

**PRELIMINARY DELINEATION OF WATERS OF THE UNITED STATES
INCLUDING WETLANDS, FOR THE**

**ESTRELLA SUBSTATION AND PASO ROBLES AREA
REINFORCEMENT PROJECT**

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Acronyms and Abbreviations

CA-	California State Route
°F	degrees Fahrenheit
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
GPS	global positioning system
kV	kilovolt
MLRA	Major Land Resource Area
NI	no indicator
NRCS	National Resource Conservation Service
NWI	National Wetlands Inventory
OBL	obligate wetland
OHWM	ordinary high water mark
PEW	palustrine emergent wetland
PG&E	Pacific Gas and Electric Company
project	Estrella Substation and Paso Robles Area Reinforcement Project
RUB	riverine unconsolidated bottom
SWCA	SWCA Environmental Consultants
UPL	obligate upland
US-	United States Route
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service

Estrella Substation and Paso Robles Area Reinforcement Project

Preliminary Delineation of Waters of the United States, Including Wetlands

Summary

This report summarizes existing hydrology, soil, and vegetative conditions for the Estrella Substation and Paso Robles Area Reinforcement Project (project) in San Luis Obispo County, California. The delineation area includes the proposed project alignment and surrounding 500-foot buffer (approximately 600 acres).

SWCA Environmental Consultants conducted the wetland delineation on April 17–18, 2017, to identify potential wetlands and waters of the United States, as defined by the United States Army Corps of Engineers (USACE). Wetland delineation efforts utilized the routine delineation methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and as supplemented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008b). Delineators also utilized *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (USACE 2008a).

The total area potentially subject to USACE jurisdiction as shown below in Table 1 consists of 4.585 acres (199,706 square feet).

Table 1. Summary of Potentially Jurisdictional Aquatic Resources in the Delineation Area

Aquatic Resources	Acreage in Survey Area
United States Army Corps of Engineers	
Ephemeral drainage (Riverine Unconsolidated Bottom)	4.220
Seasonal wetland (Palustrine Emergent Wetland)	0.365
Total	4.585

Introduction

This report summarizes existing hydrology, soil, and vegetative conditions for the Estrella Substation and Paso Robles Area Reinforcement Project (project) in San Luis Obispo County, California (Figure 1). The delineation area includes the proposed project alignment and surrounding 500-foot buffer (approximately 600 acres).

This report identifies potential wetlands and waters of the United States, as defined by the United States Army Corps of Engineers (USACE). Appendices to this report are as follows.

- Appendix A: Wetland Delineation Map
- Appendix B: Plant Species Observed in the Delineation Area
- Appendix C: Routine Wetland Determination Data Forms
- Appendix D: Representative Photographs
- Appendix E: Soil Survey and Hydric Soil Information
- Appendix F: National Wetland Inventory and National Hydrography Data
- Appendix G: WETS Table

The project is comprised of two main components: Estrella Substation and the 70-kilovolt (kV) power line. The Estrella Substation component involves constructing and operating a new 230 kV electrical substation and a new 70 kV substation located in an unincorporated portion of northern San Luis Obispo County. The 70 kV power line component involves constructing and operating approximately 7 miles of new overhead 70 kV double-circuit power line between Estrella Substation and an existing 70 kV power line (new overhead segment), and reconductoring approximately 3 miles of the existing 70 kV line from the point of connection to the existing Paso Robles Substation in the city of Paso Robles (reconductoring segment).

Contact Information

The contact information for the project applicant and the SWCA Environmental Consultants (SWCA) delineation preparer is shown below.

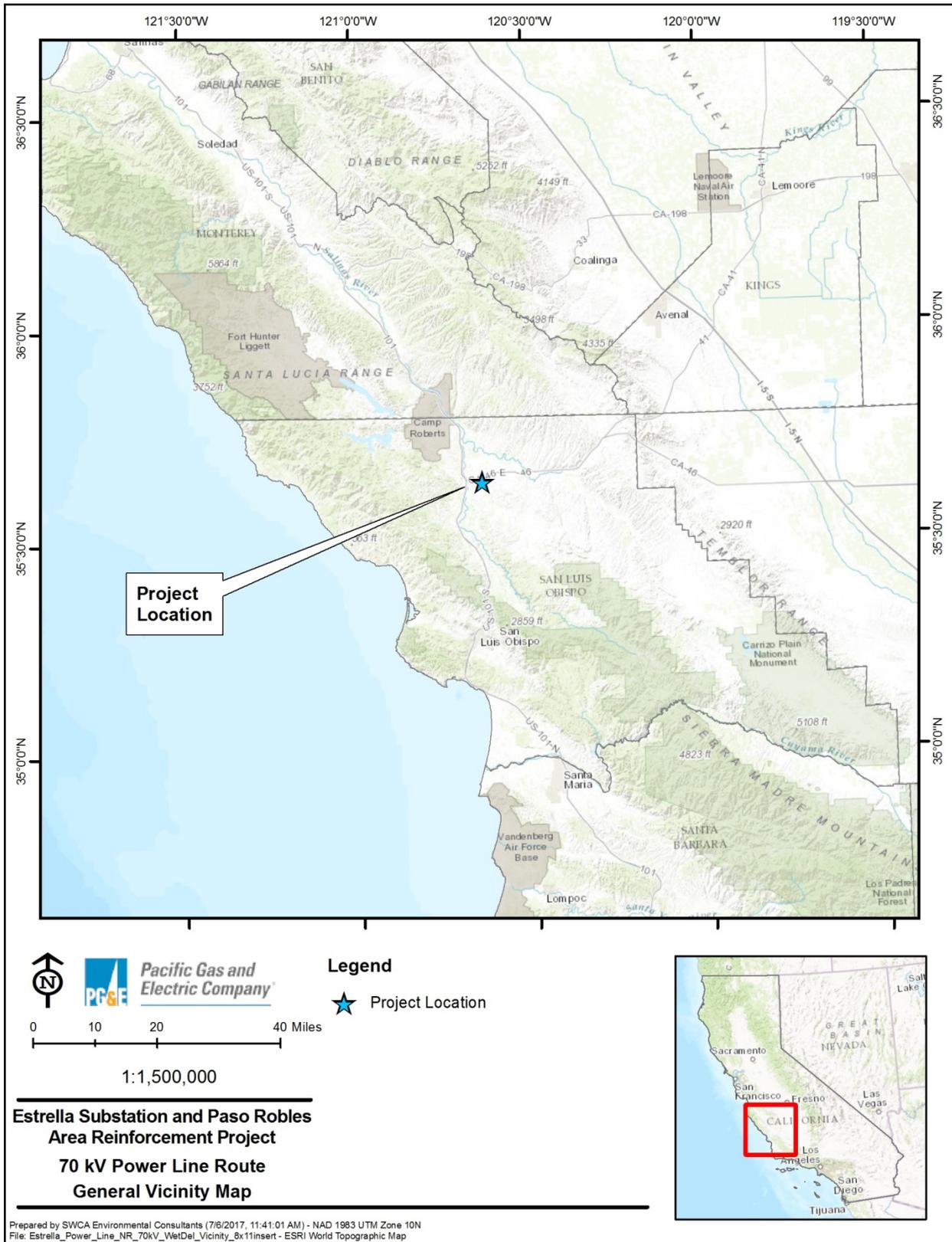
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Figure 1. General Vicinity Map



Site Description and Location

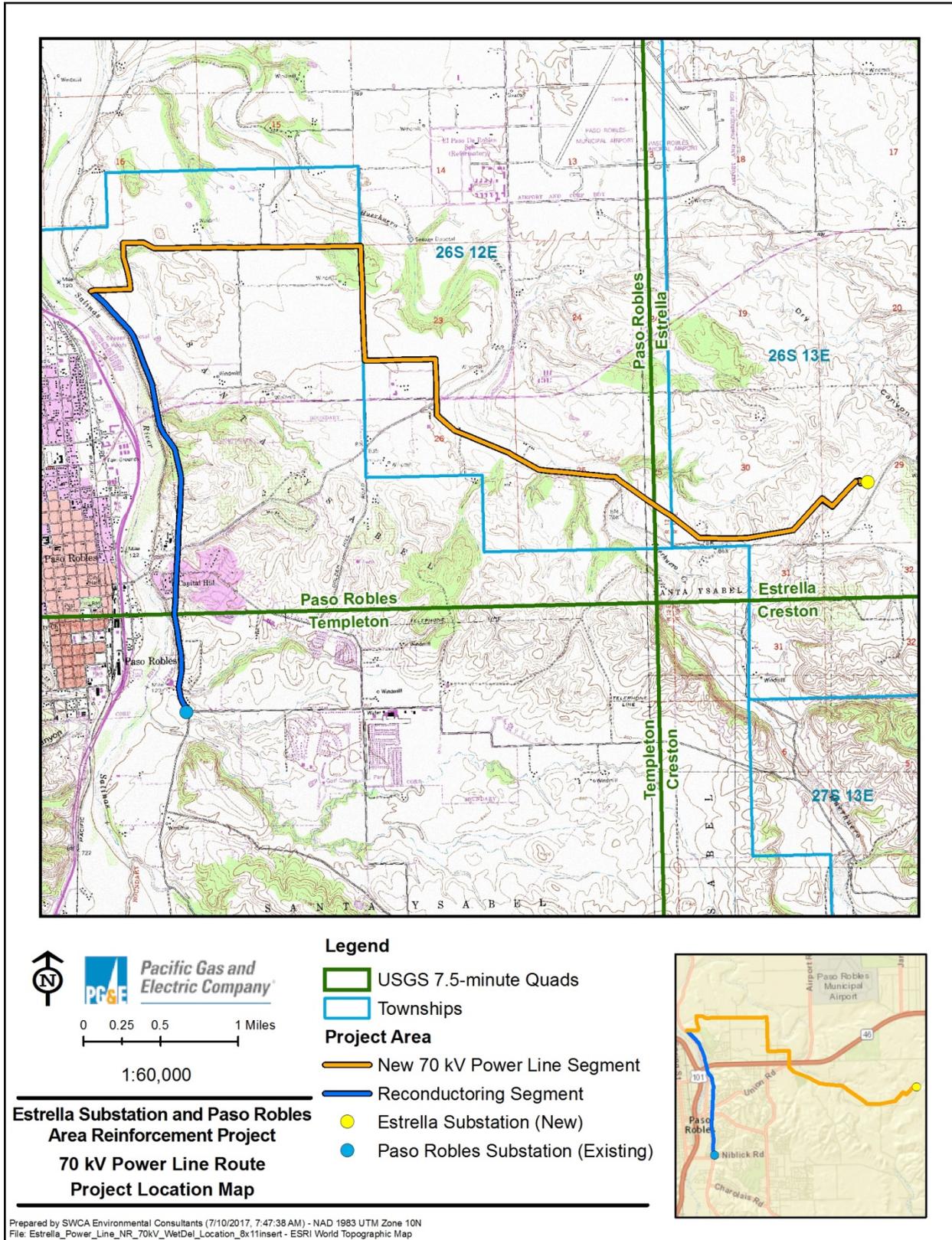
The project is located within the northern portion of San Luis Obispo County, California, including portions of the city of Paso Robles. The nearest communities are San Miguel, which is approximately 9 miles to the northwest, and Templeton, which is approximately 8.5 miles to the southwest. The project bisects the following United States Geological Survey (USGS) 7.5-minute quadrangles: Estrella, Paso Robles, and Templeton (USGS 2016). Public Land Survey System information including quadrangles, section, township, and range information is depicted on Figure 2 and in Appendix A.

