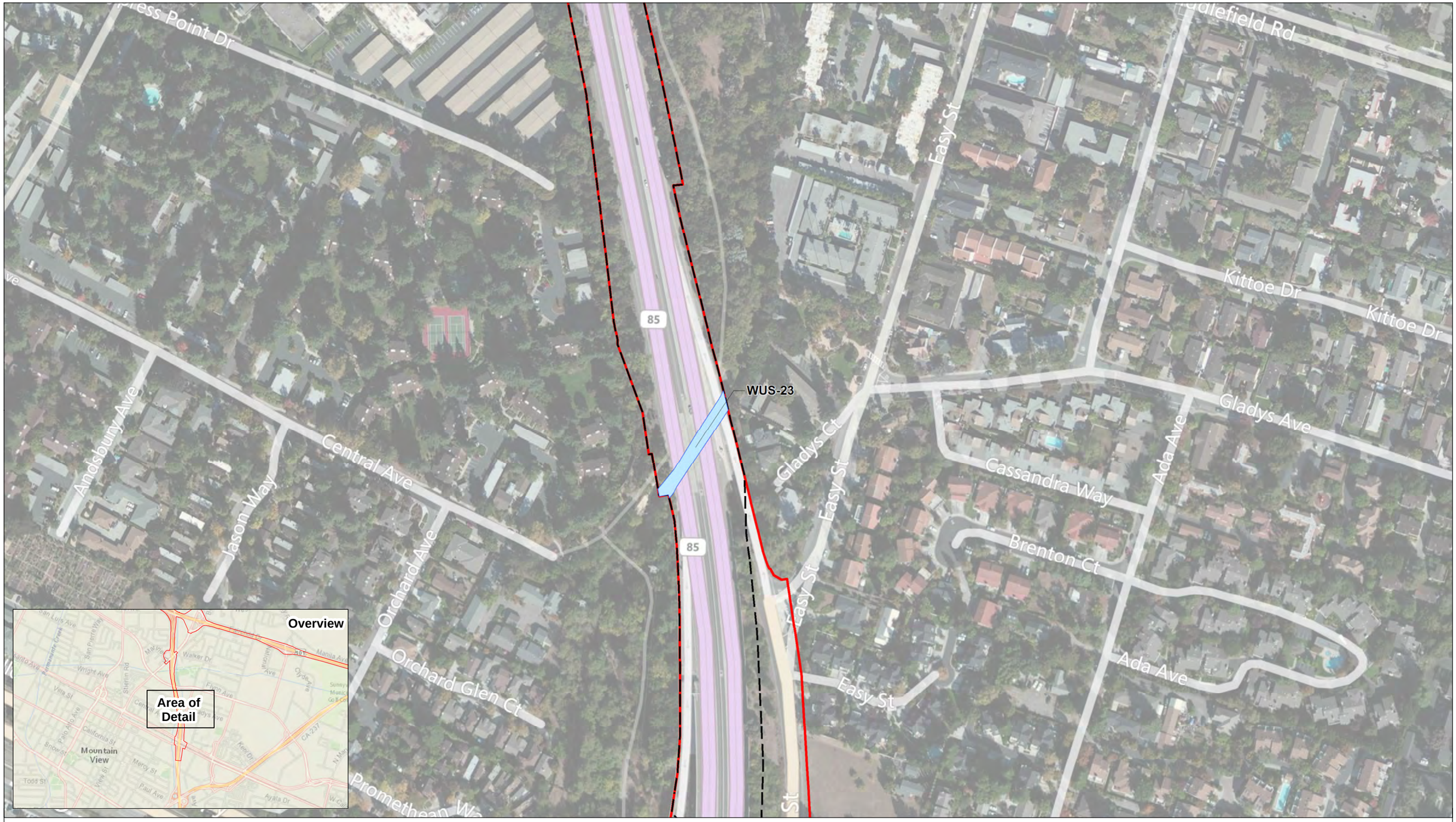
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 45



N

0 100 200
Feet
1 INCH = 200 FEET

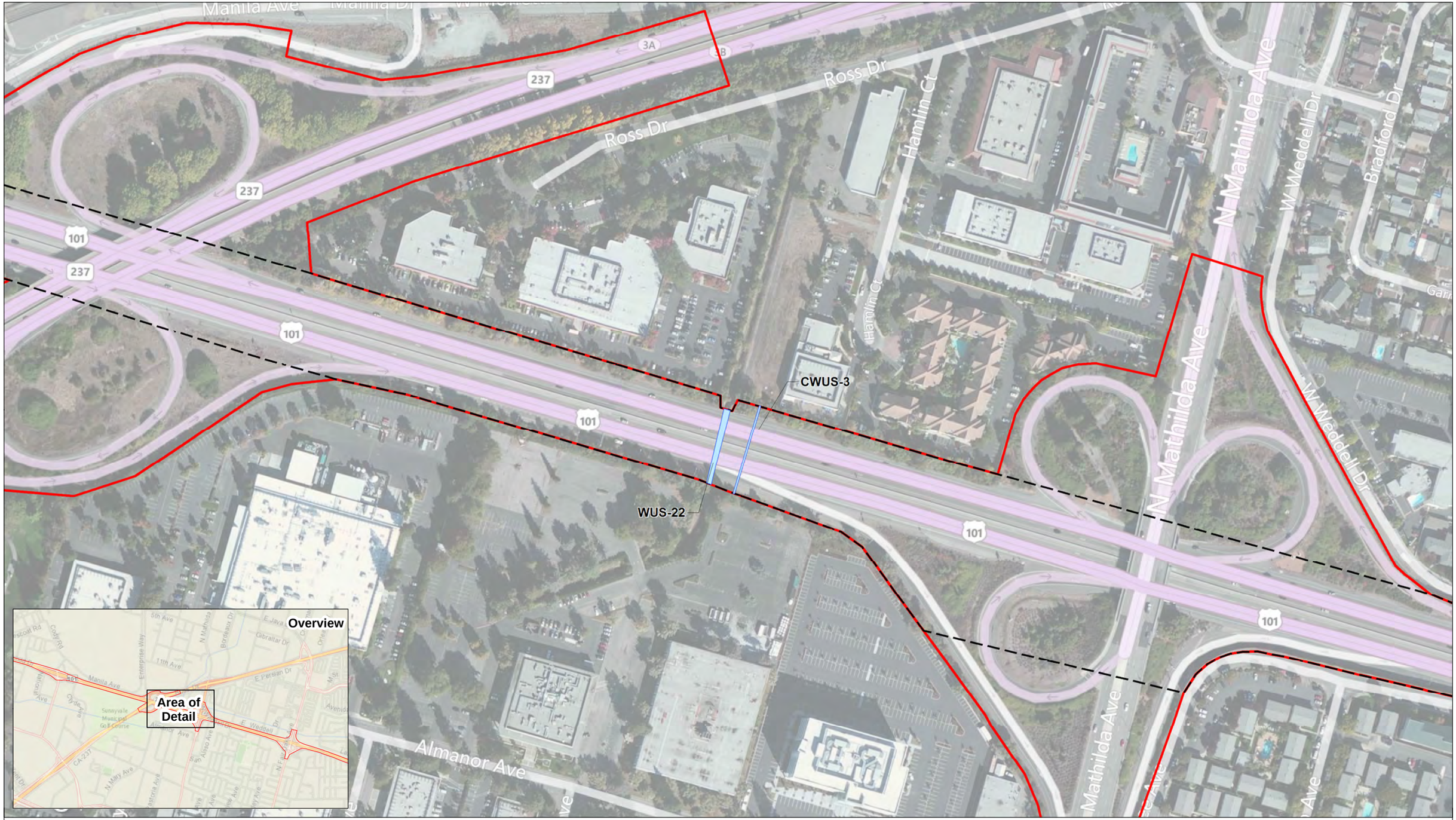
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 46



N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 47

CWUS-18

E Weddell Dr

Jena Terrace

Suez Terrace

N Fair Oaks Ave

El Dorado Mobile Home Park

Greenlake Dr

Hiddenlake Dr

Lakefair Dr

Lakewood Dr

W Ahuja Ave

101

Overview

Area of Detail

N

0 100 200

Feet

1 INCH = 200 FEET

Potentially jurisdictional other waters of the U.S.

Potentially jurisdictional wetland

Potentially non-jurisdictional wetland

Historic waters of the U.S.

Project Area

Biological Study Area (BSA)

Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 48

N

0 100 200

Feet

1 INCH = 200 FEET

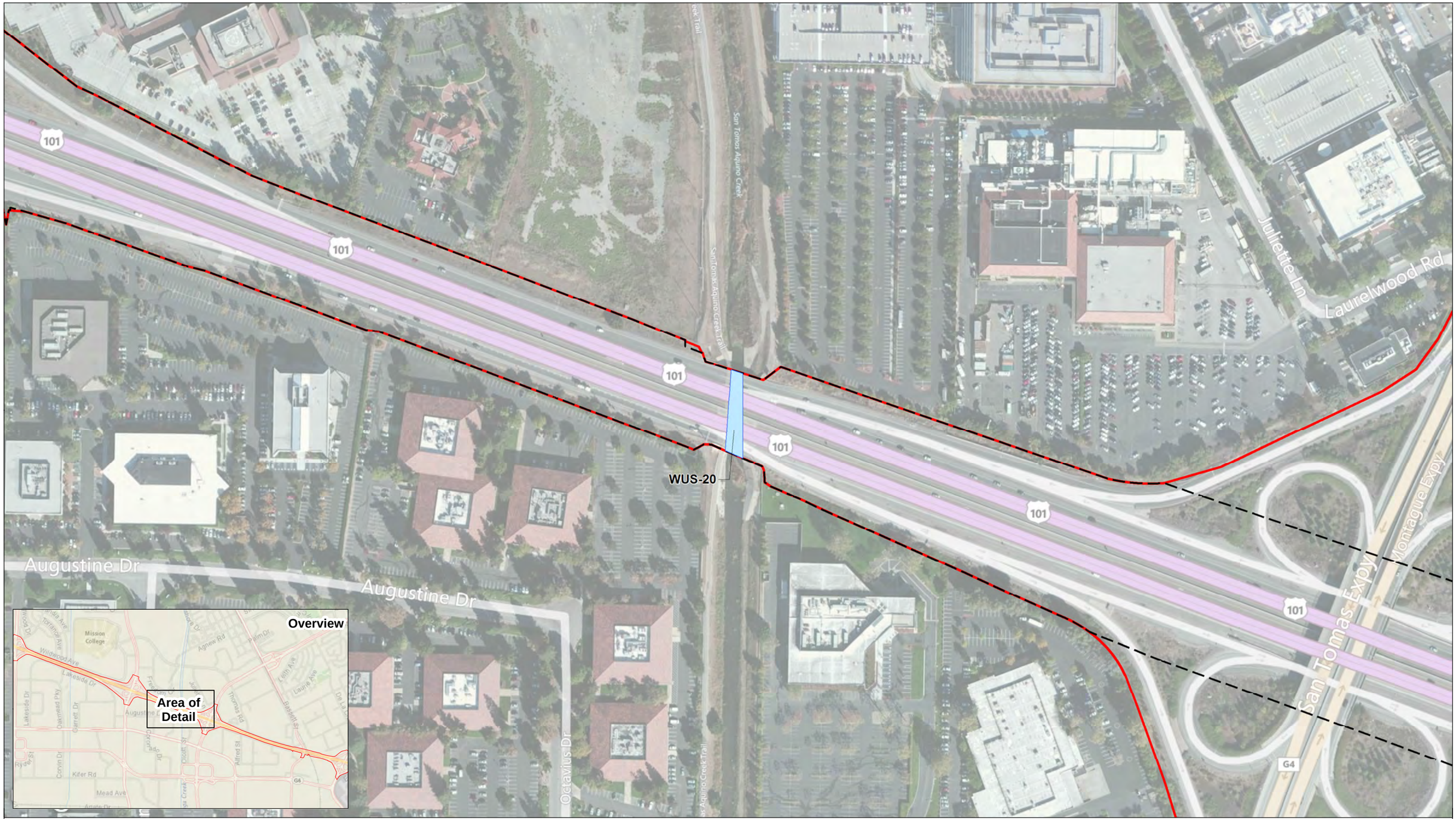
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 49