Estrella Substation will be located on an approximately 15-acre portion of a 98.6-acre parcel of land along Union Road (Assessor's Parcel Number [APN] 015-053-011). The new 70 kV power line segment will travel southwest from Estrella Substation for approximately 0.5 mile. North of Union Road, the new line will turn west and join and follow an existing 12 kV overhead distribution line for about 2.5 miles, then turn northwest and cross Huerhuero Creek before continuing along the north side of Union Road. The new line will continue in a northwest direction, crossing California State Route (CA-) 46, and then generally travel west for approximately 0.5 mile to Golden Hill Road. At Golden Hill Road, the route will head north along the Golden Hill Road alignment for approximately 1 mile, then will continue generally west for approximately 1.5 miles, and then southwest for 0.5 mile to River Road. At River Road, the new 70 kV power line segment will interconnect with the existing San Miguel-Paso Robles 70 kV Power Line. An approximately 3-mile-long portion of the existing San Miguel-Paso Robles 70 kV Power Line will be reconducted beginning where the new overhead segment intercepts the existing 70 kV power line. The reconducting segment will extend south along the existing pole line alignment on the east side of River Road for about 1 mile, cross CA-46, then continue south for about 2 miles, cross Union and Creston Roads, then into Paso Robles Substation.

Land uses in the delineation area south of CA-46 are a mixture of intensive agriculture, vineyards, and rural residential development. North of CA-46 and within the city limits, land uses consist of light industrial development, urban and residential development, and wineries/vineyards.

Topography within the delineation area ranges from flat (0%) to gently sloping rolling hills (0–20%) to steep slopes (>45%) along roadside cuts. Elevation along the project area ranges between approximately 650 and 1,000 feet above mean sea level.

Figure 2. Project Location Map



Driving Directions

To get to the proposed Estrella Substation from the USACE San Francisco District office, take Interstate 80 west and keep left to merge onto United States Route (US-) 101 south. Continue on US-101 south for 202 miles, then take exit 231B for CA-46 east toward Fresno/Bakersfield. Proceed east on CA-46 for 2.0 miles and turn right onto Union Road. Continue approximately 3.3 miles on Union Road to 5410 Union Road. The proposed Estrella Substation site is located immediately north of the residence at 5410 Union Road and west of Union Road.

To access various portions of the new overhead segment, use Union Road, Golden Hill Road, Buena Vista Drive, and/or River Road for access. To access various portions of the reconducting segment, use River Road, Via Magnolia, Via Fuchsia, Via Camelia, Manzanita Court, Riverglen Road, Union Road, Creston Road, and/or South River Road.

To get to Paso Robles Substation from the intersection of CA-46 and US-101 in the city of Paso Robles, drive south on US-101 for 1.7 miles. Take exit 230 for Pine Street and continue on Pine Street for approximately 430 feet before turning left onto 4th Street. Continue on 4th Street for 0.1 mile, turn left onto Spring Street, and continue south for 0.2 mile. Turn left onto Niblick Road and continue east for 0.6 mile to South River Road. Paso Robles Substation is located at the northeast intersection of South River Road and Niblick Road.

Delineation Methods

Wetland delineation efforts utilized the routine delineation methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and as supplemented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008b). Delineators also utilized *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (USACE 2008a). The investigators also reviewed the USGS topographic maps for the Paso Robles area (USGS 2012). The habitat and plant species descriptions follow *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *The Jepson Manual* (Baldwin et al. 2012), and the Arid West Regional Wetland Plant List (Lichvar et al. 2016). Soils data was obtained from the United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS 2016). SWCA also reviewed the *Estrella Substation and Paso Robles Area Reinforcement Project Biological Resources Technical Report for Estrella Substation* (SWCA 2017a) and the *Estrella Substation and Paso Robles Area Reinforcement Project Biological Resources Technical Report for the 70 kV Power Line* (SWCA 2017b). Specific references not listed above are cited in text.

Delineation of waters in the delineation area was based on review of pertinent literature; reconnaissance-level field surveys conducted by SWCA biologists on April 20–22, April 27–30, June 6–8, and November 14–15, 2016; and the wetland delineation conducted by the Pacific Gas and Electric Company (PG&E) and SWCA biologists on April 17 and 18, 2017. Prior to beginning the wetland delineation, the USGS Paso Robles, Templeton, and Estrella quadrangle maps and recent aerial photographs of the project area were examined to gain insight on the topography and waterways in the delineation area and areas surrounding the delineation area. These resources were also used as a reference to determine hydrologic connectivity to a navigable water body and/or relatively permanent waters.

The delineation was conducted to identify boundaries between upland and wetland habitats and riverine systems, and to ensure compliance with Arid West requirements. Although the Salinas River riparian corridor intermittently encroaches within the outer extent of the delineation area, no formal wetland delineation of the Salinas River or its riparian corridor was conducted as part of this project. The project remains on the east side of River Road and does not encroach within the Salinas River riparian corridor.

Where potential wetlands were observed, representative sampling plots were evaluated within and adjacent to the potential wetland features to investigate the presence of hydric soils, hydrophytic vegetation, and wetland hydrology indicators. Five sampling points were examined in the project area (refer to Appendix A for point locations) to observe and record soil characteristics, vegetation types, and hydrologic features. Soil matrix colors were classified according to the *Munsell Soil Color Charts* (Munsell Color 2000). Plant species identified at sample point locations were assigned a wetland status according to the Arid West 2016 regional Wetland Plant List (Lichvar et al. 2016).

Observed wetland and water features were mapped using a Trimble Geo XT Global Positioning System (GPS) unit with sub-meter accuracy. A delineation map showing the project area and sample plot locations is included in Appendix A, a complete list of plant species observed in the delineation area is included in Appendix B, and Arid West data sheets are included as Appendix C. Photos of the existing conditions observed during the assessment are shown in Appendix D.

Precipitation and Growing Season

San Luis Obispo County has a Mediterranean climate, which includes warm to hot, dry summers and mild to cool, wet winters. The climate within San Luis Obispo County is generally mild with average temperatures ranging from 45 to 70 degrees Fahrenheit (°F). Temperatures in Paso Robles are much more variable, with average temperatures ranging from 31 to 93°F. Precipitation in the region also varies spatially and temporally with increasing precipitation typically occurring near the coast. Average annual rainfall in the vicinity of the project is 14.83 inches, with approximately 95% of the rain falling between October and April. The above temperature and precipitation data is based on USDA Field Office Climate Data for the Paso Robles WETS station (Office ID: 06079), located approximately 0.3 mile west of the project for the period between 1971 and 2000 (refer to Appendix G, WETS Table) (NRCS 2017).

The jurisdictional waters delineation surveys were conducted in April 2017, following the first above average rainy season following a 4-year drought (2012–2016). A total of 22.86 inches of rain had fallen in the city of Paso Robles between October 2016 and April 2017, more than 150% above the annual average (NRCS 2017). Timing of the on-site investigation provided optimal conditions for the detection of wetlands and other waters.

Vegetation

The delineation area is located within the California Floristic Province, and contains a mosaic composition of blue oak woodlands, nonnative grasslands, agricultural, central (Lucian) coastal scrub, Central Coast cottonwood-willow riparian forest, Central Coast riparian scrub, ruderal/disturbed, and urban areas. Urban and agricultural areas are the dominant landscape within the delineation area. The following sections describe the general vegetation communities observed in the delineation area. Refer to Appendix B for a complete list of plant species observed in the delineation area.

Blue Oak Woodland

Blue oak woodlands are typically dominated by blue oak trees (*Quercus douglasii*), yet often include other oak species as well as gray pine (*Pinus sabiniana*). Blue oak woodlands range from open savannas to dense woodlands, and often contain an understory of grasses and herbs. This habitat type usually contains well-drained soils and occurs below 4,000 feet (Holland 1986).

Blue oak woodlands are strewn throughout the delineation area and was the dominant vegetation community along ephemeral drainage channels. Blue oak woodlands in the delineation area frequently contained a relatively open canopy and an understory of nonnative grasses and forbs, with more dense stands occurring along the drainage channels.

Nonnative Grassland

Nonnative grasslands consist of dense to sparse cover of annual grasses generally less than 1 meter high and are dominated by nonnative grasses and forbs, including soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), slender wild oats (*Avena barbata*), cheatgrass (*Bromus tectorum*), red brome (*Bromus madritensis*), red-stemmed filaree (*Erodium cicutarium*), and short-pod mustard (*Hirschfeldia incana*). Native species may include western ragweed (*Ambrosia psilostachya*), lupines (*Lupinus* spp.), and doveweed (*Croton setigerus*) (Holland 1986).

Nonnative grassland habitat was observed throughout the delineation area, frequently overlapping with blue oak woodlands and rural developments. Grasslands in the delineation area were primarily dominated by nonnative annual grasses with interspersed patches of native species such as purple needle-grass (*Stipa pulchra*) and nodding needle-grass (*S. cernua*). Several areas of nonnative grasslands throughout the delineation area are subject to frequent mowing or grading.

Agricultural

Agricultural habitat is identified by active cultivation and planting of crops in an area. The main form of agriculture in the delineation area is viticulture, where the land has been subject to disking, deep ripping, and routine disturbance. In some areas, the alterations have masked or altered the topographic structure and connectivity of ephemeral drainages in the delineation areas.