N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

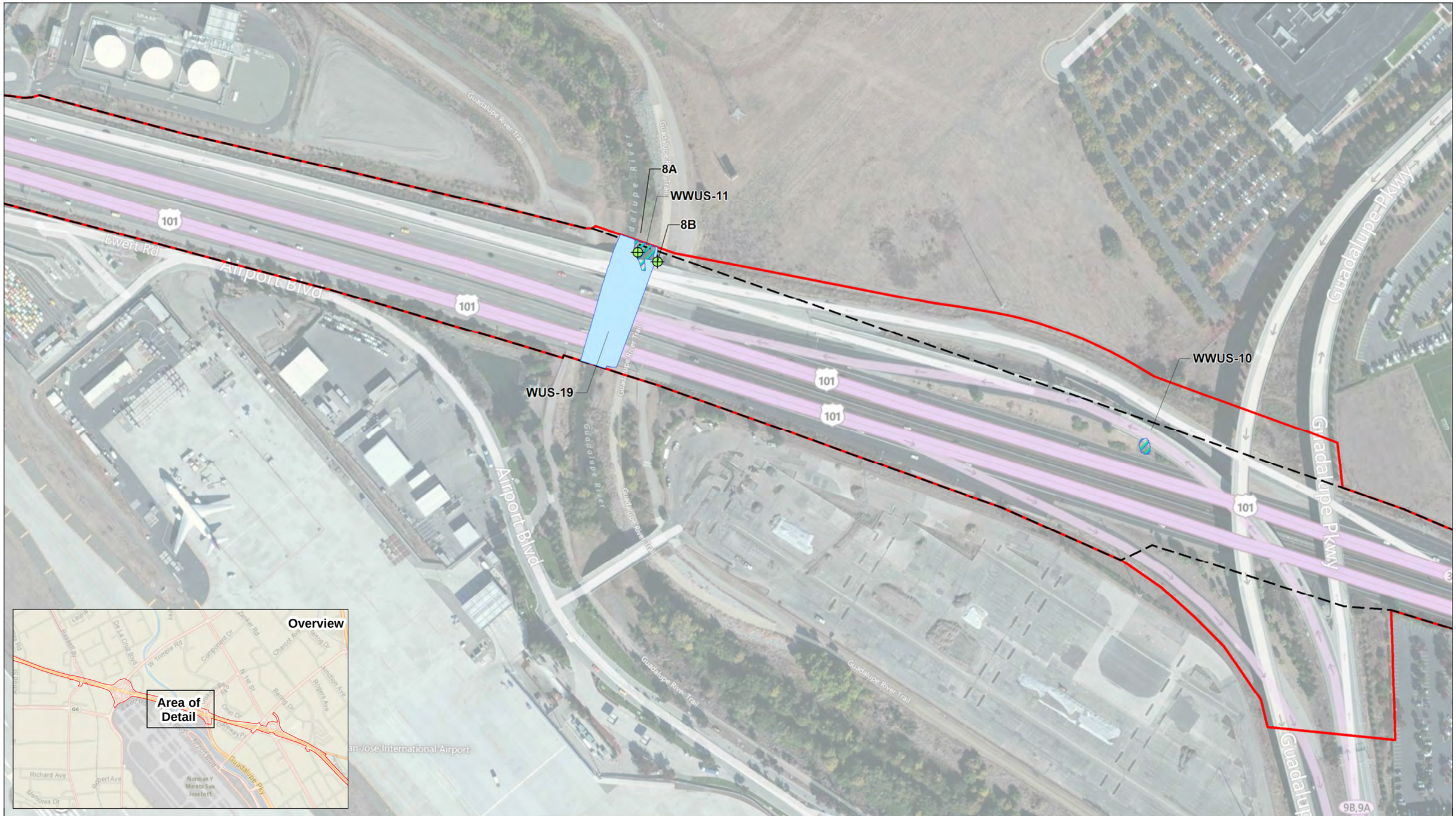
Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

Caltrans

DECEMBER 2013

APPENDIX A: SHEET 50



N

0 100 200
Feet
1 INCH = 200 FEET

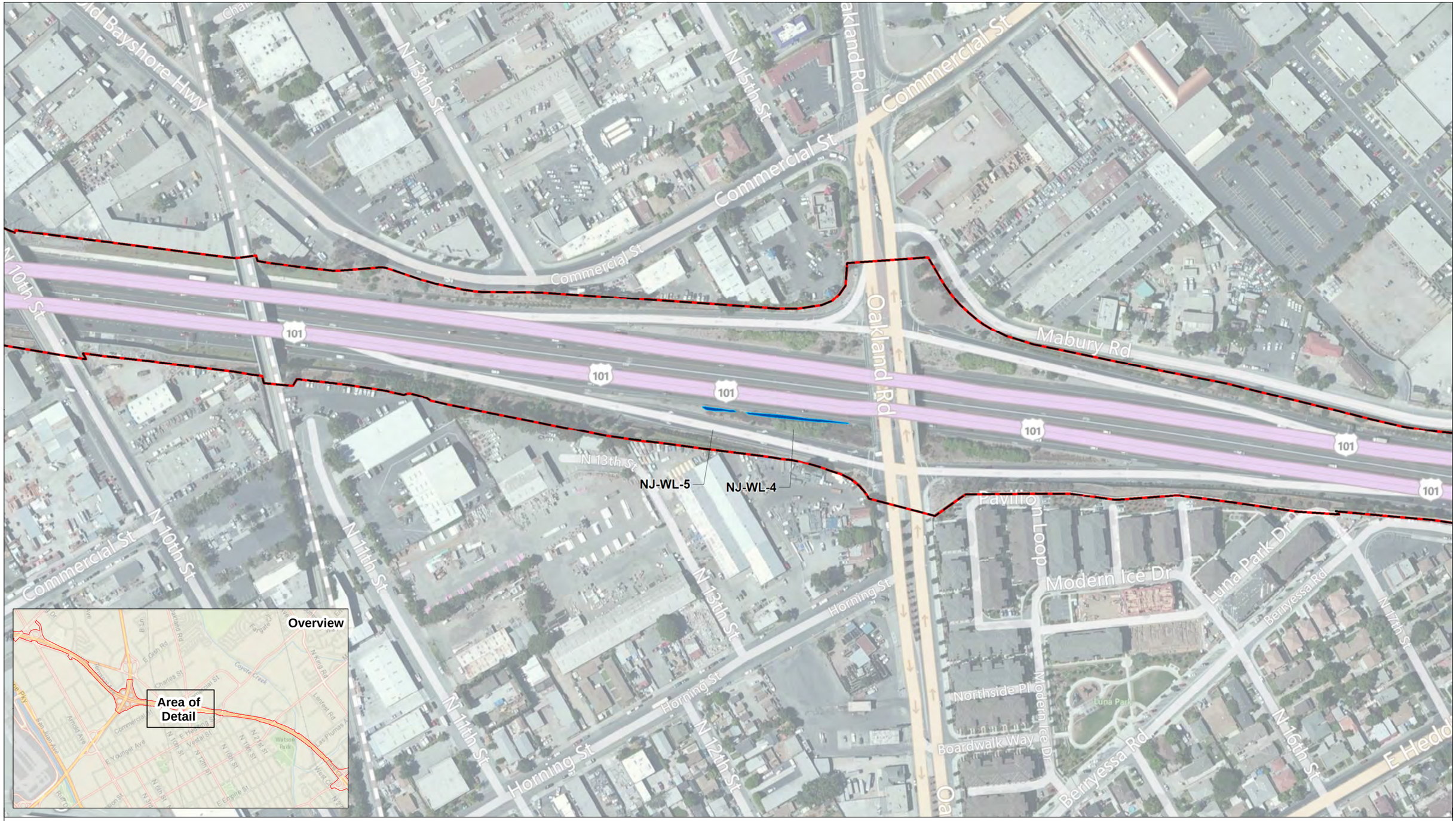
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 51



N

0 100 200

Feet

1 INCH = 200 FEET

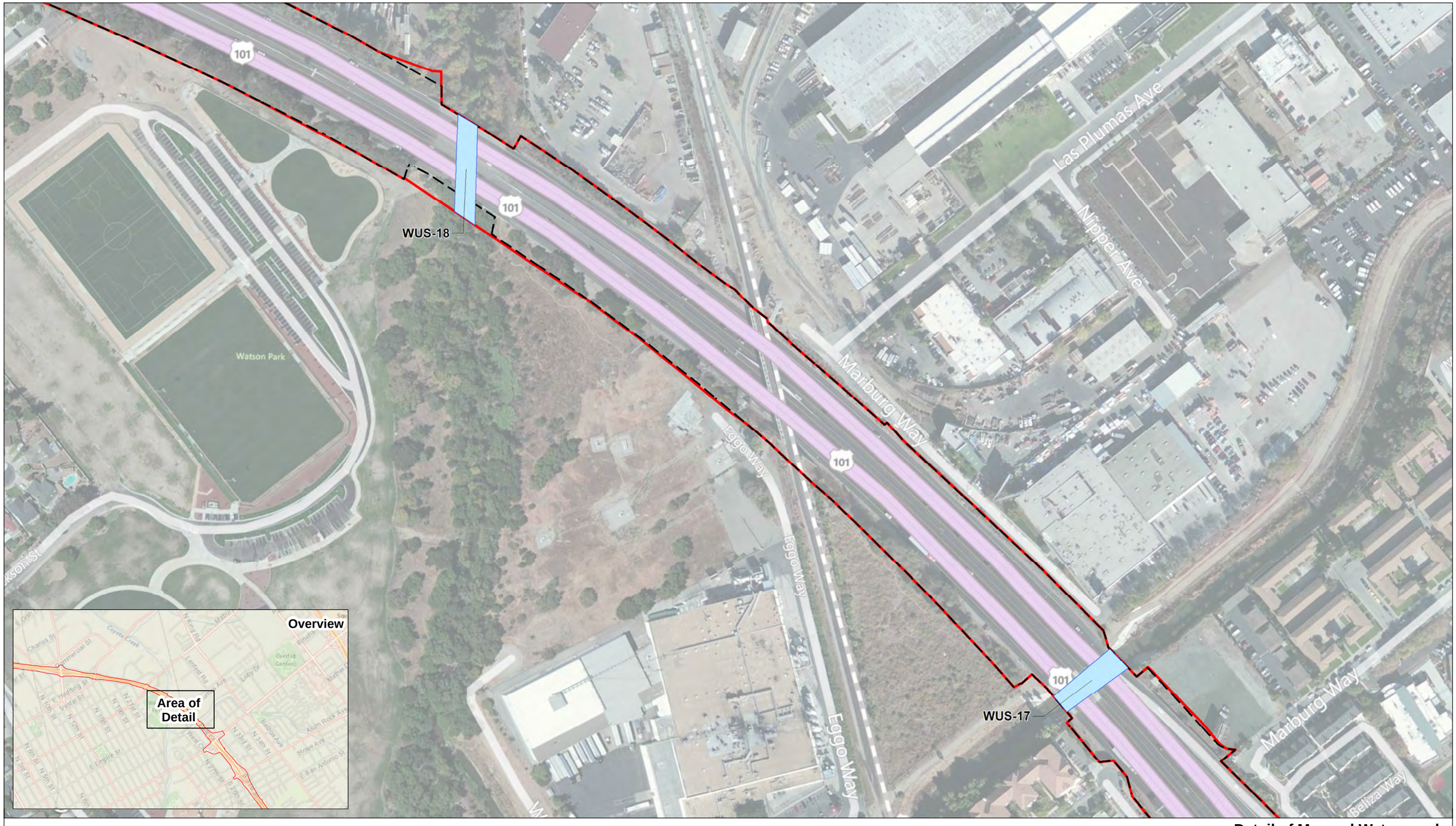
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 52



N

0 100 200

Feet

1 INCH = 200 FEET

Potentially jurisdictional other waters of the U.S.

Potentially jurisdictional wetland

Potentially non-jurisdictional wetland

Historic waters of the U.S.

Project Area

Biological Study Area (BSA)

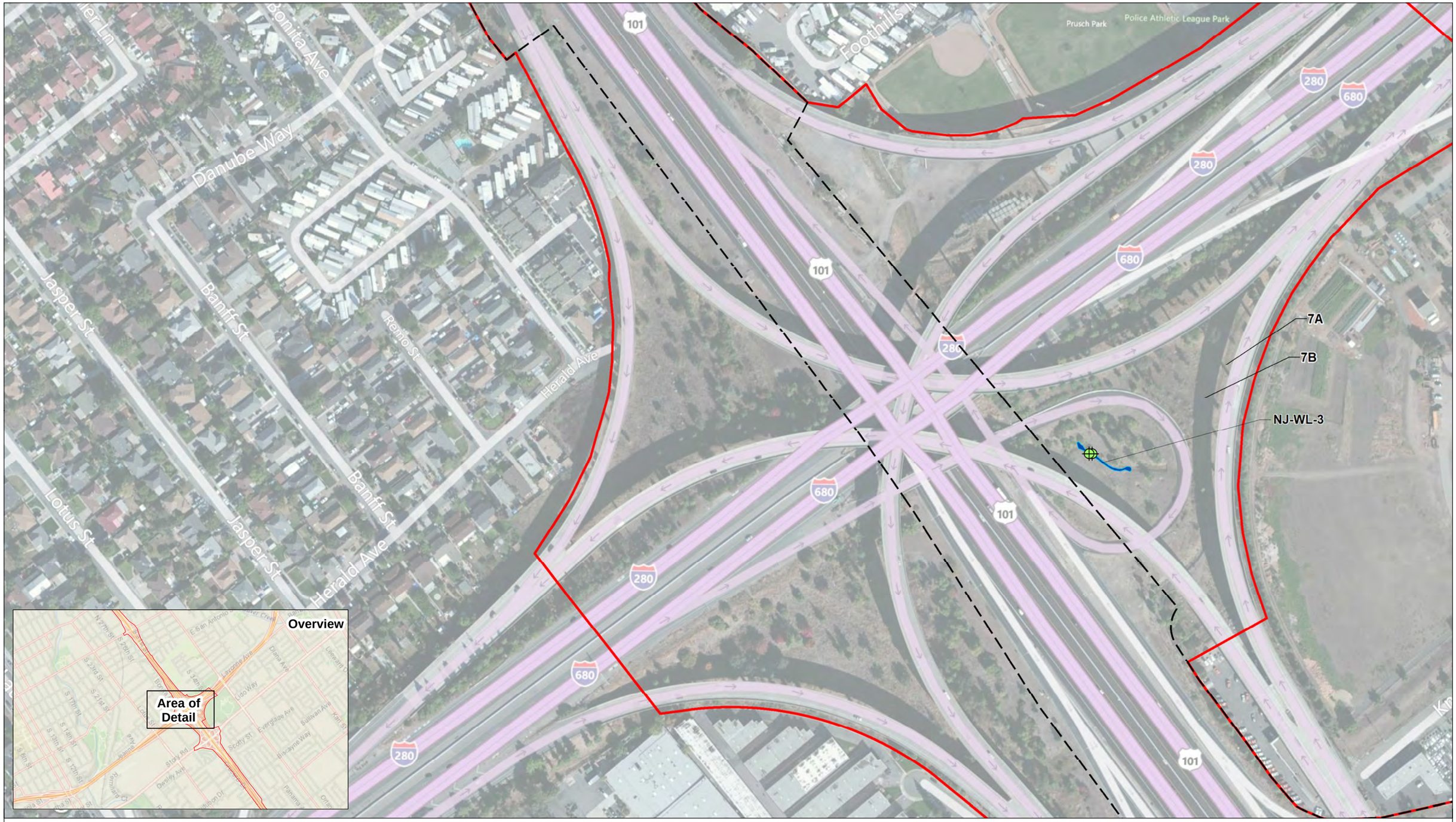
Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 53



N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

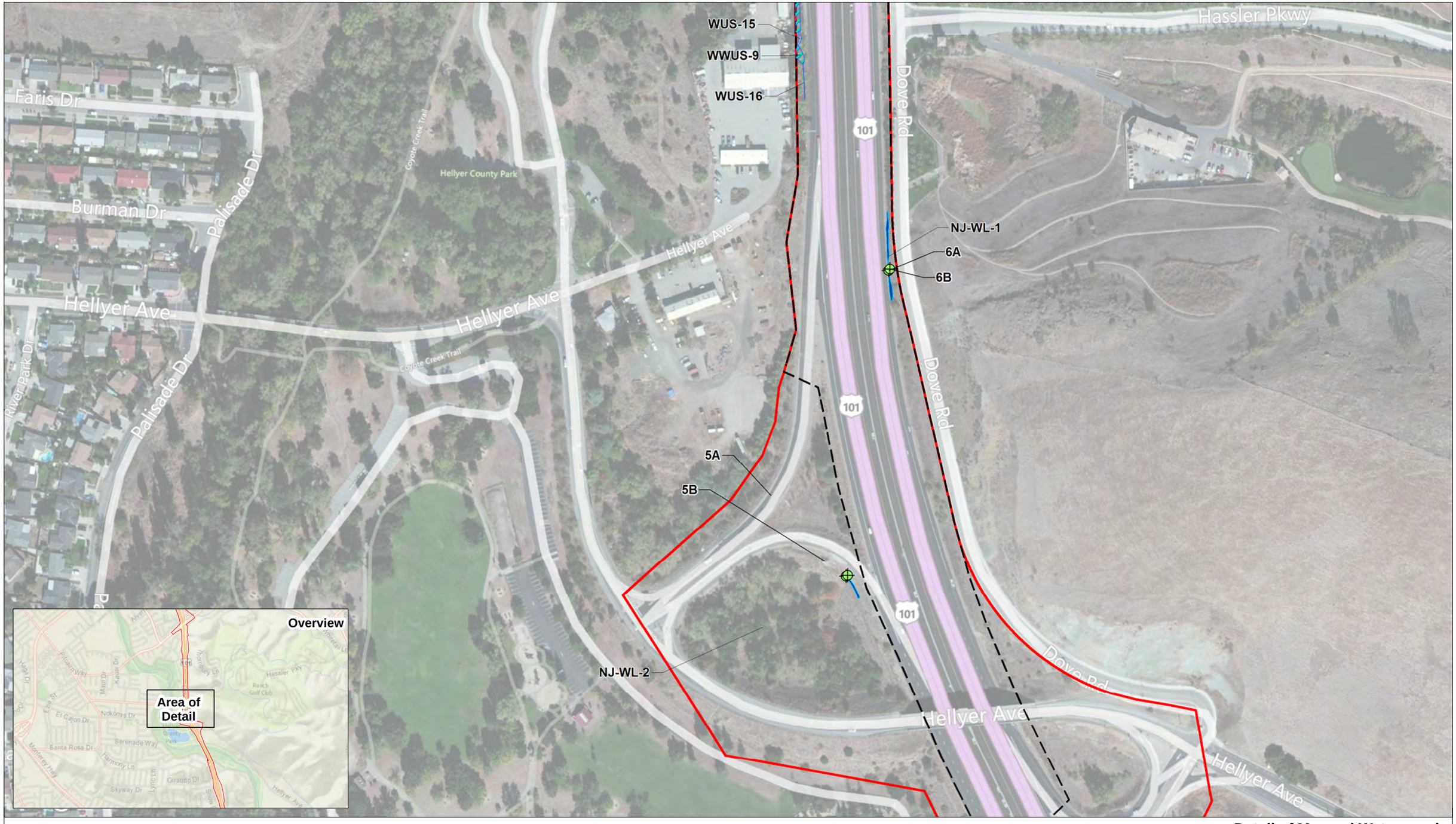
APPENDIX A: SHEET 54

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 55



N

0 100 200

Feet

1 INCH = 200 FEET

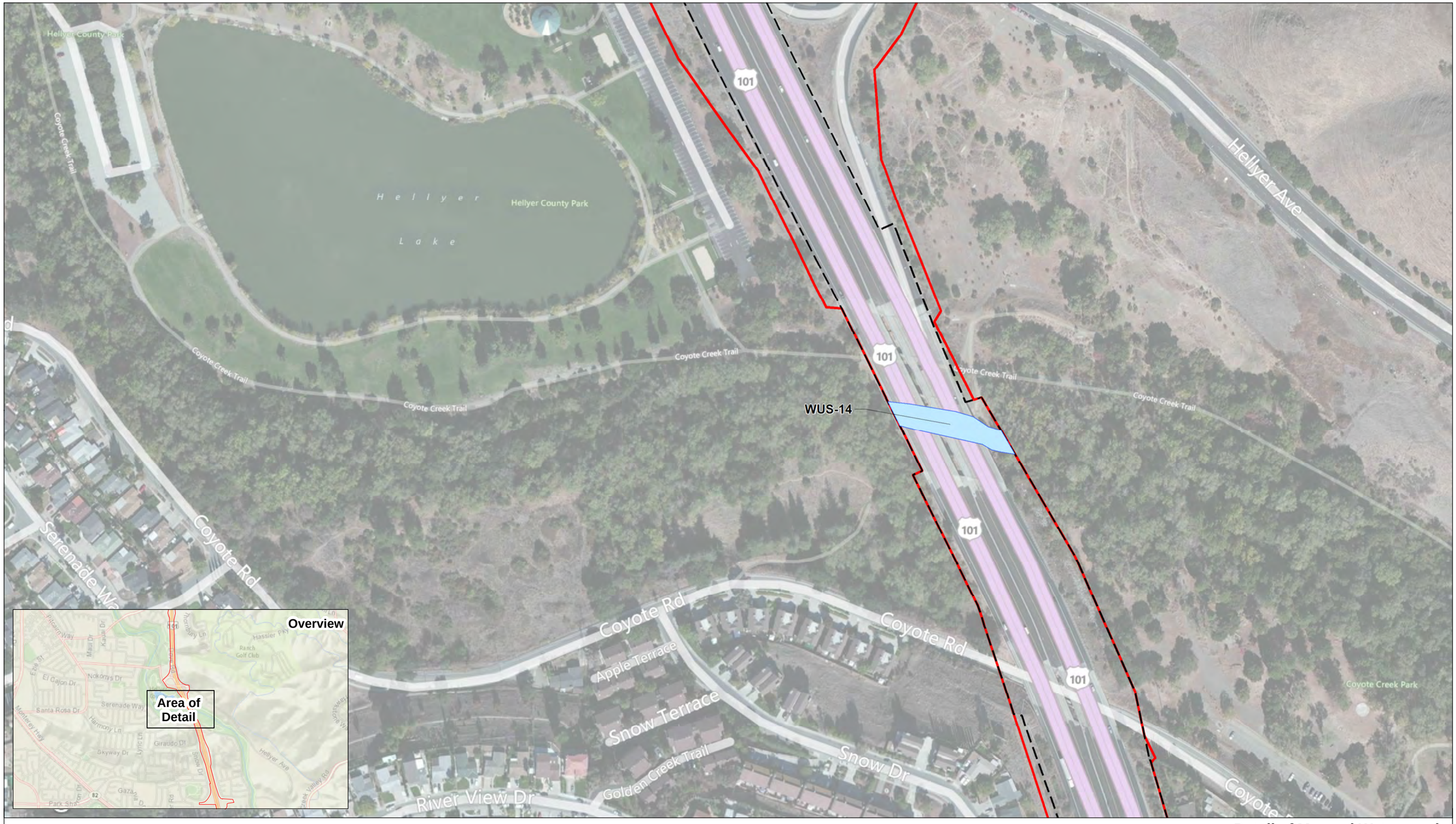
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 56