Central (Lucian) Coastal Scrub

Central (Lucian) coastal scrub is dominated by shrubs generally growing 3 to 6 feet tall in dense stands. This community typically occurs on exposed, often south-facing slopes, with shallow, rocky soils in San Luis Obispo and Santa Barbara Counties (Holland 1986). Central coastal scrub in the delineation area was observed in two small patches adjacent to Huerhuero Creek and the Salinas River. Plants observed in this community include a dense stand of coyote brush (*Baccharis pilularis*) interspersed with species typically associated with ruderal areas, including nonnative annual grasses, wild radish (*Raphanus sativa*), and field mustard (*Brassica rapa*).

Central Coast Cottonwood-Willow Riparian Forest

Central Coast cottonwood-willow riparian forest consists of riparian forest typically dominated by Fremont's cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), and interspersed

coast live oak (*Quercus agrifolia*) with an understory of willows (*Salix* spp.), coyote brush, and stinging nettle (*Urtica dioica*). This vegetation community generally occurs along creeks and floodplains of sub-perennial streams with a fairly coarse substrate and a seasonally variable water table (Holland 1986). Central Coast cottonwood-willow riparian forest is limited to the outer extent of the delineation areas along the Salinas River riparian corridor, approximately 200 feet west of the project.

Central Coast Riparian Scrub

Central Coast riparian scrub habitat consists of streamside thickets varying from open to dense canopies. This community generally occurs along fine-grained sand and gravel bars and includes species such as coyote brush, arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and sandbar willow (*Salix hinsdiana*) (Holland 1986). Central Coast riparian scrub was observed in the delineation area along a dry ephemeral creek channel known as Huerhuero Creek. This area contained little to no vegetation between the ordinary high water marks (OHWMs) with a higher density of grasses and forbs in the floodplain. Intermittent cottonwood, willow, and other woody shrubs were scattered throughout the riparian scrub habitat.

Ruderal

Ruderal habitat areas are often defined as occurring along road edges and other highly disturbed areas. Typically, species dominating ruderal habitat areas are able to quickly colonize disturbed areas due to their high rates of seed dispersal and fast growth. Ruderal areas are typically dominated by nonnative vegetation, but some native species can also occur.

Ruderal habitat occurs throughout the delineation area, primarily along roadsides, within rural and urban developments, and adjacent to agricultural areas. Species observed in ruderal areas in the delineation area included but were not limited to nonnative annual grasses, poison hemlock (*Conium maculatum*), radish (*Raphanus* spp.), mustard (*Brassica* spp.), and various thistles.

Urban/Developed

Urban/developed habitat is found in regularly and highly disturbed areas, including areas that have been developed and/or include landscaping such as trees, shrubs, ornamental plants, and lawns. Vegetation density, canopy cover, and species composition will vary based on the structure and composition of the developed area. Vegetation may include native or exotic species, or a combination of both.

Urban/developed lands occur in the delineation area along and within rural and urban developments and recreational areas. Vegetation in these areas includes manicured lawns and ornamental trees and shrubs.

Hydrology

The project is located within the Huerhuero Creek and Paso Robles Creek-Salinas River watersheds. The new 70 kV power line segment is primarily located within the Huerhuero Creek watershed. The headwaters of Huerhuero Creek occur in the Coast Ranges just south of the community of Creston. Huerhuero Creek generally flows northwest where it bisects and briefly parallels the project, approximately 1.5 miles west of Estrella Substation and just south of CA-46.

Huerhuero Creek then continues northwest for another 7 miles before draining into Salinas River in Paso Robles, approximately 1 mile north of the project.

The reconductoring segment is located within the Paso Robles Creek-Salinas River watershed. Within this watershed, the central drainage feature is the Salinas River. The river flows north-northwest through the Salinas Valley, bisecting the Coast Ranges, before draining into the Pacific Ocean nearly 100 miles northwest of the project. The reconductoring segment parallels the outer eastern perimeter of the Salinas River riparian corridor.

The project crosses several other unnamed drainages that eventually flow into Huerhuero Creek and/or the Salinas River. Refer to Appendix F for watershed boundaries and water feature data mapped on the National Wetlands Inventory (NWI) internet-based Wetlands Mapper (United States Fish and Wildlife Service [USFWS] 2017) and USGS National Hydrography Dataset (USGS 2016). Refer to Appendix A for potentially jurisdictional waters of the United States that were mapped during the jurisdictional waters delineation.

Soils

The NRCS Web Soil Survey shows 20 soil types occurring in the delineation area, five of which are listed as hydric on the Hydric Soils List for San Luis Obispo County, California, Paso Robles Area (NRCS 2015). Soil type descriptions were queried using Official Soil Series Descriptions. Site-specific soil data was queried using the USDA Web Soil Survey database (NRCS 2016). A complete list of soil types in the delineation area are included in Appendix E, Soil Survey and Hydric Soil Information.

Results

The delineation area traverses a narrow, linear corridor that intersects a variety of wetland and drainage features. To facilitate clarity and readability, this section is organized to address each feature starting in the easternmost end of the project near Estrella Substation and finishing at the west end of the project near Paso Robles Substation. The following sections discuss the physical attributes of each feature and provide a recommended jurisdictional determination for the features. Table 2 includes a list of each potentially jurisdictional feature, including its acreage, linear feet, and average width in the delineation area. Representative photographs of the features are included in Appendix D.

Table 2. Potentially Jurisdictional Aquatic Resources in the Delineation Area

Feature Number	Appendix A Sheet Number	Wetland/Other Water Type	Other Water Length within Delineation Area, in Feet	Other Water Width at OHWM (feet)	Area of Potential USACE Jurisdiction (acres)
PEW-1	5	Palustrine Emergent Wetland (Seasonal Wetland)	--	--	0.365
RUB-1	1, 2	Riverine Unconsolidated Bottom (Ephemeral Creek)	1,390	32–115	2.454
RUB-2	2	Riverine Unconsolidated Bottom (Ephemeral Drainage)	430	3–5	0.127
RUB-3	2, 3	Riverine Unconsolidated Bottom (Ephemeral Drainage)	630	2–5	0.135
RUB-4	3	Riverine Unconsolidated Bottom (Ephemeral Drainage)	480	2–5	0.241
RUB-5	4, 5	Riverine Unconsolidated Bottom (Ephemeral Drainage)	1,200	3–55	0.261
RUB-6	6	Riverine Unconsolidated Bottom (Ephemeral Drainage)	545	5–25	0.136
RUB-7	7	Riverine Unconsolidated Bottom (Ephemeral Drainage)	2,550	3–5	0.508
RUB-8	8	Riverine Unconsolidated Bottom (Ephemeral Drainage)	585	2–5	0.048
RUB-9	8	Riverine Unconsolidated Bottom (Ephemeral Drainage)	72	3–4	0.003
RUB-10	9	Riverine Unconsolidated Bottom (Ephemeral Drainage)	540	1–3	0.039
RUB-11	10	Riverine Unconsolidated Bottom (Ephemeral Drainage)	450	1–3	0.021
RUB-12	10	Riverine Unconsolidated Bottom (Ephemeral Drainage)	296	2–4	0.027
RUB-13	11	Riverine Unconsolidated Bottom (Ephemeral Drainage)	567	2–5	0.171
RUB-14	11	Riverine Unconsolidated Bottom (Ephemeral Drainage)	550	2–5	0.050

Wetlands

PEW-1: Seasonal Wetland

A large, low-lying depression was observed in an open field approximately 115 feet east of Buena Vista Drive. Two sample points were investigated: Sample Point 4 was located within the seasonal wetland and Sample Point 5 was located upslope in what the delineators presumed to be uplands (refer to Appendix A, Sheet 5; Appendix D, Photos 7 and 8).

Vegetation, Soils, and Hydrology

The seasonal wetland, which is visible on aerial imagery, is located in an open field dominated by annual grasses and forbs. Vegetation in Sample Point 4 consisted of common spikerush (*Eleocharis macrostachya*; obligate wetland [OBL]), saltgrass (*Distichlis spicata*; facultative [FAC]), coyote thistle (*Eryngium vaseyi*; facultative wetland [FACW]), erect dwarf cudweed (*Hesperexax sparsiflora*; facultative upland [FACU]), and an unknown *Downingia* species (OBL). The dominance of common spikerush and saltgrass was sufficient to pass the hydrophytic vegetation dominance test. The investigation revealed silty loam and clay soil that was moist throughout the pit. The soil on the surface down to 3 inches was silty loam (10YR 3/2) with reddish-brown concentrations (5YR 4/6) in the matrix, and clay soil (7.5YR 5/1) occurred from 3 down to 16 inches with the same concentrations (5YR 4/6) in the matrix. The redox concentrations and matrix value and chroma met the criteria for Depleted Matrix (F3). Large surface soil cracks were observed throughout the seasonal wetland, meeting the criteria for wetland hydrology indicator B6. The field investigation was conducted immediately following a rain event; however, no ponding was observed in the low-lying area. Sample Point 4 contains a presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

Sample Point 5 is located approximately 60 feet southeast of Sample Point 4, outside of the low-lying depression. Vegetation observed in the 10-foot-diameter plot consisted of white-stemmed filaree (*Erodium moschatum*), wild oats, Mediterranean barley (*Hordeum marinum*; FAC), soft chess brome (*Bromus hordeaceus*; FACU), and blow-wives (*Achyrachaena mollis*; FAC) and did not contain a dominance of hydrophytic vegetation. The investigation revealed silty loam soil (10YR 3/2) on the surface down to 4 inches, and loamy clay soil (10YR 3/2) with a low percentage (1%) of reddish-brown concentrations (5YR 4/6) in the matrix. The redox concentrations and matrix value and chroma did not meet the qualifications for any hydric soil indicators, nor was there any evidence of wetland hydrology.

Preliminary Jurisdictional Determination

The seasonal wetland contains a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology and therefore meets the criteria for a USACE wetland. The potentially jurisdictional area is confined to the outer extent of wetland vegetation, hydric soils, and wetland hydrology, and accounts for 0.365 acre in the delineation area.

Other Waters

Fourteen drainage features in the delineation area meet the qualifications of USACE based on the presence of defined bed, banks, OHWMs, and hydrological connectivity to relatively

permanent waters or traditionally navigable waters. Each of the 14 features are described in detail below, and depicted on the Wetland Delineation Map in Appendix A.

RUB-1: Huerhuero Creek

Huerhuero Creek is a wide, low-gradient, relatively permanent water with clearly definable bed, banks, and OHWMs (refer to Appendix A, Sheets 1 and 2; Appendix D, Photo 1). The area between the OHWMs ranges from 35 to 115 feet wide, with evidence of scouring along the outer edges of the channel. Huerhuero Creek is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBA – Riverine, Intermittent, Streambed, Temporarily Flooded) (Appendix F). Huerhuero Creek generally flows northwest where it bisects and briefly parallels the project approximately 1.5 miles west of Estrella Substation and just south of CA-46.

Vegetation, Soils, and Hydrology

Huerhuero Creek is primarily characterized as a Central Coast riparian scrub that is relatively devoid of vegetation between the OHWMs. The riparian corridor consists of mature trees and shrubs such as Fremont's cottonwood, red willow, and arroyo willow growing intermittently along the banks and channel. The floodplain, which consists of low-growing grasses and forbs and scattered blue oak trees, is confined by a steep slope to the north and an artificial berm and residential housing to the south. A population of approximately 300+ elegant buckwheat (*Eriogonum elegans*; California Rare Plant Rank 4.3) was observed growing outside of the active flow channel yet within in the floodplain.

The Web Soil Survey shows Xerofluvents-Riverwash association (Soil Map Symbol 212) occurring along Huerhuero Creek, which is consistent with what was observed during the field investigation. This soil type is listed as a hydric soil on the NRCS hydric soils list (NRCS 2003). Coarse, loose, sandy soils occur throughout the channel with slightly more compact sandy soil occurring along the floodplain.

Huerhuero Creek begins more than 20 miles southeast of the project in the Coast Ranges, and flows generally northwest before draining into the Salinas River approximately 1 mile north of the project. Overland sheet flow from surrounding agricultural areas, grazed grasslands, and rural residential developments also feed into Huerhuero Creek. The creek lacked flowing water at the time of the field investigation; however, the channel is typically subject to seasonal flow events.

Preliminary Jurisdictional Determination

Huerhuero Creek is an ephemeral drainage that supports a definable bed, top-of-bank, OHWMs, and riparian vegetation. This feature also has hydrological connectivity to Salinas River, a traditionally navigable water. Since the drainage channel lacks a dominance of hydrophytic vegetation between the OHWMs, it was determined to be "Other Waters" subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWMs and accounts for 2.45 acres in the delineation area.

RUB-2: Unnamed Tributary to Huerhuero Creek

RUB-2 is an unnamed ephemeral tributary to Huerhuero Creek (refer to Appendix A, Sheet 2; Appendix D, Photo 2). The drainage flows in a northern direction, crosses beneath Union Road through a culvert, and flows another 200 feet before draining into Huerhuero Creek. The

drainage contains a low-gradient, narrow channel ranging from 3 to 5 feet wide between the OHWMs. The drainage feature contains clearly definable bed, banks, and OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (Appendix F).

Vegetation, Soils, and Hydrology

RUB-2 flows through blue oak woodlands with a relatively open canopy of blue oak and valley oak (*Quercus lobata*) trees and an understory of nonnative annual grasses. The banks of the drainage channel are primarily dominated with annual grasses such as riggut brome and wild oats (*Avena* spp.) and other ruderal species growing in close proximity to Union Road. The bed of the channel is primarily vegetated with annual grasses with intermittent patches of bare soil.

Consistent with what was observed in the field, the Web Soil Survey shows Arbuckle-Positas complex, 50 to 75 percent slopes (Soil Map Symbol 105) along the upper reaches of the drainage channel and Hanford and Greenfield gravelly sandy loams, 2 to 9 percent slopes (Soil Map Symbol 150) along the lower portion before its confluence with Huerhuero Creek.

The drainage feature conveys overland sheet flow from surrounding agricultural and open space areas and drains into Huerhuero Creek. The drainage channel lacked flowing water at the time of the field investigation; however, the channel exhibited faint signs of OHWMs and the presence of a bed and banks suggests the drainage feature is subject to seasonal flows.

Preliminary Jurisdictional Determination

RUB-2 is an ephemeral drainage that supports a definable bed, top-of-bank, and OHWMs. This feature also has hydrological connectivity to Huerhuero Creek. USACE jurisdiction was mapped by the OHWM and accounts for 0.13 acre in the delineation area.

RUB-3: Unnamed Tributary to Huerhuero Creek

RUB-3 is located approximately 1,000 feet west of RUB-2 (refer to Appendix A, Sheets 2 and 3; Appendix D, Photo 3). Similar to RUB-2, this feature is an ephemeral drainage channel that flows through annual grasslands in a northern direction, crosses beneath Union Road through a culvert, and flows another 400 feet before draining into Huerhuero Creek. The drainage contains a low-gradient, narrow channel ranging from 2 to 5 feet wide between the OHWMs. The drainage feature contains clearly definable bed, banks, and OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-3 flows through nonnative grassland habitat with valley oak trees intermittently growing along the drainage feature. Annual grasses and forbs are growing along the banks; however, the bed of the channel is generally devoid of vegetation.

Riverwash, a hydric soil, was observed along the bed of the channel with sandy loam soils observed on the surrounding terrace. Similar to RUB-2, the Web Soil Survey shows Arbuckle-Positas complex, 50 to 75 percent slopes (Soil Map Symbol 105) along the upper reaches of the drainage channel and Hanford and Greenfield gravelly sandy loams, 2 to 9 percent slopes (Soil Map Symbol 150) along the lower portion before its confluence with Huerhuero Creek.

The drainage feature conveys overland sheet flow from surrounding grassland and agricultural areas. The drainage channel lacked flowing water at the time of the field investigation; however, the channel exhibits clearly defined bed, banks, and OHWMs suggesting that the drainage feature is subject to seasonal flows. The banks of the channel show signs of scouring and erosion, primarily along the northern side of Union Road.

Preliminary Jurisdictional Determination

RUB-3 is an ephemeral drainage that supports clearly defined bed, banks, and OHWMs and has hydrological connectivity to Huerhuero Creek. USACE jurisdiction was mapped by the OHWM and accounts for 0.14 acre in the delineation area.

RUB-4: Unnamed Tributary to Huerhuero Creek

RUB-4 is located approximately 1,400 feet west of RUB-3 and immediately east of the City of Paso Robles's Barney Schwartz Sports Park (refer to Appendix A, Sheet 3; Appendix D, Photos 4 and 5). The drainage flows in a northern direction, crosses beneath Union Road through a culvert, and flows another 450 feet before draining into Huerhuero Creek. The drainage feature has a low-gradient, narrow channel with defined bed, banks, and OHWMs ranging from 1 to 3 feet across. The Barney Schwartz Sports Park maintenance facility discharges water into the drainage feature immediately south of Union Road, resulting in perennial ponding of freshwater.

The portion of the drainage feature located upstream (south) of Union Road is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded). Downstream (north) of Union Road, the feature is mapped as Freshwater Emergent Wetland (PEM1A – Palustrine, Emergent, Persistent, Temporary Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

Upstream of Union Road, the drainage channel and surrounding habitat consists of annual grasses and forbs, most notably ripgut brome and foxtail barley (*Hordeum jubatum*). Immediately upstream of the Union Road culvert crossing, a dense stand of emergent cattail was observed growing in a pool of standing freshwater. Just beyond the cattail, on the downstream (north) side of Union Road, a dense narrow strand of coyote brush lines the drainage feature. Although the NWI maps this portion of the channel as freshwater emergent wetland, the channel lacked a dominance of hydrophytic vegetation and therefore soil pits were not examined.

The Web Soil Survey shows Hanford and Greenfield gravelly sandy loams, 2 to 9 percent slopes (Soil Map Symbol 150) occurring along RUB-4, which is consistent with what was observed during the field investigation.

RUB-4 primarily conveys overland sheet flow from surrounding agricultural and grassland areas as well as from drainage discharge pipes from the Barney Schwartz Sports Park maintenance facility. Upstream of Union Road, the drainage channel contains marginally defined bed, banks, and OHWMs, suggesting that the feature is subject to seasonal flows. Downstream of Union Road, the drainage channel contains clearly defined bed, banks, and OHWMs, and is presumably subject to more frequent flows due to the water output from the Barney Schwartz Sports Park maintenance facility. With the exception of ponded water immediately south of Union Road, the drainage channel lacked flowing water at the time of the field investigation.

Preliminary Jurisdictional Determination

RUB-4 is an ephemeral drainage that supports a bed, banks, and OHWMs and has hydrological connectivity to Huerhuero Creek. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWM and accounts for 0.24 acre in the delineation area.

RUB-5: Unnamed Tributary to Huerhuero Creek

RUB-5 is located approximately 0.4 mile east of Buena Vista Drive and 0.2 mile south of Huerhuero Creek (refer to Appendix A, Sheet 4; Appendix D, Photo 6). The drainage feature is a relatively low-gradient ephemeral creek with clearly definable bed, banks, and OHWMs. The feature contains two parallel reaches flowing generally north with their confluence located approximately 100 feet north of the project alignment. An artificial dam/roadway is located downstream of the delineation area, causing storm water to pond in the low-lying area. Huerhuero Creek is located approximately 700 feet north (downstream) of the dam/roadway. The drainage channel is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the drainage channels down to the confluence as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded). From the confluence to the dam/roadway, the NWI classified the feature as Freshwater Pond (PUBFh – Palustrine, Unconsolidated Bottom, Semipermanently Flooded, Diked/Impounded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-5 flows through blue oak woodlands containing a relatively dense canopy of blue oak and valley oak trees with an understory of nonnative annual grasses. The majority of the bed and banks of the drainage channels were vegetated with annual grasses, with the exception of the low-lying area between the confluence and the dam/roadway, which was ponded with water. No emergent vegetation was observed in the ponded area.

The Web Soil Survey shows Arbuckle-Positas complex, 30 to 50 percent slopes (Soil Map Symbol 104) occurring along RUB-5, which is consistent with what was observed in the field survey. Due to the lack to hydrophytic vegetation, a soil pit was not examined at this location.