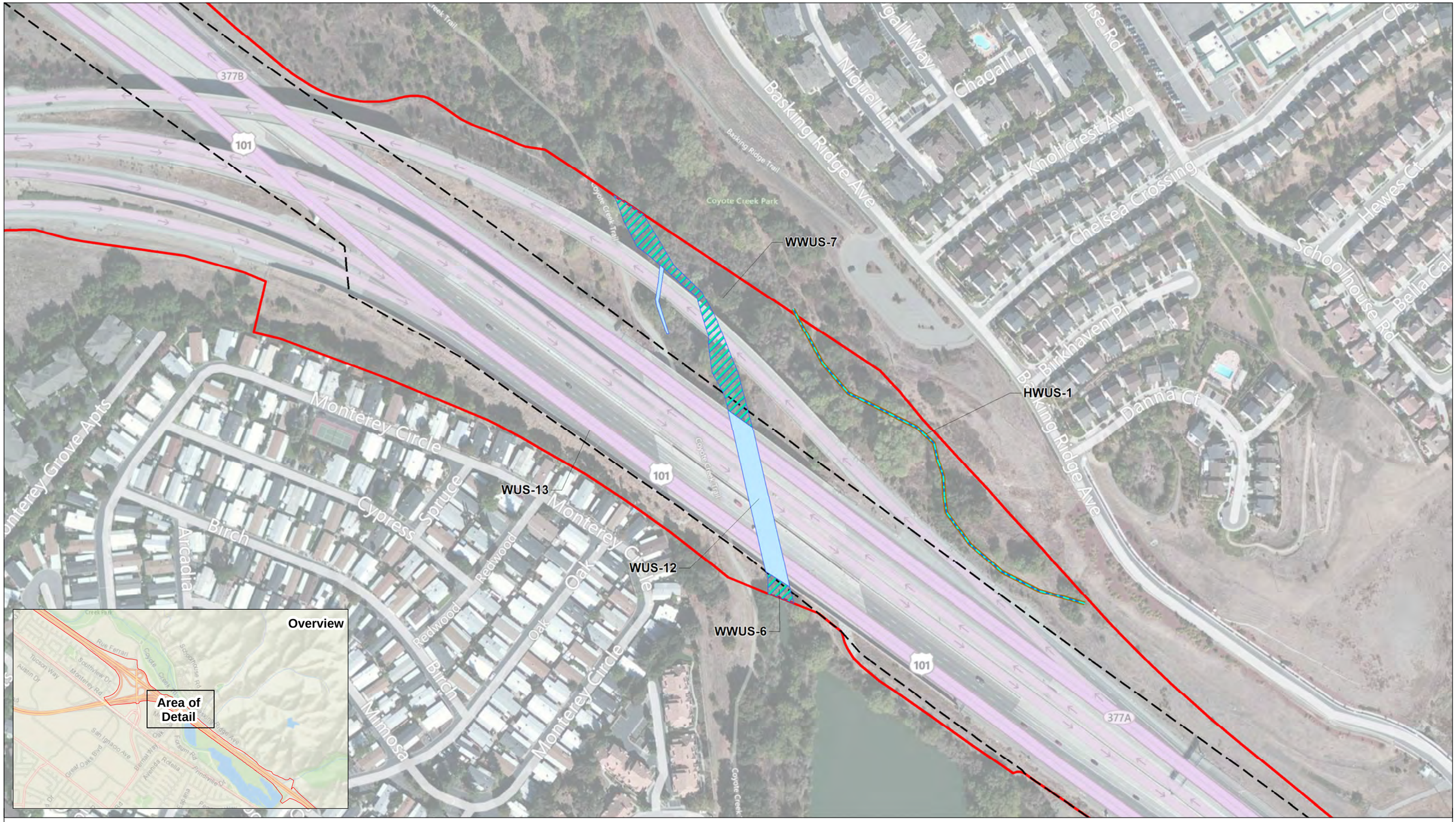


Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 57



Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 58

N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

Caltrans

DECEMBER 2013

APPENDIX A: SHEET 59

N

0 100 200

Feet

1 INCH = 200 FEET

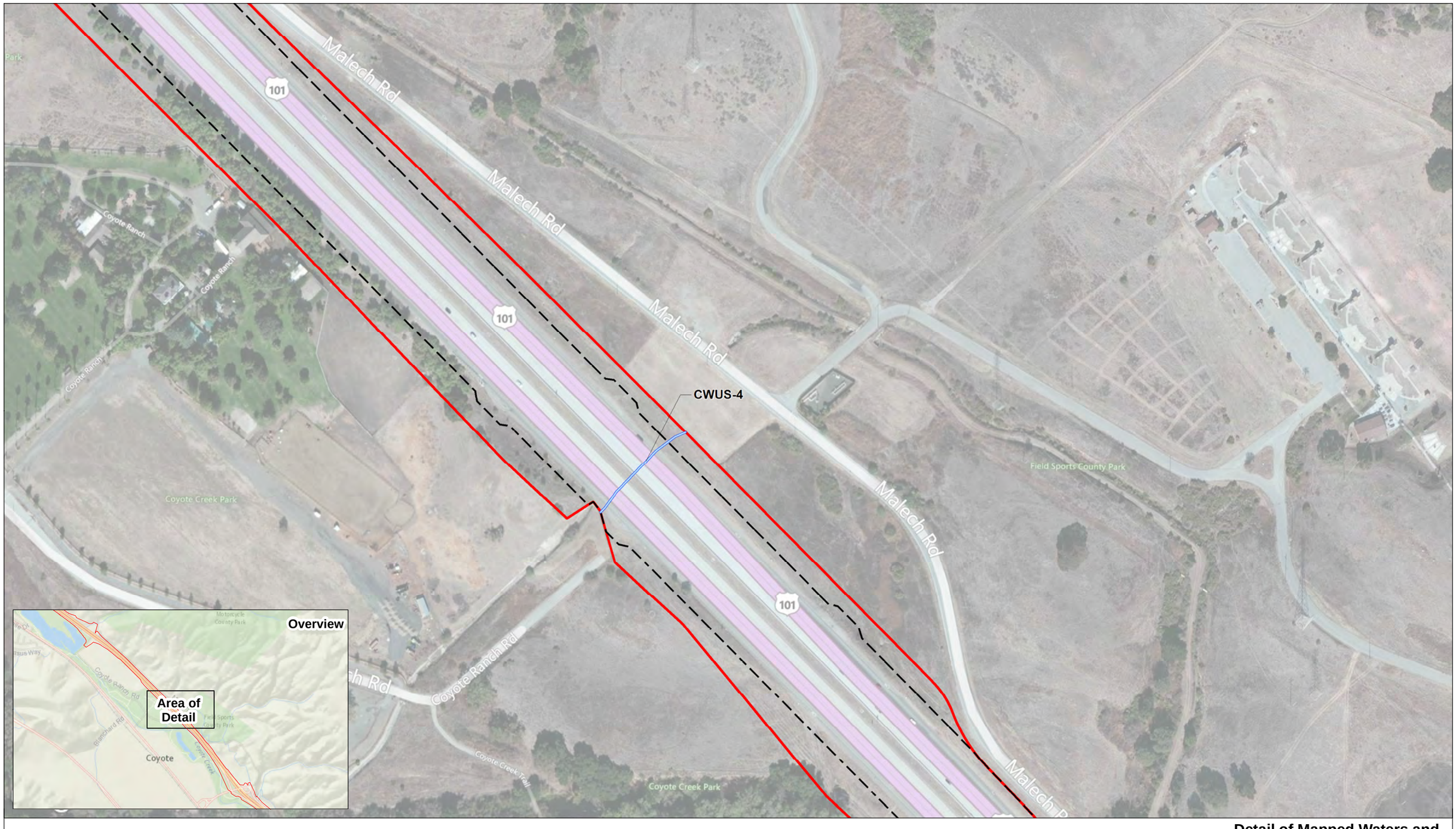
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 60



Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 61

N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 62

N

0 100 200

Feet

1 INCH = 200 FEET

Potentially jurisdictional other waters of the U.S.

Potentially jurisdictional wetland

Potentially non-jurisdictional wetland

Historic waters of the U.S.

Project Area

Biological Study Area (BSA)

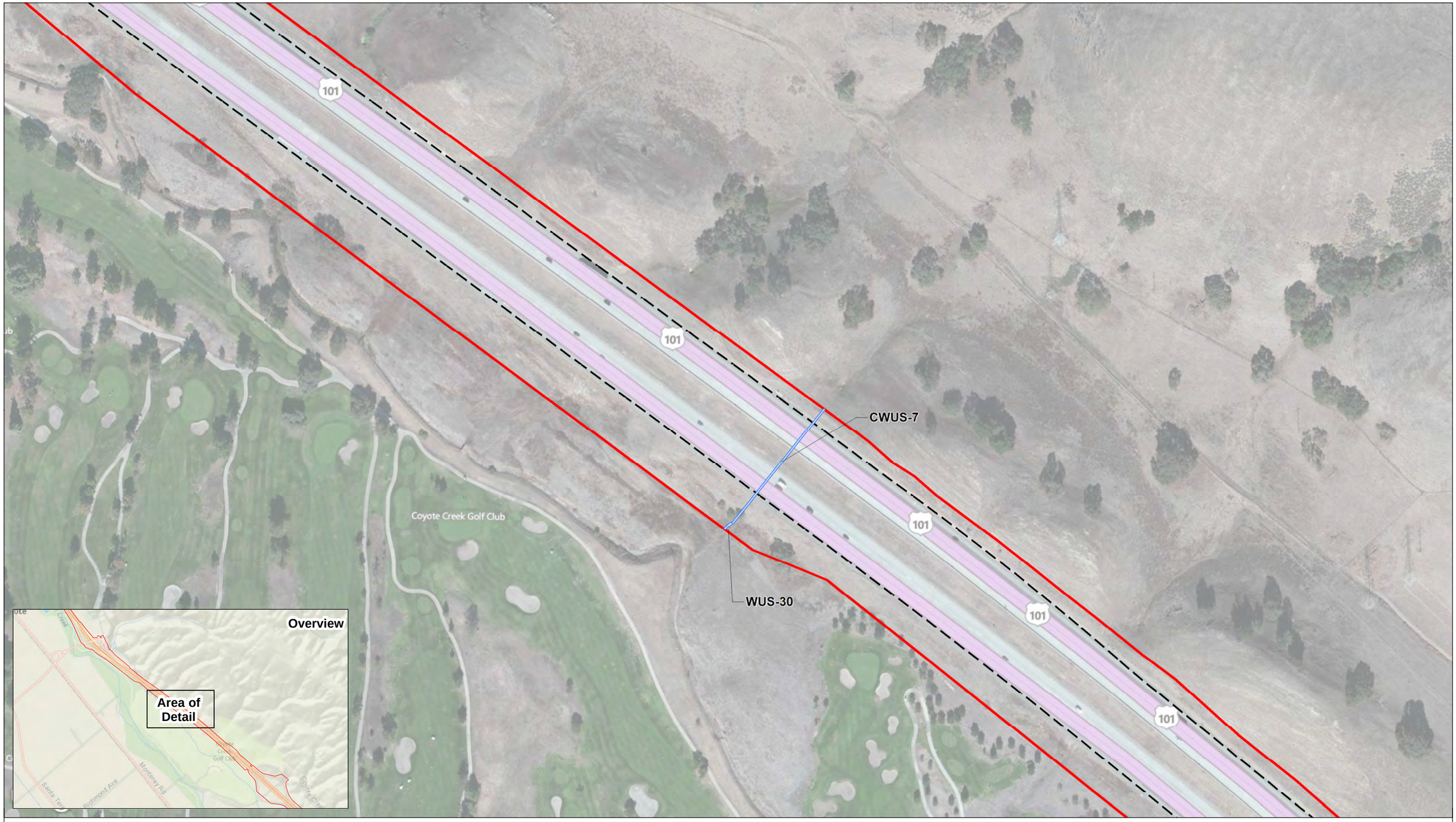
Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 63



N

0 100 200
Feet
1 INCH = 200 FEET

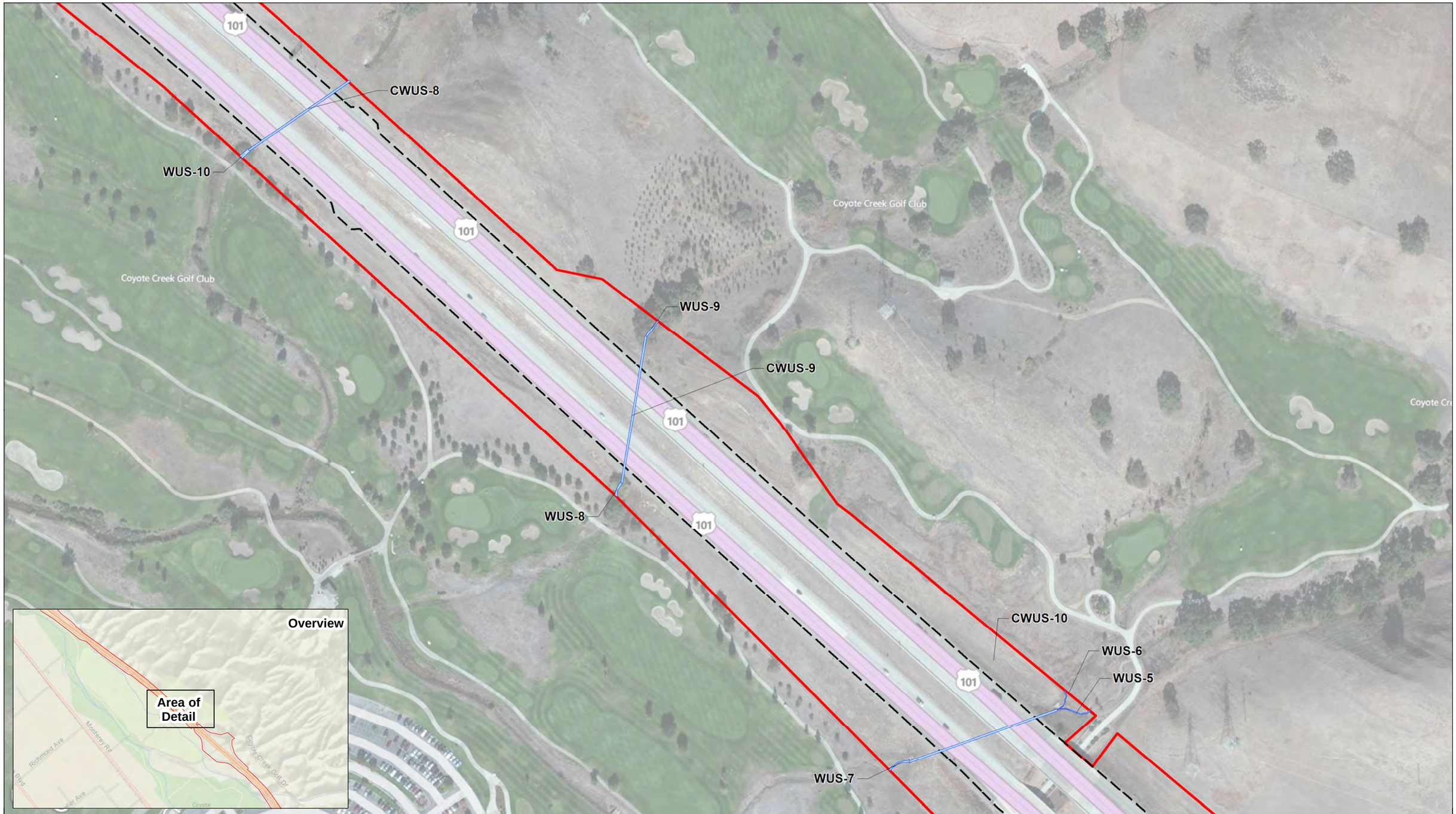
- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 64



N

0 100 200
Feet
1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 65

N

0 100 200
Feet
1 INCH = 200 FEET

Potentially jurisdictional other waters of the U.S.
Potentially jurisdictional wetland
Potentially non-jurisdictional wetland
Historic waters of the U.S.
Project Area
Biological Study Area (BSA)
Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 66

N

0 100 200

Feet

1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 67

WUS-3
WWUS-2
3B
3A
CWUS-15
CWUS-16
WUS-2
WWUS-1
4A
4B
101
Coyote Creek Park
Coyote Creek Trail
Overview
Area of Detail
Monterey Hwy
Doughetty Ave

N

0 100 200
Feet
1 INCH = 200 FEET

- Potentially jurisdictional other waters of the U.S.
- Potentially jurisdictional wetland
- Potentially non-jurisdictional wetland
- Historic waters of the U.S.
- Project Area
- Biological Study Area (BSA)
- Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 68

CWUS-17

WUS-32

WUS-1

101

Coyote Creek Trail

Coyote Creek Park

Overview

Area of Detail

N

0 100 200

Feet

1 INCH = 200 FEET

Potentially jurisdictional other waters of the U.S.

Potentially jurisdictional wetland

Potentially non-jurisdictional wetland

Historic waters of the U.S.

Project Area

Biological Study Area (BSA)

Sample Points

Detail of Mapped Waters and Wetlands in the BSA

US 101
Express Lanes

DECEMBER 2013

APPENDIX A: SHEET 69

Appendix B Wetland Delineation Data Forms

Copies of the wetland delineation data sheets, forms that were prepared to support the determination of wetland areas and their boundaries, are provided in the following pages.

This page intentionally left blank

Coyote Creek Rapanos Form

This page intentionally left blank

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Santa Clara City: Mountain View, Cupertino, Saratoga, Los Gatos and San Jose
Center coordinates of site (lat/long in degree decimal format): Lat. 37.2765° **N**, Long. 122.0071° **W**.
Universal Transverse Mercator:
Name of nearest waterbody:
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: San Francisco Bay
Name of watershed or Hydrologic Unit Code (HUC): Palo Alto Watershed
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): July 21, 2010; August 4, 2010; August 11, 2010; August 26, 2010; September 1, 2010

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or 0.37 acres.
      Wetlands: 0.31 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM.**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: 320 **square miles**
Drainage area: 320 **square miles**
Average annual rainfall: 15 inches
Average annual snowfall: 0 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☒ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **25-30** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **20-25** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: No.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]: Coyote Creek flows under SR 85/US 101 interchange in the Project study area and then flows more than 20 miles through San Jose before confluencing with Mud slough and then emptying into San Francisco Bay.
Tributary stream order, if known: Coyote Creek to Mud slough to San Francisco Bay.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Coyote Creek as been altered by humans for agricultural and development. In the project study area the creek is shaded by the SR 85/101 intersection overpass and is confined by the brdige abutments and piers .