A detention pond is located approximately 200 feet upslope (south) of the drainage feature. The delineators were not allowed access to the detention pond during the field investigation; however, aerial imagery shows the detention pond is separated from the drainage feature by an earthen berm. The drainage feature likely receives surface water from the pond during periods of heavy rainfall, as well as from overland sheet flow from the surrounding area. Although the drainage channel lacked flowing water at the time of the field investigation, the lower reaches of the channel, between the confluence and the dam/roadway, contained standing water. The water was murky and appeared to be at least 12 inches deep. The dam/roadway immediately north of the ponded area contains a spillway approximately 7 feet above the OHWMs. During extreme flood events, the dammed drainage feature would drain into Huerhuero Creek. Prior to the dam/roadway, this feature would have had direct hydrological connectivity to Huerhuero Creek.

Preliminary Jurisdictional Determination

RUB-5 is an ephemeral drainage that supports a definable bed, top-of-bank, and OHWMs. This feature also has historic hydrological connectivity to Huerhuero Creek, and may again have

direct connectivity to Huerhuero Creek during extreme flood events. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWMs, which was approximately 55 feet across at its widest section. Potential USACE jurisdiction accounts for 0.26 acre in the delineation area.

RUB-6: Unnamed Tributary to Huerhuero Creek

RUB-6 is an unnamed ephemeral tributary to Huerhuero Creek (refer to Appendix A, Sheet 6; Appendix D, Photo 9). The drainage feature begins on the north side of Buena Vista Drive where two culvert outlets drain into the channel and flow in a northern direction to Huerhuero Creek. The drainage contains a low-gradient, wide channel ranging from 5 to 25 feet wide between the OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-6 flows through a narrow corridor of nonnative grasslands and blue oak woodlands with active viticulture on all sides. The bed and banks of the drainage channel contain nonnative annual grasses and other ruderal species, with no evidence of riparian or hydrophytic vegetation.

Consistent with what was observed during the field investigation, the Web Soil Survey shows Arbuckle-San Ysidro complex, 2 to 9 percent slopes (Soil Map Symbol 106) in the delineation area. This soil type is listed as a hydric soil on the NRCS Hydric Soils List (NRCS 2003). Large blocks of concrete debris were scattered along the bed and banks, likely as an erosion control mechanism. Further downstream beyond the concrete rubble, scouring is more evident along the bed of the channel.

The drainage channel is fed by two culverts conveying runoff from roadside drainage swales and agricultural fields. The drainage channel lacked flowing water at the time of the field investigation; however, the channel exhibited the presence of a bed, banks, and OHWMs suggesting the drainage feature is subject to seasonal flows.

Preliminary Jurisdictional Determination

RUB-6 is an ephemeral drainage that supports a definable bed, top-of-bank, and OHWMs. This feature also has hydrological connectivity to Huerhuero Creek. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWM and accounts for 0.14 acre in the delineation area.

RUB-7: Unnamed Tributary to Salinas River

RUB-7 is an unnamed ephemeral tributary to the Salinas River. The upper reaches of the tributary branch out into three separate parallel reaches, each of which bisects the delineation area (refer to Appendix A, Sheet 7; Appendix D, Photo 10). The three channels eventually converge approximately 500 feet west of the delineation area and flow another 1,500 feet before crossing under River Road and into the Salinas River. The drainage contains moderately steep, narrow channels ranging from 3 to 5 feet across between the OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Access to this area was prohibited during the wetland delineation in 2017; however, this area

was thoroughly investigated during multiple site visits in April, June, and November 2016. All mapping and data pertaining to this feature came from the 2016 site visits.

Vegetation, Soils, and Hydrology

RUB-7 flows through blue oak woodlands with active viticulture occurring to the north, east, and south. The drainage feature contained a relatively dense canopy of blue oaks with an understory of native and nonnative annual grasses and forbs growing along the bed and banks of the channel.

The Web Soil Survey shows Arbuckle-Positas complex, 30 to 50 percent slopes (Soil Map Symbol 104) occurring along the drainage feature, with Nacimiento-Ayar complex, 9 to 30 percent slopes (Soil Map Unit 177) occurring along the uppermost reaches of the channels. Due to the lack to hydrophytic vegetation, a soil pit was not examined at this location.

RUB-7 conveys overland sheet flow from surrounding grassland and agricultural areas. In addition, a golf course pond is located approximately 300 feet upslope (south) of the middle channel of RUB-7. Aerial imagery indicates the pond is separated from the drainage feature by an earthen berm; however, it appears to discharge water into the drainage feature through a culvert or discharge pipe.

Preliminary Jurisdictional Determination

RUB-7 is an ephemeral drainage that supports a definable bed, top-of-bank, and OHWMs. This feature also has hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE and state jurisdiction. USACE jurisdiction was mapped by the OHWMs and accounts for 0.51 acre in the delineation area.

RUB-8: Unnamed Tributary to Salinas River

RUB-8 is an unnamed ephemeral tributary to the Salinas River. The drainage feature begins immediately southwest of Palo Alto Court, flows generally southwest for approximately 600 feet, crosses under River Road through a culvert, and drains into the Salinas River (refer to Appendix A, Sheet 8; Appendix D, Photo 11). The drainage contains a moderately steep, narrow channel with a defined bed and banks, and OHWMs ranging from 2 to 5 feet across. The tributary is not mapped as a blue-line stream or wetland feature on USGS topographic maps or the NWI, respectively (refer to Appendix F).

Vegetation, Soils, and Hydrology

The upper reaches of RUB-8 contain a relatively dense canopy of blue oak trees with an understory of annual grasses and forbs growing along the bed and banks. Once the drainage feature crosses beneath River Road and enters the Salinas River corridor, dense stands of poison oak (*Toxicodendron diversilobum*), arroyo willow, cottonwood trees, and other riparian vegetation are growing along the channel.

Rock slope protection lines the bed and banks of the channel for approximately 50 feet at the River Road culvert inlet. The remainder of the channel generally consists of sandy loam soils. Consistent with what was observed during the field investigation, the Web Soil Survey shows Arbuckle-Positas complex, 30 to 50 percent slopes (Soil Map Symbol 104) occurring along the

drainage feature, with Xerofluvents-Riverwash association (Soil Map Symbol 212) occurring along the lower reaches of the channel near its confluence with the Salinas River.

The drainage channel begins along the outer edge of a residential development, and conveys overland sheet flow from the surrounding area. The field investigation at this location was conducted during a rain event, and swift moving water was observed flowing through the channel.

Preliminary Jurisdictional Determination

RUB-8 is an ephemeral drainage that supports a definable bed, top-of-bank, and OHWMs. This feature also has direct hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE state jurisdiction. USACE jurisdiction was mapped by the OHWM and accounts for 0.05 acre in the delineation area.

RUB-9: Unnamed Tributary to Salinas River

RUB-9 is located approximately 170 feet south of RUB-8 (refer to Appendix A, Sheet 8; Appendix D, Photo 12). The drainage feature generally flows west between a residential development and CA-46, enters a 36-inch culvert inlet where it crosses beneath CA-46, and drains back out to a surface flow for approximately 40 feet before reentering another 36-inch culvert and crossing beneath River Road and into the Salinas River. Only a small portion of the surface flows cross through the delineation area, where the drainage channel and surrounding habitat has been heavily modified due to construction of CA-46, River Road, and River Oaks Drive. The portion of the drainage feature that bisects the delineation area is steep and narrow with defined bed, banks, and OHWMs. The bed of the channel spans approximately 3 to 4 feet between the OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

The majority of the drainage feature that bisects the delineation area is subject to subsurface flows through a series of culverts. A short (approximately 40-foot) segment of surface flow occurs southeast of the intersection of River Oaks Drive and River Road and north of CA-46. This portion of the drainage feature is dominated by ruderal species such as poison hemlock, milk thistle (*Silybum marianum*), and nonnative annual grasses, with interspersed arroyo willow and one valley oak. On the west side of River Road, the drainage channel returns to surface flow within the Salinas River riparian corridor where it bisects a dense thicket of riparian vegetation, including cottonwood trees, arroyo willow, and other native and nonnative shrubs and forbs. The bed and banks of the drainage channel were primarily devoid of vegetation.

In open flowing areas, the drainage channel contained a sandy, gravelly substrate with compact road fill occurring in the immediate vicinity. The Web Soil Survey shows Arbuckle-Positas complex, 30 to 50 percent slopes (Soil Map Symbol 104) occurring along the drainage feature, with Xerofluvents-Riverwash association (Soil Map Symbol 212) occurring along the lower reaches of the channel near its confluence with the Salinas River.

The drainage channel conveys overland sheet flow from surrounding residential and open space areas. The field investigation was conducted during a rain event, during which time storm water was observed flowing through the channel.

Preliminary Jurisdictional Determination

RUB-9 is an ephemeral drainage that supports a definable bed, top-of-bank, and OHWMs. This feature also has direct hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWM where surface flows were present and accounts for 0.002 acre in the delineation area.

RUB-10: Unnamed Tributary to Salinas River

RUB-10 is characterized as a moderately steep gradient, ephemeral drainage channel with defined bed, banks, and OHWMs (refer to Appendix A, Sheet 9; Appendix D, Photo 13). The bed of the channel ranges from 1 to 3 feet between the OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-10 flows through blue oak woodlands with a dense overhead canopy and an understory of annual grasses and forbs. A large patch of skunkbush (*Rhus aromatic*; FACU) was observed along the northern perimeter of the channel. No hydrophytic vegetation was observed. The banks of the drainage channel were devoid of vegetation.

Consistent with what was observed during the field investigation, the Web Soil Survey shows Nacimiento-Los Osos complex, 30 to 50 percent slopes (Soil Map Symbol 180) along the drainage channel. The banks were steep, with evidence of scouring and erosion along the length of the channel. Although a soil pit was not dug at this location, eroded banks exposed silty shaley soils.

The drainage feature conveys overland sheet flow from surrounding blue oak woodlands. Fast flowing water was observed moving through the drainage feature at the time of the site visit, draining directly into the Salinas River.

Preliminary Jurisdictional Determination

RUB-10 is an ephemeral drainage that supports a clearly defined bed, top-of-bank, and OHWMs. This feature also has direct hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWM and accounts for 0.04 acre in the delineation area.