Tributary properties with respect to top of bank (estimate):
Average width: 54 feet
Average depth: 10 feet
Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

☒ Silts	☒ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Fairly stable in channelized condition.
Presence of run/riffle/pool complexes. Explain: There are riffle, run, pool complexes present.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: This stream is perennial with the flow regulated by upstream reservoirs (Anderson, Coyote).
Other information on duration and volume: .

Surface flow is: **Discrete and confined**. Characteristics: The creek is confined under the SR 85 underpass by the levees and surrounding percolation ponds.

Subsurface flow: **Unknown**. Explain findings: Likely subsurface flow under streambed but no tests were performed.
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☒ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☒ leaf litter disturbed or washed away	☐ scour
☒ sediment deposition	☐ multiple observed or predicted flow events
☒ water staining	☒ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: The creek color is clear.

Identify specific pollutants, if known: The creek is known to be impaired by mercury and diazinon and potentially for sediment.

(iv) Biological Characteristics. Channel supports (check all that apply):

☒ Riparian corridor. Characteristics (type, average width): Fremont cottonwood riparian corridor, approximately 200 feet wide.

☐ Wetland fringe. Characteristics: .

☒ Habitat for:

☒ Federally Listed species. Explain findings: Habitat for federally listed Central California Coast Steelhead.

☒ Fish/spawn areas. Explain findings: Fish habitat area.

☐ Other environmentally-sensitive species. Explain findings: .

☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.40 acres

Wetland type. Explain: Freshwater emergent wetlands.

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial flow**. Explain: .

Surface flow is**: Discrete and confined**

Characteristics: Flow in wetlands occurs from overflow and subsurface flow of Los Gatos Creek.

Subsurface flow: **Yes**. Explain findings: Surbsurface flow in wetland as determined by examination of soil sample pit.

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **15-20** river miles from TNW.

Project waters are **10-15** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **2-year or less** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Water color is clear.

Identify specific pollutants, if known: Same pollutants as creek; mercury.

(iii) Biological Characteristics. Wetland supports (check all that apply):

☐ Riparian buffer. Characteristics (type, average width): .

☒ Vegetation type/percent cover. Explain: 30 % spearmint; 20% Fremont cottonwood; 10% arroyo willow; 10% Common cattail .

☐ Habitat for:

☒ Federally Listed species. Explain findings: Habitat for federally listed Central California Coast steelhead.

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: Fish, invertebrates, reptiles, mammals, amphibians and birds. .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **2**

Approximately (0.40) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
WWUS 6 Y	0.37		
WWUS1 Y	0.03		

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The creek was dry during surveys in August However there are physical indicators that show that the creek receives flow during the wet season.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Guadalupe River receives year round flow from upstream reservoirs.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.03** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Microsoft Bing Maps, NAIP 2010.
or ☒ Other (Name & Date):Site visit photographs August 2010.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

NJ-WL-1 Rapanos Form

This page intentionally left blank

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Santa Clara City: San Jose
Center coordinates of site (lat/long in degree decimal format): Lat. 37.284565° **N**, Long. 121.809065° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Coyote Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: NA
Name of watershed or Hydrologic Unit Code (HUC): Coyote Creek Watershed
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): March 7,8, 9, 15 and 16, 2012

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **See section III.F for explanation**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: .
- ☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: T.
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: Likely subsurface flow under streambed but no tests were performed.
- ☐ Dye (or other) test performed: .

Tributary has (check all that apply):
- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

- ☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The creek was dry during surveys in August However there are physical indicators that show that the creek receives flow during the wet season.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.03** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**The waters did not have an apparent connection to a traditional navigable water. The water collected in the roadside ditch and did not appear to have an outlet to the stormwater system. There was no apparent connection between the wetland and Coyote Creek located on the other side of the Hellyer Avenue interchange.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.03 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Microsoft Bing Maps, NAIP 2010.
or ☒ Other (Name & Date):Site visit photographs March 2012.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

NJ-WL-2 Rapanos Form

This page intentionally left blank

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Santa Clara City: San Jose
Center coordinates of site (lat/long in degree decimal format): Lat. 37.282563° **N**, Long. 121.809289° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Coyote Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: NA
Name of watershed or Hydrologic Unit Code (HUC): Coyote Creek Watershed
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): March 7,8, 9, 15 and 16, 2012

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **See section III.F for explanation**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: .
- ☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: T.
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: Likely subsurface flow under streambed but no tests were performed.
- ☐ Dye (or other) test performed: .

Tributary has (check all that apply):
- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

- ☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The creek was dry during surveys in August However there are physical indicators that show that the creek receives flow during the wet season.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.03** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**The waters did not have an apparent connection to a traditional navigable water. The water collected in the roadside ditch and did not appear to have an outlet to the stormwater system. There was no apparent connection between the wetland and Coyote Creek located on the other side of the Hellyer Avenue interchange.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.02 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Microsoft Bing Maps, NAIP 2010.
or ☒ Other (Name & Date):Site visit photographs March 2012.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

NJ-WL-3 Rapanos Form

This page intentionally left blank

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Santa Clara City: San Jose
Center coordinates of site (lat/long in degree decimal format): Lat. 37.339327° **N**, Long. 121.850502° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Coyote Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: NA
Name of watershed or Hydrologic Unit Code (HUC): Coyote Creek Watershed
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): March 7,8, 9, 15 and 16, 2012

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **See section III.F for explanation** .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: .
- ☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: T.
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: Likely subsurface flow under streambed but no tests were performed.
- ☐ Dye (or other) test performed: .

Tributary has (check all that apply):
- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

- ☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The creek was dry during surveys in August However there are physical indicators that show that the creek receives flow during the wet season.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.03** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**The waters did not have an apparent connection to a traditional navigable water. The water collected in the roadside ditch and connected to the stormwater system. The nearest RPW would be Coyote Creek over a mile away.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.01 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Microsoft Bing Maps, NAIP 2010.
or ☒ Other (Name & Date):Site visit photographs March 2012.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

NJ-WL-4 and NJ-WL-5 Rapanos Form

This page intentionally left blank

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Santa Clara City: Mountain View, Cupertino, Saratoga, Los Gatos and San Jose
Center coordinates of site (lat/long in degree decimal format): Lat. 37.362890° **N**, Long. 121.892385° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Coyote Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: NA
Name of watershed or Hydrologic Unit Code (HUC): Coyote Creek Watershed
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): March 7,8, 9, 15 and 16, 2012

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **See section III.F for explanation**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: .
- ☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: T.
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: Likely subsurface flow under streambed but no tests were performed.
- ☐ Dye (or other) test performed: .

Tributary has (check all that apply):
- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

- ☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The creek was dry during surveys in August However there are physical indicators that show that the creek receives flow during the wet season.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.03** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**The wetland did not have an apparent connection to a traditional navigable water. Seep water from the hillside provides the hydrology for the wetland. No other apparent surface waters were present.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.03 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Microsoft Bing Maps, NAIP 2010.
or ☒ Other (Name & Date):Site visit photographs March 2012.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

WWUS-1 Rapanos Form

This page intentionally left blank

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Santa Clara City: Mountain View, Cupertino, Saratoga, Los Gatos and San Jose
Center coordinates of site (lat/long in degree decimal format): Lat. 37.177063° **N**, Long. 121.678625° **W**.
Universal Transverse Mercator:
Name of nearest waterbody:
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: San Francisco Bay
Name of watershed or Hydrologic Unit Code (HUC): Palo Alto Watershed
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): March 7,8, 9, 15 and 16, 2012

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or 0.04 acres.
      Wetlands: 0.02 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM.**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: 320 **square miles**
Drainage area: 320 **square miles**
Average annual rainfall: 15 inches
Average annual snowfall: 0 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☒ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **20-25** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: No.

Identify flow route to TNW[5]: Wetland WWUS -1 is adjacent to the ephemeral drainage WUS-2 that is tributary to Coyote Creek. Coyote Creek connects to mud slough and then San Francisco Bay.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: Ephemeral Drainage to Coyote Creek to Mud slough to San Francisco Bay.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: 44 feet
Average depth: 5 feet
Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

☒ Silts	☒ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☒ Vegetation. Type/% cover: Cottonwood riparian forest	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Fairly stable.
Presence of run/riffle/pool complexes. Explain: Yes riffle and run complexes.
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Intermittent but not seasonal flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: This stream is perennial with the flow being released by Coyote and Anderson Reservoirs upstream.

Other information on duration and volume: .

Surface flow is: **Discrete and confined.** Characteristics: .

Subsurface flow: **Unknown**. Explain findings: Likely subsurface flow under streambed but no tests were performed.
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☒ clear, natural line impressed on the bank	☒ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☒ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☒ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☒ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: No water could not tell..
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

☒ Riparian corridor. Characteristics (type, average width): None.
☐ Wetland fringe. Characteristics: .
☒ Habitat for:
☒ Federally Listed species. Explain findings: Habitat for federally listed California Red-legged Frog and Central california coast steelhead.
☒ Fish/spawn areas. Explain findings: Steelhead habitat and other fish and aquatic species.
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:
Wetland size: 0.0 acres
Wetland type. Explain: Freshwater emergent wetlands.
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:
Flow is: **Perennial flow**. Explain: .

Surface flow is**: Discrete and confined**
Characteristics: Flow in wetlands occurs from overflow and subsurface flow of Los Gatos Creek.

Subsurface flow: **Yes**. Explain findings: Surbsurface flow in wetland as determined by examination of soil sample pit.
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **15-20** river miles from TNW.
Project waters are **10-15** aerial (straight) miles from TNW.
Flow is from: **Wetland to navigable waters.**
Estimate approximate location of wetland as within the **2-year or less** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Water color is clear.
Identify specific pollutants, if known: Same pollutants as creek; mercury.

(iii) Biological Characteristics. Wetland supports (check all that apply):

☐ Riparian buffer. Characteristics (type, average width): .
☒ Vegetation type/percent cover. Explain: 30 % spearmint; 20% Fremont cottonwood; 10% arroyo willow; 10% Common cattail .
☐ Habitat for:
☒ Federally Listed species. Explain findings: Habitat for federally listed Central California Coast steelhead.
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings: Fish, invertebrates, reptiles, mammals, amphibians and birds. .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **2**
Approximately (0.40) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
WWUS 6 Y	0.37		
WWUS1 Y	0.03		

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The creek was dry during surveys in August However there are physical indicators that show that the creek receives flow during the wet season.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Guadalupe River receives year round flow from upstream reservoirs.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.03** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Microsoft Bing Maps, NAIP 2010.
or ☒ Other (Name & Date):Site visit photographs August 2010.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

Arid West Wetland Data Forms

This page intentionally left blank

1A (Appendix A, sheets 34 and 66)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA State: CA Sampling Point: 1A
Investigator(s): C. Stewman, Joe Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Slope (%):
Subregion (LRR): LRR-C Lat: 37.191626° Long: -121.691190 Datum: Decimal Degrees
Soil Map Unit Name: ACE - Altamont clay - 15 to 30% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ✓ No ____
Remarks: Seep fed wetland within drainage bed with obligate vegetation

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	90	Y	OBL
2. Epilobium ciliatum	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
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: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	5	x 2 =	10
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	95 (A)		100 (B)

Prevalence Index = B/A = 1.1

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
✓ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: Dominance of obligate hydrophytes

SOIL

Sampling Point: 1A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/1	100					Silt	mucky
1-16	Gley1 2.5/10Y	100					Sandy clay	Roots in upper 5 inches

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Strong Redoximorphic indicators including hydrogen sulfide odor and gleyed matrix nearly to surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Intermittent seep fed drainage from Coyote Ridge/Kirby Canyon Area off serpentine

1B (Appendix A, sheets 34 and 66)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA / Caltrans State: CA. Sampling Point: 1B
Investigator(s): Casey Stewman, Joe Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Slope (%): 3
Subregion (LRR): LRR-C Lat: 37.196550° Long: -121.691148° Datum: Decimal Degrees NAD 83
Soil Map Unit Name: AcE - Altamont clay - 15 to 30 % slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? No (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 ✓
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No ✓

Remarks:
Point 1B is 9 ft. up bank from point 1A in ruderal weeds grassland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Centaurea solstitialis	80	Y	UPL
2. Bromus hordeaceus	20	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % 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 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50% No
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No ✓

Remarks:
Dominance of upland herbaceous species

SOIL

Sampling Point: 1B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Sandy clay	Roots in upper 3 inches
	10YR 5/6	30						
10-16	10YR 2/1	90					Clay	distinctly clay layer
	10YR 5/6	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: clay layer (thick)

Depth (inches): 10

Hydric Soil Present? Yes ____ No ✓

Remarks:

No Redoximorphic indicators in upland bank position

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

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

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Fails hydrology, 1B is approximately 2 ft. vertically above point 1A

2A (Appendix A, sheets 33 and 63)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 EXPRESS LANES City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA / Caltrans State: CA Sampling Point: 2A
Investigator(s): Casey Stewman, Joe Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace @ toeslope Local relief (concave, convex, none): Slope (%):
Subregion (LRR): C Lat: 37.207140° Long: -121.718034° Datum: NAD 83 Decimal Degrees
Soil Map Unit Name: GaA - Garretson loam, 0 to 2% slope NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? No (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
Hydric Soil Present? Yes ✓ No
Wetland Hydrology Present? Yes ✓ No
Is the Sampled Area within a Wetland? Yes ✓ No

Remarks: Seep fed wetland from Coyote Ridge seeping east of US 101 freshwater marsh with California red-legged frog

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Cirsium fontinale	35	Y	OBL
2. Stachys albens	25	Y	OBL
3. Epilobium ciliatum	15	N	FACW
4. Cyperus eragrostis	25	Y	FACW
5.			
6.			
7.			
8.			
Total Cover: 100			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum — % 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: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 60	x 1 = 60
FACW species 40	x 2 = 80
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 100 (A)	140 (B)

Prevalence Index = B/A = 1.4

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: Dominance of obligate and facultative wetland hydrophytes

SOIL

Sampling Point: 2A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					silt	Muck.
1-11	10YR 2/1	100					silty clay loam	Roots in top 5"
11-16	Gley1 2.5/10Y	85	10YR 3/2	10		M	clay loam	
			10YR 5/6	5				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Strong redoximorphic indicators including hydrogen sulfide, reduced matrix and gleyed layer

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Wetland on low terrace east of 101 Road bank in valley fed by seep/drainage from hills through culvert under SCVWD Coyote canal

2B (Appendix A, sheets 33 and 63)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA / CalTrans State: CA. Sampling Point: 2B
Investigator(s): Casey Stowman, Joe Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): footslope @ toeslope Local relief (concave, convex, none): Slope (%):
Subregion (LRR): C Lat: 37.207097° Long: -121.718039° Datum: NAD83
Soil Map Unit Name: GaA - Garretson loam - 0 to 2% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? No (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 ✓
Hydric Soil Present? Yes No ✓
Wetland Hydrology Present? Yes No ✓

Is the Sampled Area within a Wetland? Yes No ✓

Remarks:
Foot of Mt. Hamilton Range / Coyote Ridge just east of US 101 Freeway slope
Edge of freshwater marsh and pool

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Centaurea soletitialis	10	N	UPL
2. Vulpia myuros	60	Y	FACU
3. Piptatherum fullonum	30	Y	NI
4. Carduus pycnocephalus	5	N	UPL
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % 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 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50% Fails
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No ✓

Remarks:
Dominance of facultative upland and upland herbaceous species

SOIL

Sampling Point: 2B

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 4/4	100					Sandy loam	40% Rocks/coarse fragments

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No Redoximorphic indicators in profile

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

NA

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

No hydrology, Point 2B is 10' laterally and ~2 ft. vertically from (above) point 2A (in wetland)

3A (Appendix A, sheets 36 and 68)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA / Caltrans State: CA Sampling Point: 3A
Investigator(s): Joe Brandel, Casey Stowman Section, Township, Range:
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: 37.178032° Long: -121.679759° Datum: NAD 83
Soil Map Unit Name: SbF3 - San Benito clay - 30 to 50% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ND, or Hydrology NO significantly disturbed? YES Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? NO (If needed, explain any answers in Remarks.) Cattail stalks have been cut in canal in portions

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

Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes	No	
Wetland Hydrology Present?	Yes	No	

Remarks: Section of canal with earthen bottom at low point with standing water

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	60	Y	OBL
2. Mimulus guttatus	40	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover: 100			

% Bare Ground in Herb Stratum . % 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 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	40	x 2 =	80
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		140 (B)

Prevalence Index = B/A = 1.40

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: Dominance of obligate + facultative wetland hydrophytes in inundated canal near entrance to culvert (low point)

SOIL

Sampling Point: 3A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Silt loam	w/ Roots
4-16	10YR 3/2	15	10YR 2/2	90	RM	M	sandy loam	60% coarse fragments

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Reduced matrix in submerged soils, dark thick surface layer anaerobic conditions present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ✓ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 5

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Standing water in lower part of canal NEAR entrance to culvert, wetland vegetation extends into concrete from earth canal

3B (Appendix A, sheets 36 and 68)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA / Caltrans State: CA Sampling Point: 3B
Investigator(s): Joe Bandel, Casey Stewman Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Slope (%): 15
Subregion (LRR): C Lat: 37.178009° Long: -121.679763° Datum: NAD83
Soil Map Unit Name: SbF3 - San Benito clay - 30 to 50% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ____ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: Upland edge of canal on slope of bank just above point 3A. Canal is avg. 8' width ohwm

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Baccharis			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Dipsacus fullonum	20	Y	NI
2. Baccharis pilularis	55	Y	UPL
3. Bromus madritensis	10	N	UPL
4. Centaurea solstitialis	5	N	UPL
5.			
6.			
7.			
8.			
Total Cover:	90		
Woody Vine Stratum			
1.			
2.			
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 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species 90	x 5 =	450
Column Totals: 90 (A)		450 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50% No
___ Prevalence Index is ≤3.0[1] No
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: Dominance of upland shrubs and herbs

SOIL

Sampling Point: 3B

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No Redoximorphic indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Point 3B is on bank slope of canal, approximately five feet laterally and 2.5 ft. vertically from point 3A

4A (Appendix A, sheets 36 and 68)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA/Caltrans State: CA. Sampling Point: 4A
Investigator(s): C. Stewman, J. Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Slope (%):
Subregion (LRR): C Lat: 37.17702° Long: -121.678740° Datum: NAD 83
Soil Map Unit Name: YeC – Yolo silty clay loam – 2 to 9% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks: Wetland downstream of 4' diameter culvert
Wetland is approximately 16' wide

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	60%	Y	OBL
2. Melilotus officinalis	40%	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % 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% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: Dominated by hydrophytes. Wetland vegetation is present

SOIL

Sampling Point: 4A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1						Silt	mucky
1-16 inches	10YR 3/2	10%					Silt	mucky down to 6 inches
			Clay 2.5Y 5/1	90%	RM	M	↓	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: Depleted Matrix, gleyed soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- 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)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1 inch

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Surface water is present at about 1" deep.

4B (Appendix A, sheets 36 and 68)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA / Caltrans State: CA Sampling Point: 4B
Investigator(s): Casey Stowman, Joe Bantel Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Slope (%):
Subregion (LRR): C Lat: 37.17075 Long: -121.679717 Datum: decimal degrees NAD 1983
Soil Map Unit Name: YeC - Yolo silty clay loam - 2 to 9% slopes NWI classification: —
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? No (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 ✓
Hydric Soil Present? Yes No ✓
Wetland Hydrology Present? Yes No ✓
Is the Sampled Area within a Wetland? Yes No ✓

Remarks: Approximate 4 ft. laterally + 1.5 ft. vertically from point 4A.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Baccharis pilularis	30%		UPL
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Centaurea Solstitialis	50%		UPL
2. Dipsacus fullonum	20%		NI
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % 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% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 5

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No ✓

Remarks: No wetland plants present, No hydrophytes

SOIL

Sampling Point: 4B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100%					clay loam	5% rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soils present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Dry upland area with weeds. No hydrology present

5A (Appendix A, sheets 24 and 56)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: Santa Clara Sampling Date: 3/8/12
Applicant/Owner: VTA/Caltrans State: _____ Sampling Point: 5A
Investigator(s): Casey Stowman, Joe Bandel Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Hillslope - Toeslope Local relief (concave, convex, none): Concave Slope (%): _____
Subregion (LRR): C Lat: 37.282610° Long: -121.809331° Datum: NAD83
Soil Map Unit Name: 130 – Urban land – Still complex – 0 to 2% slopes NWI classification: —
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Roadside ditch with hydrophytes along NB 101 on-ramp at Hellyer Ave

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Cyperus eragrostis	70%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	70%		
Woody Vine Stratum			
1.			
2.			
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: _____ (A)
Total Number of Dominant Species Across All Strata: _____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: Nutsedge is the only plant in the ditch

SOIL

Sampling Point: 3A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2						silty clay	roots in top 4"
6-16	10YR 3/1	45%					clay	
	10YR 5/4	55%					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: clay layer

Depth (inches): 6 inches

Hydric Soil Present? Yes _____ No _____

Remarks: Top 5 inches of silty clay are much darker color than upland soil. 6-16 inches are fill soil fix

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks: Soil is damp

5B (Appendix A, sheets 24 and 56)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose, Santa Clara Sampling Date: 3/8/12
Applicant/Owner: State: CA Sampling Point: 5B
Investigator(s): Casey Stewart, Joe Handel Section, Township, Range:
Landform (hillslope, terrace, etc.): hillslope - lower 1/3rd Local relief (concave, convex, none): Concave Slope (%):
Subregion (LRR): C Lat: 37.262592° Long: -121.809290° Datum:
Soil Map Unit Name: 130 – Urban land – Still complex – 0 to 2 slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? No (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 ✓	Is the Sampled Area within a Wetland? Yes No ✓
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes	No ✓	

Remarks: Took point on the side of the roadside ditch next to NB US 101 on-ramp at Hellyer Ave

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena barbata	80%	UPL	
2. Bromus diandrus	20%	UPL	
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % 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: (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No ✓

Remarks: Upland grassland on side of roadside ditch

SOIL

Sampling Point: 5B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
	10YR 7/4						Sandy clay loam	- large rock fragments 60%

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks: No hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No _____

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

Remarks: No indicators of hydrology

6A (Appendix A, sheets 24 and 56)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose/Santa Clara Sampling Date: 3/9/12

Applicant/Owner: VTA / Caltrans State: CA Sampling Point: 6A

Investigator(s): Casey Stowman, Joe Bandel Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Roadside Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): C Lat: 37.28410° Long: -121.80784° Datum: NAD 1983 decimal degrees

Soil Map Unit Name: 302 – Montara Rock outcrop complex – 30 to 50% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Roadside ditch on east side of 101, just north of Hellyer Ave. with cattail

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	80	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 80			
Woody Vine Stratum			
1.			
2.			
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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: Inundated Roadside ditch fed from pond system upslope with dominance of obligate wetland vegetation.

SOIL

Sampling Point: 6A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/1	100%					sandy clay	Rocks in upper 5"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Strong Redoximorphic indicators, including gleyed soils to surface in inundated Roadside ditch

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 6

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Standing water in Roadside ditch near Hellyer Ave.

6B (Appendix A, sheets 24 and 56)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose/Santa Clara Sampling Date: 3/9/12

Applicant/Owner: VTA / Caltrans State: CA Sampling Point: 6B

Investigator(s): Casey Stewman Section, Township, Range:

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): Slope (%):

Subregion (LRR): C Lat: 37.284462° Long: -121.809045° Datum:

Soil Map Unit Name: 302 - Montara - Rock outcrop complex - 30 to 50% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ____, or Hydrology ____ significantly disturbed? Mowed Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: Upland point is 18 inches vertically up roadside slope from Point 6A

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Heterotheca sessiliflora	20	Y	UPL
2. Avena barbata	20	Y	UPL
3. Erodium botrys	10	N	UPL
4. Picris echioides	10		UPL
5.			
6.			
7.			
8.			
Total Cover:	60		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 40 % 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 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50% No

___ Prevalence Index is ≤3.0[1] No

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: Ruderal upland bank with upland weed species

SOIL

Sampling Point: 6B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	90					clay	10% Rocks + coarse fragments
	10YR 4/6	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

NA

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redoximorphic indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

NA

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Fails hydrology

7A (Appendix A, sheets 18 and 54)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose/Santa Clara Sampling Date: 3/9/12
Applicant/Owner: VTA/Caltrans State: CA Sampling Point: 7A
Investigator(s): Casey Stewman, Joe Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): Slope (%):
Subregion (LRR): C Lat: 37.339570 Long: -121.950533 Datum: NAD 1983 Decimal Degrees
Soil Map Unit Name: 180 – Urbanland-Newpark complex – 0 to 2% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? No (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	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks: Drainage ditch draining to stormwater culvert in cloverleaf of interchange area on east side of 101 @ 280/680 interchange

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Scirpus robustus	95	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
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: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 95	x 1 = 95
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 95 (A)	95 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: Dominant species in ditch is obligate hydrophyte

SOIL

Sampling Point: 7A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	70	10YR 3/1	30	RM	M	clay	Roots in top layer
6-16	10YR 4/3	84%	Gley 2 3/10B	1%	C	M	clay	
			Gley 1 3/5GY	5%	C	PL		
			10YR 6/6	10%	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

7B (Appendix A, sheets 18 and 54)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose/Santa Clara Sampling Date: 3/9/12
Applicant/Owner: VTA Caltrans State: CA Sampling Point: 7B
Investigator(s): Casey Stewman, Joe Bandel Section, Township, Range:
Landform (hillslope, terrace, etc.): TERRACE – FREEWAY Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): C Lat: 37.339370 Long: -121.850533 Datum:
Soil Map Unit Name: 180 – Urbanland – Newpark complex, 0 to 2% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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 ✓	Is the Sampled Area within a Wetland? Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: This point is approximately 60 ft. horizontally + 2 ft vertically from point 7A. Taken in cloverleaf i. I-280/680 + 101 interchange

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena barbata	65%	Y	UPL
2. Geranium dissectum	5%	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
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: _____ (A)
Total Number of Dominant Species Across All Strata: _____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: Only upland species present

SOIL

Sampling Point: 7B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100%					clay loam	
7-16	10YR 3/2	100%					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks: No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks: No signs or indicators of hydrology

8A (Appendix A, sheets 13 and 51)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose, Santa Clara Sampling Date: 3/9/12

Applicant/Owner: Caltrans, VTA State: CA Sampling Point: 8A

Investigator(s): Casey Stowman, Joe Bandel Section, Township, Range:

Landform (hillslope, terrace, etc.): creek bottom - channel Local relief (concave, convex, none): Slope (%):

Subregion (LRR): C Lat: 37.375374 Long: -121.932782 Datum: NAD 82 decimal degrees

Soil Map Unit Name: 171 - Elder fine sandy loam - 0 to 2% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation , Soil , or Hydrology naturally problematic? NO (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	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓	No	
Wetland Hydrology Present?	Yes ✓	No	

Remarks: Wetlands within OHWM of Guadalupe River – armored rock banks on the bank side of wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Scirpus americanus	40%		OBL
2. Typha latifolia	40%		OBL
3. Plant (Cirsium)	10%		FAW-
4. Epilobium ciliatum	10%		FACU
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % 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% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: Dominance of Obligate wetland plants

SOIL

Sampling Point: 8A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Sandy clay loam	15% roots + roots
3-9	10YR 4/1	100					Sandy clay	
10-16	10YR 4/1	100					Sandy loam	80% coarse fragments

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Reduced soil conditions, produced dark brown soil colors

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 8

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

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 3.0

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Surface water present at 8 inches below surface. Hydrogen sulfide odor present.