RUB-11: Unnamed Tributary to Salinas River

RUB-11 is located approximately 1,200 feet south of RUB-10. This feature is a moderately steep, ephemeral drainage channel with defined bed, banks, and OHWMs (refer to Appendix A, Sheet 10; Appendix D, Photo 14). The bed of the channel ranges from 1 to 3 feet between the OHWMs. Approximately 60 feet west of the reconductor segment, the surface flow enters a 48-inch culvert and continues west for approximately 100 feet before returning to a free-flowing surface flow. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-11 flows through blue oak woodlands and annual grasslands. Vegetation along the drainage channel includes black walnut (*Juglans californica* var. *californica*), willow (*Salix* sp.), mulefat (*Baccharis salicifolia*), and blue oak trees with an understory of annual grasses and forbs. The banks of the drainage channel were devoid of vegetation.

The Web Soil Survey shows Balcom-Calleguas complex, 50 to 75 percent slopes (Soil Map Symbol 130) throughout the delineation area. Portions of the drainage channel are lined in concrete, while other areas contain steep, scoured banks with silty, gravelly soils.

The drainage feature conveys overland sheet flow from surrounding residential and open space areas and has direct connectivity with the Salinas River. Storm water was observed flowing through the channel during the field investigation, which took place during a rain event.

Preliminary Jurisdictional Determination

RUB-11 is an ephemeral drainage that supports a clearly defined bed, top-of-bank, and OHWMs. This feature also has direct hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWMs and accounts for 0.02 acre in the delineation area.

RUB-12: Unnamed Tributary to Salinas River

RUB-12 is located approximately 700 feet south of RUB-11 (refer to Appendix A, Sheet 10; Appendix D, Photo 15). This feature is a moderately steep, concrete and rock-lined drainage channel with OHWMs ranging from 2 to 4 feet across. The tributary is not shown as a blue-line stream or wetland feature on USGS topographic maps or the NWI, respectively (refer to Appendix F).

Vegetation, Soils, and Hydrology

Vegetation growing within the RUB-12 delineation area primarily consists of dense thickets of coyote brush with interspersed blue oaks. The drainage contains a concrete and rock-lined channel, so vegetation along the bed and banks is scarce.

The Web Soil Survey shows Balcom-Calleguas complex, 50 to 75 percent slopes (Soil Map Symbol 113) throughout the delineation area. The drainage feature begins as a V-shaped concrete ditch at the outer edge of a residential development. The V-shaped ditch eventually becomes a channel lined in rock slope protection, with relatively bare, loamy, rocky soils observed beyond the banks.

Storm water runoff was observed flowing through the channel at the time of the site visit, draining sheet flow from surrounding residential and open space areas. The storm water drained west through the lined channel and entered a culvert feature immediately east of North River Road. The water presumably drains into the Salinas River; however, access was prohibited on the west side of the road along the Salinas River corridor. The delineators therefore were unable to confirm the location of the culvert outlet.

Preliminary Jurisdictional Determination

RUB-12 is an ephemeral drainage that supports a bed, top-of-banks, and OHWMs. This feature is presumed to have hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWMs and accounts for 0.03 acre in the delineation area.

RUB-13: Unnamed Tributary to Salinas River

RUB-13 is located approximately 1,000 feet south of RUB-12 and is located along the southern perimeter of Union Road (refer to Appendix A, Sheet 11). This feature is a low-gradient ephemeral drainage channel with defined bed, banks, and OHWMs. The bed of the channel ranges from 2 to 5 feet wide between the OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-13 flows through a narrow band of blue oak woodlands and is surrounded by dense residential developments. The drainage feature contains a dense canopy cover of blue oak trees with an understory of annual grasses and forbs.

The Web Soil Survey shows Nacimiento-Los Osos complex, 30 to 50 percent slopes (Soil Map Symbol 180) occurring in the delineation area. Access was restricted during the April 2017 field investigation; therefore, the delineators were unable to examine soil conditions during the site visit. The jurisdictional mapping was collected during the 2016 site visits.

The drainage feature conveys overland sheet flow from surrounding residential and open space areas. Approximately 570 feet west of the delineation area, the drainage feature enters a culvert, flows west beneath North River Road, and drains into the Salinas River.

Preliminary Jurisdictional Determination

RUB-13 is an ephemeral drainage that supports a clearly defined bed, top-of-bank, and OHWMs. This feature also has direct hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWM and accounts for 0.17 acre in the delineation area.

RUB-14: Unnamed Tributary to Salinas River

RUB-14 is located approximately 1,200 feet south of RUB-13, and approximately 0.7 mile north of Paso Robles Substation (refer to Appendix A, Sheet 11; Appendix D, Photo 16). This feature is a moderately steep ephemeral drainage channel with steep slopes and defined bed, banks, and OHWMs. The bed of the channel ranges from 2 to 5 feet between the OHWMs. The tributary is mapped as a blue-line stream on USGS topographic maps and the NWI identifies the creek as Riverine (R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded) (refer to Appendix F).

Vegetation, Soils, and Hydrology

RUB-14 flows through dense blue oak woodlands with an understory of annual grasses and forbs. Black walnut trees are growing along the lower reaches of the drainage. The banks of the drainage channel were devoid of vegetation.

The Web Soil Survey shows Linne-Calodo complex, 30 to 50 percent slopes (Soil Map Symbol 153) occurring in the delineation area. The drainage channel contains steep, scoured banks with a silty, sandy substrate.

The drainage feature conveys overland sheet flow from surrounding residential and open space areas. The channel eventually flows into a culvert approximately 140 feet west of the delineation area, crosses through a culvert beneath South River Road, and drains directly into the Salinas River. Storm water was observed flowing through the channel during the field investigation, which took place during a rain event.

Preliminary Jurisdictional Determination

RUB-14 is an ephemeral drainage that supports a clearly defined bed, top-of-bank, and OHWMs. This feature also has direct hydrological connectivity to the Salinas River. It was therefore determined that this feature is subject to USACE jurisdiction. USACE jurisdiction was mapped by the OHWM and accounts for 0.05 acre in the delineation area.

Discussion

As mapped in Appendix A, 14 drainage features (RUB-1 through RUB-14) contained defined beds, banks, and OHWMs and had hydrological connectivity to a relatively permanent water or traditionally navigable water. As a result, these features may be considered Other Waters subject to USACE jurisdiction under Section 404 of the Clean Water Act. The total area considered to be Other Waters under USACE jurisdiction is 4.220 acres (183,820.9 square feet).

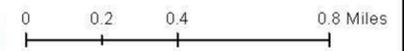
In addition, one seasonal wetland (PEW-1) is likely considered to be jurisdictional by USACE due to the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. The total area considered to be Wetlands under USACE jurisdiction is 0.365 acre (15,885.2 square feet).

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Appendix A
Wetland Delineation Map



1:25,000

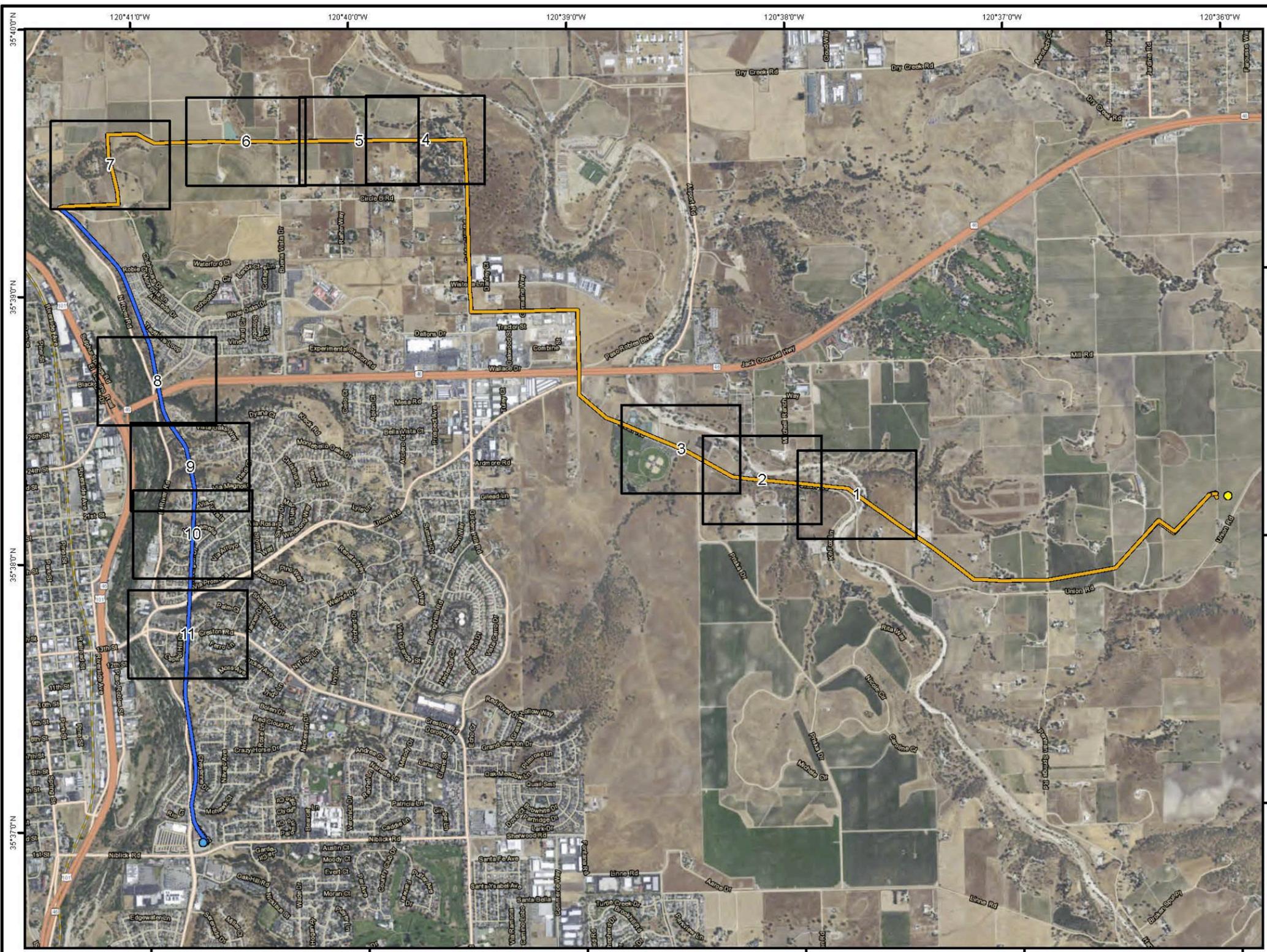
Estrella Substation and Paso Robles Area Reinforcement Project