8B (Appendix A, sheets 13 and 51)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: VTA 101 Express Lanes City/County: San Jose/Santa Clara Sampling Date: 3/9/12
Applicant/Owner: Caltrans VTA State: CA Sampling Point: 8B
Investigator(s): Casey Stewman Joe Bondal Section, Township, Range:
Landform (hillslope, terrace, etc.): creek bottom - channel Local relief (concave, convex, none): Slope (%):
Subregion (LRR): C Lat: 37.375340 Long: -121.932534 Datum:
Soil Map Unit Name: 171 - Elder fine sandy loam - 0 to 2% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? YES Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? YES (If needed, explain any answers in Remarks.)
Paved + armored streambank

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

Hydrophytic Vegetation Present?	Yes	No	Is the Sampled Area within a Wetland? Yes No
Hydric Soil Present?	Yes	No	
Wetland Hydrology Present?	Yes	No	

Remarks: This point is on concrete. There are no soils or plants present. No signs of hydrology. There was no other point that could be taken in an upland which had soil + plants near the wetland. The sides of the channel are concrete

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No ✓

Remarks:
No Plants Present

SOIL

Sampling Point: 8B

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No soils present, just concrete + boulder/Rip-Rap/armoring

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

No signs of hydrology Present

Appendix C Photos of Representative Wetlands and Other Waters of the United States

Photograph 1: CWUS-1 Permanente Creek – culverted water (Appendix A, Sheets 5 and 43)

Photograph 2: WUS-1 Coyote Creek, southernmost crossing under US 101 (Appendix A, Sheets 36, 37 and 69)

Photograph 3: WUS-1 Coyote Creek, southernmost crossing, west of US 101 (Appendix A, Sheets 36, 37 and 69)

Photograph 4: WUS-9 Ephemeral Drainage, on the east side of US 101; continuation of WUS-8 on the west side of US 101, north of Coyote Creek Golf Drive (Appendix A, Sheets 34 and 65)

Photograph 5: WUS-12 Coyote Creek, crossing under US 101 and ramps to SR 85 (Appendix A, Sheets 29 and 58)

Photograph 6: WUS-12 Coyote Creek, crossing under US 101/SR 85 interchange in San Jose (Appendix A, Sheets 29 and 58)

Photograph 7: WUS-13 Ephemeral drainage to Coyote Creek, on the west side of Coyote Creek just east of the US 101 overcrossing at Bernal Road (Appendix A, Sheets 29 and 58)

Photograph 8: WUS-14 Coyote Creek, crossing under US 101 near the US 101/Hellyer Avenue interchange (Appendix A, Sheets 24 and 57)

Photograph 9: WUS-14 Coyote Creek, crossing under US 101 near the US 101/Hellyer Avenue interchange (Appendix A, Sheets 24 and 57)

Photograph 10: WUS-17 Silver Creek, at US 101 bridge (Appendix A, Sheets 16 and 53)

Photograph 11: WUS-19 Guadalupe River, underneath US 101 (Appendix A, Sheets 13 and 51)

Photograph 12: WUS-19 Guadalupe River, northeast of US 101 and WWUS-11 cattail-bulrush wetland – perennial in-stream – Guadalupe River (Appendix A, Sheets 13 and 51)

Photograph 13: WUS-20 San Tomas Aquino Creek, south of US 101 (Appendix A, Sheets 12 and 50)

Photograph 14: WUS-22 Mathilda Channel (Appendix A, Sheets 9 and 47)

Photograph 15: WUS-26 Intermittent stream, with Mt. Hamilton fountain thistle west of US 101 (Appendix A, Sheets 35 and 67)

Photograph 16: WUS-27 Ephemeral drainage, east of US 101 with Mt. Hamilton fountain thistle (Appendix A, Sheets 34 and 66)

Photograph 17: WUS-27 Ephemeral drainage, east of US 101 with Mt. Hamilton fountain thistle (Appendix A, Sheets 34 and 66)

Photograph 18: WUS-28 Ephemeral Drainage (Appendix A, Sheets 35 and 67)

Photograph 19: WUS-31 Intermittent stream (Appendix A, Sheets 32 and 62)

Photograph 20: WWUS-3 Cattail wetland – perennial in-stream, located on the east side of the US 101/Coyote Creek Golf Drive interchange (Appendix A, Sheets 34 and 66)

Photograph 21: WWUS-3 Cattail wetland – perennial in-stream, located on the east side of the US 101/Coyote Creek Golf Drive interchange (Appendix A, Sheets 34 and 66)

Photograph 22: WWUS-4 Cattail wetland – in-stream (Appendix A, Sheets 33 and 63)

Photograph 23: WWUS-5 Freshwater marsh – perennial (Appendix A, Sheets 33 and 63)

Photograph 24: WWUS-7 Coyote Creek – perennial in-stream located on the east side of US 101 south of the northbound US 101/westbound SR 85 interchange (Appendix A, Sheets 29 and 58)

Photograph 25: WWUS-12 Perennial freshwater wetland, along west side of US 101 (Appendix A, Sheets 29 and 59)

Photograph 26: WWUS-13 Perennial freshwater cattail wetland, along east side of US 101 (Appendix A, Sheets 29 and 59)

Photograph 27: NJ-WL-4 Seep-fed cattail wetland – isolated, caused by underground seep, located on slope of exit ramp (Appendix A, Sheets 15 and 52)

Photograph 28: NJ-WL-5 Seep-fed cattail wetland – isolated, caused by underground seep, on slope of exit ramp (Appendix A, Sheets 15 and 52)

Appendix D Vascular Plant List

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Family	Scientific Name	Common Name	Life history	Status
Aceraceae	*Acer macrophyllum*	big-leaf maple	tree	native
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	shrub	native
Anacardiaceae	*Schinus molle*	Peruvian pepper tree	tree	native
Anacardiaceae	*Toxicodendron diversilobum*	Pacific poison oak	shrub	native
Apiaceae	*Anthriscus caucalis*	bur-chevril	annual	non-native
Apiaceae	*Conium maculatum*	poison hemlock	biennial	Cal-IPC Moderate
Apiaceae	*Foeniculum vulgare*	sweet fennel	perennial	Cal-IPC High
Apiaceae	*Lomatium utriculatum*	lomatium	perennial	native
Apiaceae	*Sanicula bipinnata*	poison sanicle	annual	native
Apiaceae	*Sanicula bipinnatifida*	purple sanicle	annual	native
Apiaceae	*Sanicula crassicaulis*	Pacific sanicle	perennial	native
Apiaceae	*Torilis arvensis*	meadow parsley	annual	non-native
Apocynaceae	*Nerium oleander*	oleander	shrub	non-native
Apocynaceae	*Vinca major*	periwinkle	perennial	non-native
Araceae	*Lemna minor*	duckweed	aquatic	native
Araliaceae	*Hedera helix*	English Ivy	vine	Cal-IPC High
Arecaceae	*Washingtonia robusta*	Washington fan palm	tree	Cal-IPC Moderate
Asteraceae	*Achillea millefolium*	common white yarrow	perennial	native
Asteraceae	*Ageratina adenophora*	ageratina	perennial	non-native
Asteraceae	*Artemisia californica*	California sagebrush	shrub	native
Asteraceae	*Artemisia douglasiana*	mugwort	perennial	native
Asteraceae	*Aster chilensis*	California aster	perennial	native
Asteraceae	*Baccharis douglasii*	marsh baccharis	shrub	native
Asteraceae	*Baccharis pilularis*	coyote brush	shrub	native
Asteraceae	*Baccharis salicifolia*	mulefat	shrub	native
Asteraceae	*Bellis perennis*	English daisy	perennial	non-native
Asteraceae	*Blepharizonia plumosa*	big tarweed		
Asteraceae	*Calendula arvensis*	field-marigold	annual	non-native
Asteraceae	*Carduus pycnocephalus*	Italian thistle	annual	Cal-IPC Moderate
Asteraceae	*Centaurea melitensis*	tocalote	annual	Cal-IPC Moderate
Asteraceae	*Centaurea solstitialis*	yellow star-thistle	annual	Cal-IPC High
Asteraceae	*Chamomilla suaveolens*	pineapple weed	annual	non-native

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Asteraceae	*Cirsium arvense*	Canada thistle	perennial	non-native
Asteraceae	*Cirsium fontinale var. campylon*	Mt. Hamilton fountain thistle	perennial	rare, CNPS List 1B.2
Asteraceae	*Cirsium vulgare*	bull thistle	biennial	non-native
Asteraceae	*Conyza canadensis*	Canada horseweed	annual	native
Asteraceae	*Cynara cardunculus*	artichoke thistle	annual	non-native
Asteraceae	*Delairea odorata*	Cape ivy	perennial	Cal-IPC High
Asteraceae	*Erigeron bonariensis*	flax-leaved horseweed	annual	non-native
Asteraceae	*Eriophyllum confertiflorum* var. *confertiflorum*	golden yarrow	shrub	native
Asteraceae	*Euthamia occidentalis*	western goldenrod	perennial	native
Asteraceae	*Gnaphalium californicum*	California cudweed	annual	native
Asteraceae	*Gnaphalium canescens* ssp. *beneolens*	cudweed	biennial	native
Asteraceae	*Gnaphalium luteo-album*	weedy cudweed	annual	non-native
Asteraceae	*Grindelia camporum*	valley gumplant	perennial	native
Asteraceae	*Hemizonia congesta* ssp. *luzulifolia*	hayfield tarplant	annual	native
Asteraceae	*Heterotheca grandiflora*	telegraph weed	annual	native
Asteraceae	*Heterotheca sessiliflora* ssp. *echioides*	golden aster	annual	native
Asteraceae	*Hypochaeris radicata*	hairy cat's ear	annual	Cal-IPC Limited
Asteraceae	*Lactuca saligna*	prickly lettuce	annual	non-native
Asteraceae	*Lactuca serriola*	prickly lettuce	annual	non-native
Asteraceae	*Lasthenia californica*	goldfields	annual	native
Asteraceae	*Lasthenia* sp.	goldfields	annual	native
Asteraceae	*Lessingia filaginifolia*	California aster	perennial	native
Asteraceae	*Lessingia micradenia* var. *glabrata*	smooth lessingia	annual	rare, CNPS List 1B.2
Asteraceae	*Logfia gallica*	daggerleaf cottonrose	annual	non-native
Asteraceae	*Logfia filaginoides*	California cottonrose	annual	native
Asteraceae	*Picris echioides*	bristly ox-tongue	annual	Cal-IPC Limited
Asteraceae	*Senecio vulgaris*	common groundsel	annual	non-native
Asteraceae	*Sonchus asper*	spiny sowthistle	annual	non-native
Asteraceae	*Sonchus oleraceus*	common sowthistle	annual	non-native
Asteraceae	*Stephanomeria virgata*	wand wirelettuce	annual	native
Asteraceae	*Taraxacum officionale*	common dandelion	annual	non-native

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Asteraceae	*Tragopogon porrifolius*	salsify	annual	non-native
Asteraceae	*Xanthium spinosum*	spiny cocklebur	annual	non-native
Asteraceae	*Xanthium strumarium*	rough cocklebur	annual	native
Azollaceae	*Azolla filiculoides*	water fern	aquatic	native
Betulaceae	*Alnus rhombifolia*	white alder	tree	native
Boraginaceae	*Amsinckia menziesii var. intermedia*	fiddleneck	annual	native
Boraginaceae	*Myosotis discolor*	forget-me-not	annual	non-native
Boraginaceae	*Plagiobothrys* sp.	popcorn flower	annual	native
Brassicaceae	*Alyssum sp.*	Alyssum	annual	horticultural
Brassicaceae	*Brassica nigra*	black mustard	annual	Cal-IPC Moderate
Brassicaceae	*Brassica rapa*	French breakfast mustard	annual	Cal-IPC Limited
Brassicaceae	*Brassica tournefortii*	mustard	annual	Cal-IPC Limited
Brassicaceae	*Cardamine oligosperma*	bittercress	annual	native
Brassicaceae	*Hirschfeldia incana*	hoary mustard	perennial	Cal-IPC Moderate
Brassicaceae	*Lepidium appelianum*	white-top	perennial	non-native
Brassicaceae	*Lepidium nitidum* var. *nitidum*	Shining pepperweed	annual	native
Brassicaceae	*Nasturtium officinale*	water cress	perennial	native
Brassicaceae	*Raphanus raphinastrum*	wild radish	biennial	non-native
Brassicaceae	*Raphanus sativus*	charlock raddish	biennial	Cal-IPC Limited
Brassicaceae	*Streptanthus albidus* ssp. *peramoenus*	most beautiful jewel flower	annual	rare, CNPS List 1B.2
Caprifoliaceae	*Sambucus coerulea*	blue elderberry	shrub	native
Caryophyllaceae	*Silene gallica*	catchfly	annual	non-native
Caryophyllaceae	*Spergula arvensis*	spurrey	annual	non-native
Caryophyllaceae	*Stellaria media*	common chickweed	annual	non-native
Chenopodiaceae	*Atriplex triangularis*	spearscale	annual	native
Chenopodiaceae	*Beta vulgaris* ssp. *maritima*	beet	annual	non-native
Chenopodiaceae	*Salsola tragus*	tumbleweed	annual	non-native
Convolvulaceae	*Calystegia collina* ssp. *venusta*	South Coast Range morning glory	perennial	CNPS List 4.3
Convolvulaceae	*Convolvulus arvensis*	field bindweed	perennial	non-native
Cucurbitaceae	*Marah fabaceus*	California manroot	vine	endemic
Cyperaceae	*Bolbloschoenus maritimus*	alkali bulrush	perennial	native
Cyperaceae	*Cyperus eragrostis*	umbrella sedge	perennial	native