70 kV Power Line Route Wetland Delineation Map Index Sheet

PG&E Contact: Tom Johnson
Prepared By: Kristen Outten
Delineation Date: April 17 - 18, 2017
Drawn By: SWCA Environmental Consultants
Delineation area: approximately 600 acres

Legend

- Mapbook Page
- Project Area**
- New 70 kV Power Line Segment
- Reconductoring Segment
- Estrella Substation (New)
- Paso Robles Substation (Existing)





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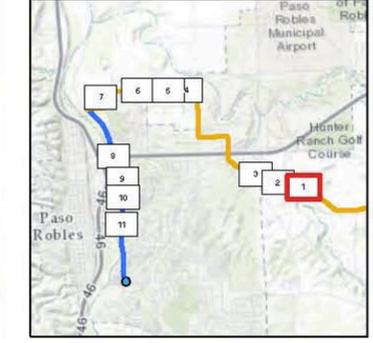
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1 inch = 200 feet

Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation Map
Page 1 of 11

PG&E Contact: Tom Johnson
Prepared By: Kristen Outten
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- Legend**
- Wetland Delineation Area
 - USGS 7.5-minute Quads
 - Townships
 - Sections
 - 20-foot Contours
- Project Area**
- New 70 kV Power Line Segment
 - Reconductoring Segment
- Potential Jurisdictional Waters**
- Potential USACE Jurisdiction
 - Culvert inlet
 - Culvert outlet
 - Flow Direction

PLSS Location
Paso Robles Quadrangle
Township 26S, Range 12E
Section 25





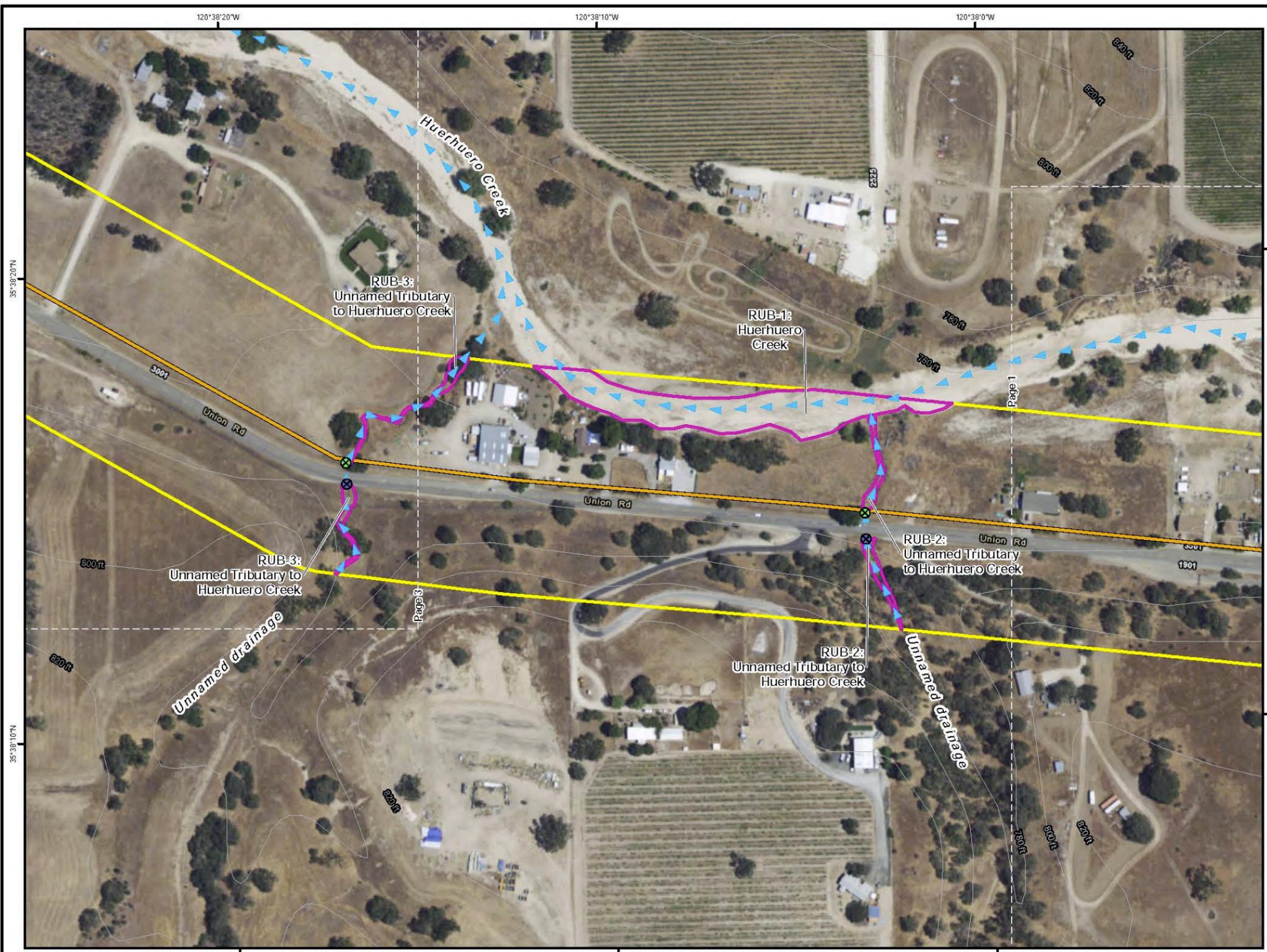
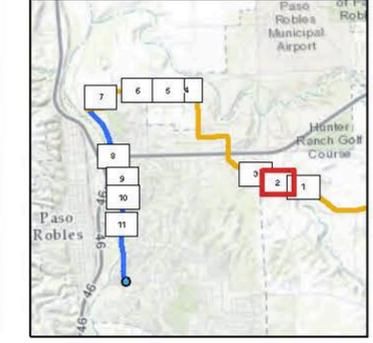
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Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation Map
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 -  Reconductoring Segment
- Potential Jurisdictional Waters**
-  Potential USACE Jurisdiction
 -  Culvert inlet
 -  Culvert outlet
 -  Flow Direction

PLSS Location
Paso Robles Quadrangle
Township 26S, Range 12E
Section 25





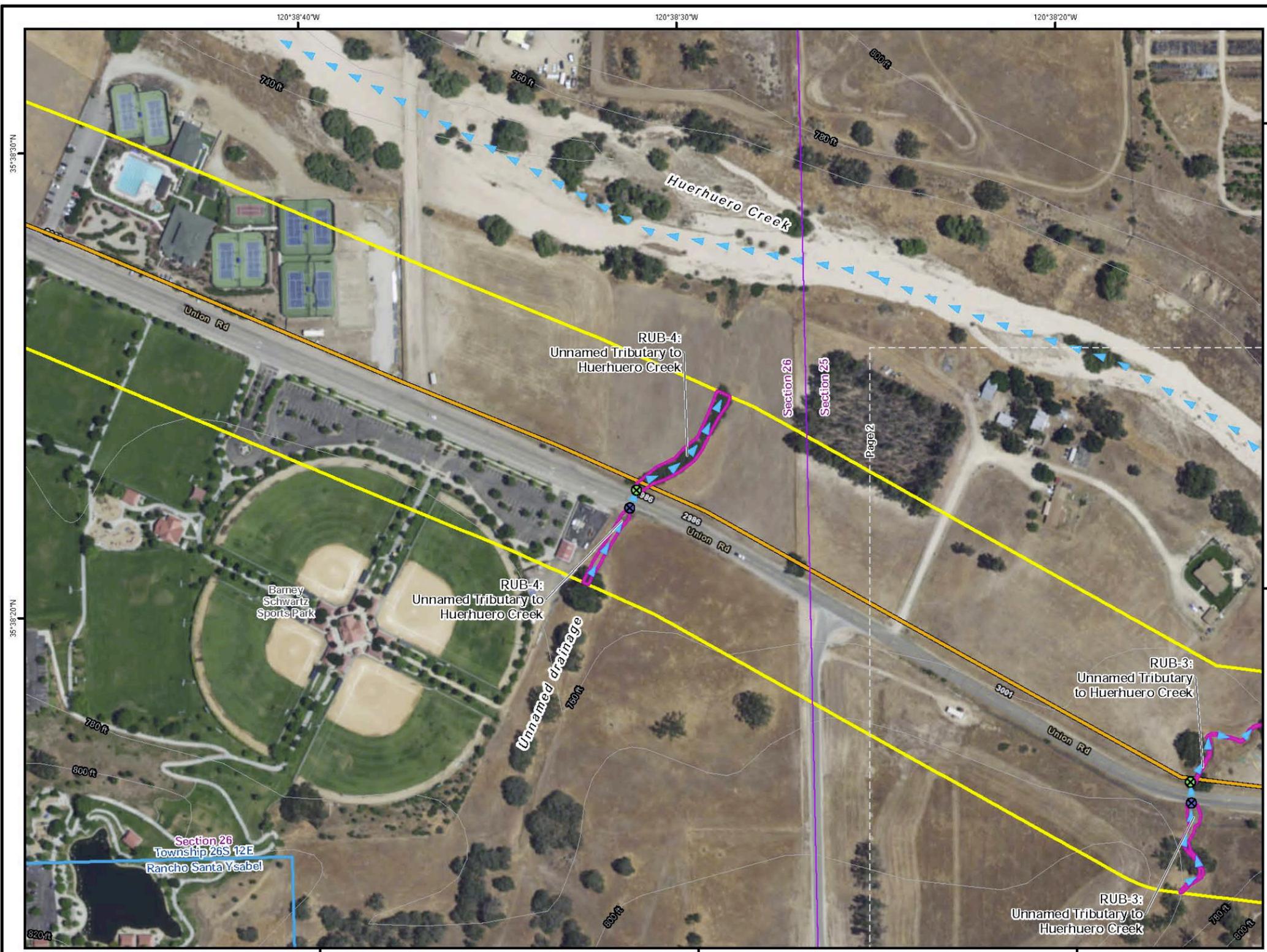
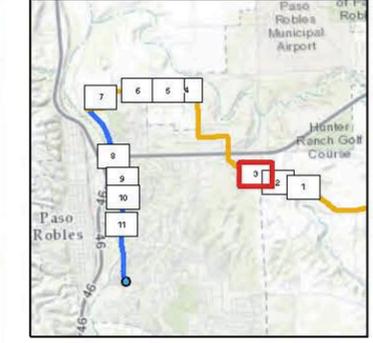
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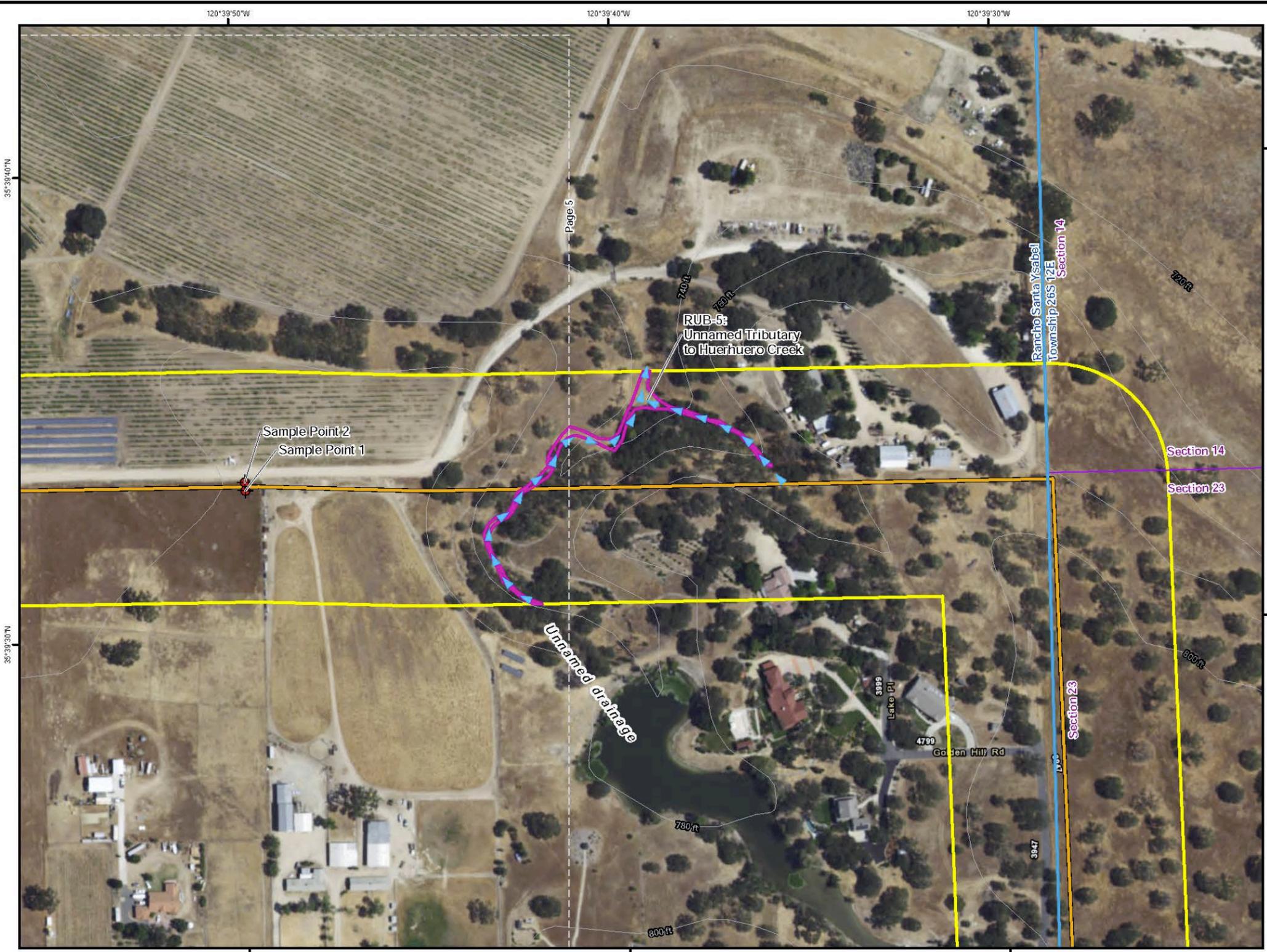
Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation Map
Page 3 of 11