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Cyperaceae	*Eleocharis macrostachya*	spikerush	perennial	native
Cyperaceae	*Schoenoplectus acutus* var. *occidentalis*	common tule	perennial	native
Cyperaceae	*Schoenoplectus californicus*	Southern bulrush	perennial	native
Dipsaceae	*Dipsacus fullonum*	teasel	annual	non-native
Euphorbiaceae	*Chamaesyce maculata*	spotted spurge	annual	non-native
Euphorbiaceae	*Croton setigerus*	turkey-mullein	annual	native
Euphorbiaceae	*Euphorbia peplus*	petty spurge	annual	non-native
Fabaceae	*Acacia baileyana*	Cootumandra wattle	tree	non-native
Fabaceae	*Acacia melanoxylon*	black wattle	tree	Cal-IPC Limited
Fabaceae	*Acmispon wrangelianus*	deervetch	annual	native
Fabaceae	*Lupinus bicolor*	miniature lupine	annual	native
Fabaceae	*Lupinus succulentus*	arroyo lupine	annual	native
Fabaceae	*Medicago polymorpha*	bur clover	annual	Cal-IPC Limited
Fabaceae	*Medicago sativa*	alfalfa	annual	non-native
Fabaceae	*Melilotus alba*	white sweetclover	annual	non-native
Fabaceae	*Trifolium dubium*	small hop clover	annual	non-native
Fabaceae	*Trifolium hirtum*	rose clover	annual	non-native
Fabaceae	*Trifolium pratense*	red clover	perennial	non-native
Fabaceae	*Vicia benghalensis*	purple vetch	annual	non-native
Fabaceae	*Vicia sativa* var. *nigra*	narrow-leaf vetch	annual	non-native
Fabaceae	*Vicia tetrasperma*	vetch	annual	non-native
Fagaceae	*Quercus agrifolia*	coast live oak	tree	native
Fagaceae	*Quercus douglasii*	blue oak	tree	native
Fagaceae	*Quercus ilex*	holly oak	tree	non-native
Fagaceae	*Quercus wislizenii*	interior live oak	tree	native
Geraniaceae	*Erodium botrys*	storksbill	annual	non-native
Geraniaceae	*Erodium cicutarium*	redstem filaree	annual	Cal-IPC Limited
Geraniaceae	*Geranium dissectum*	cutleaf geranium	annual	Cal-IPC Moderate
Geraniaceae	*Geranium molle*	woodland geranium	annual	non-native
Hippocastinaceae	*Aesculus californica*	California buckeye	tree	native
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	perennial	native
Juglandaceae	*Juglans californica*	California black walnut	tree	horticultural escape
Juncaceae	*Juncus bufonius*	toad rush	annual	native
Juncaceae	*Juncus effusus*	Pacific rush	perennial	native
Juncaceae	*Juncus mexicanus*	Mexican rush	perennial	native
Juncaceae	*Juncus patens*	common rush	perennial	native

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Juncaceae	*Juncus phaeocephalus*	brown-headed rush	perennial	native
Juncaceae	*Juncus xiphioides*	iris-leaved rush	perennial	native
Lamiaceae	*Marrubium vulgare*	horehound	perennial	non-native
Lamiaceae	*Mentha pulegium*	pennyroyal	perennial	non-native
Lamiaceae	*Stachys albens*	hedgenettle	perennial	native
Lamiaceae	*Stachys ajugoides*	hedgenettle	perennial	native
Lamiaceae	*Trichostema lanceolatum*	vinegar weed	annual	native
Lauraceae	*Umbellularia californica*	California bay	tree	native
Liliaceae	*Chlorogalum pomeridianum var. pomeridianum*	soap plant	perennial	native
Liliaceae	*Dichelostemma capitatum*	blue dicks	perennial	native
Liliaceae	*Muilla maritima*	muilla	perennial	native
Liliaceae	*Triteleia laxa*	Ithuriel's spear	perennial	native
Liliaceae	*Triteleia hyacinthina*	white brodiaea	perennial	native
Liliaceae	*Zigadenus fremontii*	death camas	perennial	native
Lythraceae	*Lythrum hyssopifolium*	hyssop loosetrife	annual	Cal-IPC Moderate
Malvaceae	*Malva nicaeensis*	bull mallow	annual	non-native
Malvaceae	*Malva parviflora*	cheeseweed mallow	annual	non-native
Myrtaceae	*Eucalyptus globulus*	blue gum	tree	Cal-IPC Moderate
Oleaceae	*Fraxinus latifolia*	Oregon ash	tree	native
Oleaceae	*Olea europaea*	olive	tree	horticultural
Onagraceae	*Epilobium canum*	California fuschia	perennial	native
Onagraceae	*Epilobium ciliatum*	fireweed	annual	native
Orobanchaceae	*Castilleja exserta*	purple owl's clover	annual	native
Papaveraceae	*Eschscholzia californica*	California golden poppy	perennial	native
Papaveraceae	*Fumaria parviflora*	Fumitory	annual	non-native
Phrymaceae	*Mimulus guttatus*	seep monkeyflower	perennial	native
Pinaceae	*Pinus sp.*	pine	tree	landscaped
Plantaginaceae	*Collinsia heterophylla*	chinese houses	annual	native
Plantaginaceae	*Plantago coronopus*	cut-leaf plantain	annual	non-native
Plantaginaceae	*Plantago erecta*	dwarf plantain	annual	native
Plantaginaceae	*Plantago lanceolata*	European plantain	annual	non-native
Plantaginaceae	*Plantago major*	common plantain	annual	non-native
Platanaceae	*Platanus racemosa*	western sycamore	tree	native
Poaceae	*Agropyron cristatum*	crested wheatgrass	annual	non-native
Poaceae	*Aira caryophyllea*	European silver hair grass	annual	non-native
Poaceae	*Arundo donax*	Giant reedtrass	perennial	Cal-IPC high

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Poaceae	*Avena fatua*	slender wild oats	annual	Cal-IPC Moderate
Poaceae	*Briza maxima*	rattlesnake grass	annual	non-native
Poaceae	*Briza minor*	little quaking grass	annual	non-native
Poaceae	*Bromus carinatus var. carinatus*	California brome	perennial	native
Poaceae	*Bromus diandrus*	ripgut brome	annual	Cal-IPC Moderate
Poaceae	*Bromus hordeaceus*	soft brome	annual	Cal-IPC Limited
Poaceae	*Bromus madritensis* ssp. *rubens*	redtop brome	annual	Cal-IPC High
Poaceae	*Bromus stamineus*	Chilean brome	perennial	Cal-IPC High
Poaceae	*Cortaderia jubata*	Jubata grass	perennial	Cal-IPC high
Poaceae	*Cynodon dactylon*	Bermuda grass	perennial	non-native
Poaceae	*Elymus elymoides*	squirreltail	perennial	native
Poaceae	*Elymus glaucus*	blue wildrye	perennial	native
Poaceae	*Hordeum marinum* var. *gussoneanum*	seaside barley	annual	Cal-IPC Moderate
Poaceae	*Hordeum murinum*	foxtail barley	annual	Cal-IPC Moderate
Poaceae	*Leymus triticoides*	creeping ryegrass	perennial	native
Poaceae	*Lolium multiflorum*	Italian ryegrass	annual	Cal-IPC Moderate
Poaceae	*Lolium temulentum*	darnel	annual	non-native
Poaceae	*Melica californica*	California melicgrass	perennial	native
Poaceae	*Piptatherum miliaceum*	smilo grass	perennial	Cal-IPC Limited
Poaceae	*Phalaris aquatica*	Harding grass	perennial	Cal-IPC Moderate
Poaceae	*Phalaris arundinacea*	grass	perennial	Cal-IPC Moderate
Poaceae	*Poa annua*	annual bluegrass	annual	non-native
Poaceae	*Polypogon interruptus*	ditch beard grass	perennial	non-native
Poaceae	*Polypogon monspeliensis*	rabbitsfoot grass	annual	non-native
Poaceae	*Stipa pulchra*	purple needlegrass	perennial	native
Poaceae	*Taeniatherum caput-medusae*	medusa head	annual	non-native
Poaceae	*Triticum aestivum*	common wheat	annual	non-native
Poaceae	*Vulpia microstachys*	six-week fescue	annual	native
Poaceae	*Vulpia myuros*	rattail fescue	annual	Cal-IPC Moderate
Polemoniaceae	*Gilia tricolor*	birds-eye gilia	annual	native

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Polygonaceae	*Eriogonum clavatum*	Hoover's desert trumpet	annual	native
Polygonaceae	*Eriogonum elongatum* var. *elongatum*	long-stem wild buckwheat	perennial	native
Polygonaceae	*Eriogonum fasciculatum*	California buckwheat	shrub	native
Polygonaceae	*Eriogonum gracile*	slender woolly buckwheat	perennial	native
Polygonaceae	*Eriogonum nudum*	naked buckwheat	perennial	native
Polygonaceae	*Eriogonum* spp.	wild buckwheats	annual	native
Polygonaceae	*Polygonum arenastrum*	common knotweed	annual	non-native
Polygonaceae	*Polygonum punctatum*	smartweed	perennial	native
Polygonaceae	*Rumex acetosella*	sheep sorrel	perennial	Cal-IPC Limited
Polygonaceae	*Rumex crispus*	curly dock	perennial	Cal-IPC Limited
Polygonaceae	*Rumex pulcher*	fiddle dock	perennial	non-native
Portulacaceae	*Calandrinia ciliata*	red maids	annual	native
Primulaceae	*Anagallis arvensis*	scarlet pimpernel	annual	non-native
Ranunculaceae	*Ranunculus californicus*	California buttercup	annual	native
Rhamnaceae	*Ceanothus ferrisiae*	coyote ceanothus	shrub	rare, Federally Endangered, CNPS List 1B.1
Rhamnaceae	*Frangula californica*	coffeeberry	shrub	native
Rosaceae	*Cotoneaster pannosa*	cotoneaster	shrub	non-native
Rosaceae	*Fragaria vesca*	woodland strawberry	perennial	native
Rosaceae	*Heteromeles arbutifolia*	toyon	shrub	native
Rosaceae	*Prunus sp.*	plum	tree	horticultural
Rosaceae	*Rosa californica*	California rose	shrub	native
Rosaceae	*Rubus armeniacus*	Himalaya blackberry	shrub	Cal-IPC High
Rosaceae	*Rubus ursinus*	California blackberry	perennial	native
Rubiaceae	*Galium aparine*	goose grass	annual	native
Rubiaceae	*Galium parisiense*	wall bedstraw	annual	non-native
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	tree	native
Salicaceae	*Salix laevigata*	red willow	tree	native
Salicaceae	*Salix lasiandra* var. *lasiandra*	Pacific (shining) willow	tree	native
Salicaceae	*Salix lasiolepis*	arroyo willow	tree	native
Scrophulariaceae	*Scrophularia californica*	California bee plant	perennial	native

Vascular Plants of US 101 Express Lanes Project Biological Study Area

Scrophulariaceae	*Verbascum thapsus*	woolly mullein	annual	non-native
Scrophulariaceae	*Veronica anagallis-aquatica*	water speedwell	perennial	non-native
Simaroubaceae	*Ailanthus altissimus*	tree of heaven	tree	Cal-IPC Moderate
Solanaceae	*Solanum americanum*	nightshade	annual	native
Taxodiaceae	*Sequoia sempervirens*	coast redwood	tree	horticultural
Tropaeloaceae	*Tropaeolum majus*	garden nasturtium	perennial	non-native
Typhaceae	*Typha latifolia*	broadleaf cattail	perennial	native
Urticaceae	*Hesperocnide tenella*	western dwarf nettle	annual	native
Urticaceae	*Urtica dioica* ssp. h*olosericea*	stinging netle	perennial	native
Verbenaceae	*Verbena lasiostachys*	California vervain	perennial	native

Notes:

Native = Native California vascular plant

Non-native = Non-native California vascular plant

Cal-IPC High = Invasive plant species that have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure.

Cal-IPC Moderate = Invasive plant species that have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure.

Cal-IPC Limited = Invasive plant species that have minor ecological impacts on a statewide level or there was not enough information to justify a higher score.

Horticulture = Horticultural vascular plant

CNPS List 1B.1 = Plants with a rank of 1B are rare throughout their range, and the 0.1 means that over 80 percent of occurrences threatened.

CNPS List 1B.2 = Plants with a rank of 1B are rare throughout their range, and the 0.2 means that 20 to 80 percent of occurrences are threatened.

CNPS List 4.3 = Plant species of limited distribution (a watch list).

Federally Threatened = Listed as threatened under the federal Endangered Species Act