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- Legend**
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 - Townships
 - Sections
 - 20-foot Contours
- Project Area**
- New 70 kV Power Line Segment
 - Reconductoring Segment
- Potential Jurisdictional Waters**
- Potential USACE Jurisdiction
 - Culvert inlet
 - Culvert outlet
 - Flow Direction

PLSS Location
Paso Robles Quadrangle
Township 26S, Range 12E
Section 26





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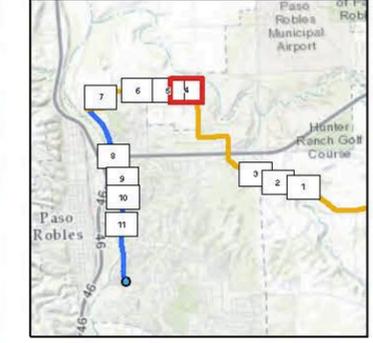
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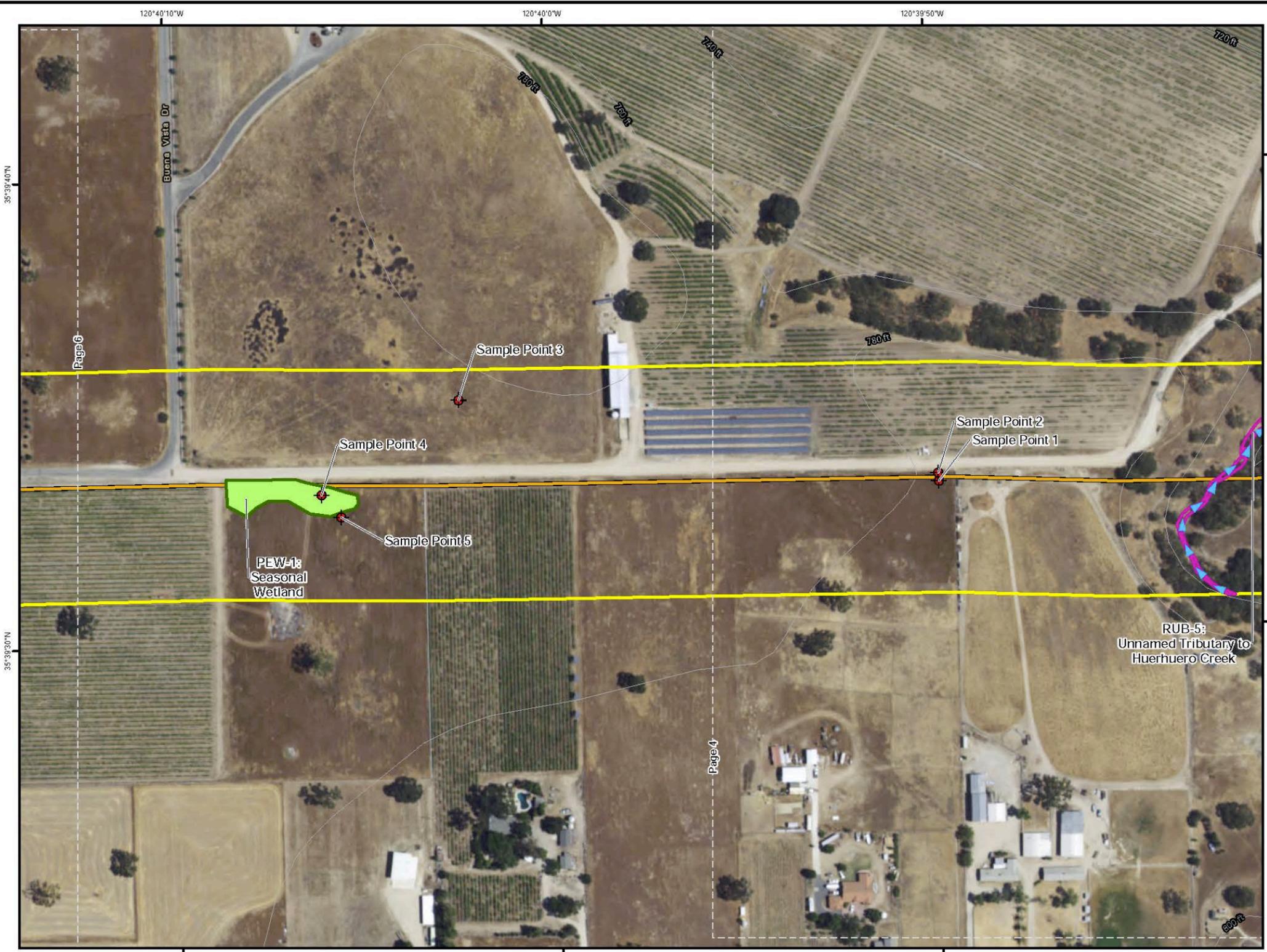
Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation Map
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- Legend**
- Wetland Delineation Area
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 - Townships
 - Sections
 - 20-foot Contours
 - Project Area**
 - New 70 kV Power Line Segment
 - Reconducting Segment
 - Potential Jurisdictional Waters**
 - Potential USACE Jurisdiction
 - ⊗ Culvert inlet
 - ⊗ Culvert outlet
 - ⊗ Sample Points
 - ▶ Flow Direction

PLSS Location
Paso Robles Quadrangle
Rancho Santa Ysabel
(Unsectioned)







 Pacific Gas and Electric Company

0 50 100 200 Feet

 1 inch = 200 feet

Estrella Substation and Paso Robles Area Reinforcement Project

 70 kV Power Line Route

 Wetland Delineation Map

 Page 5 of 11

PG&E Contact: Tom Johnson

 Prepared By: Kristen Outten

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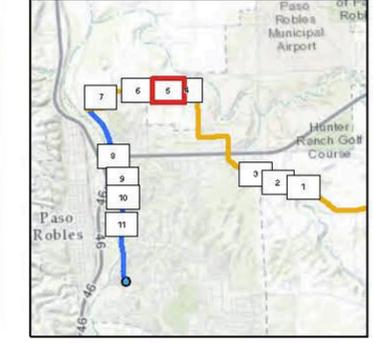
- Legend
-  Wetland Delineation Area
 -  USGS 7.5-minute Quads
 -  Townships
 -  Sections
 -  20-foot Contours
- Project Area
-  New 70 kV Power Line Segment
 -  Reconductoring Segment
- Potential Jurisdictional Waters
-  Seasonal Wetland - Potential USACE Jurisdiction
 -  Potential USACE Jurisdiction
-  Culvert inlet
 -  Culvert outlet
 -  Sample Points
 -  Flow Direction

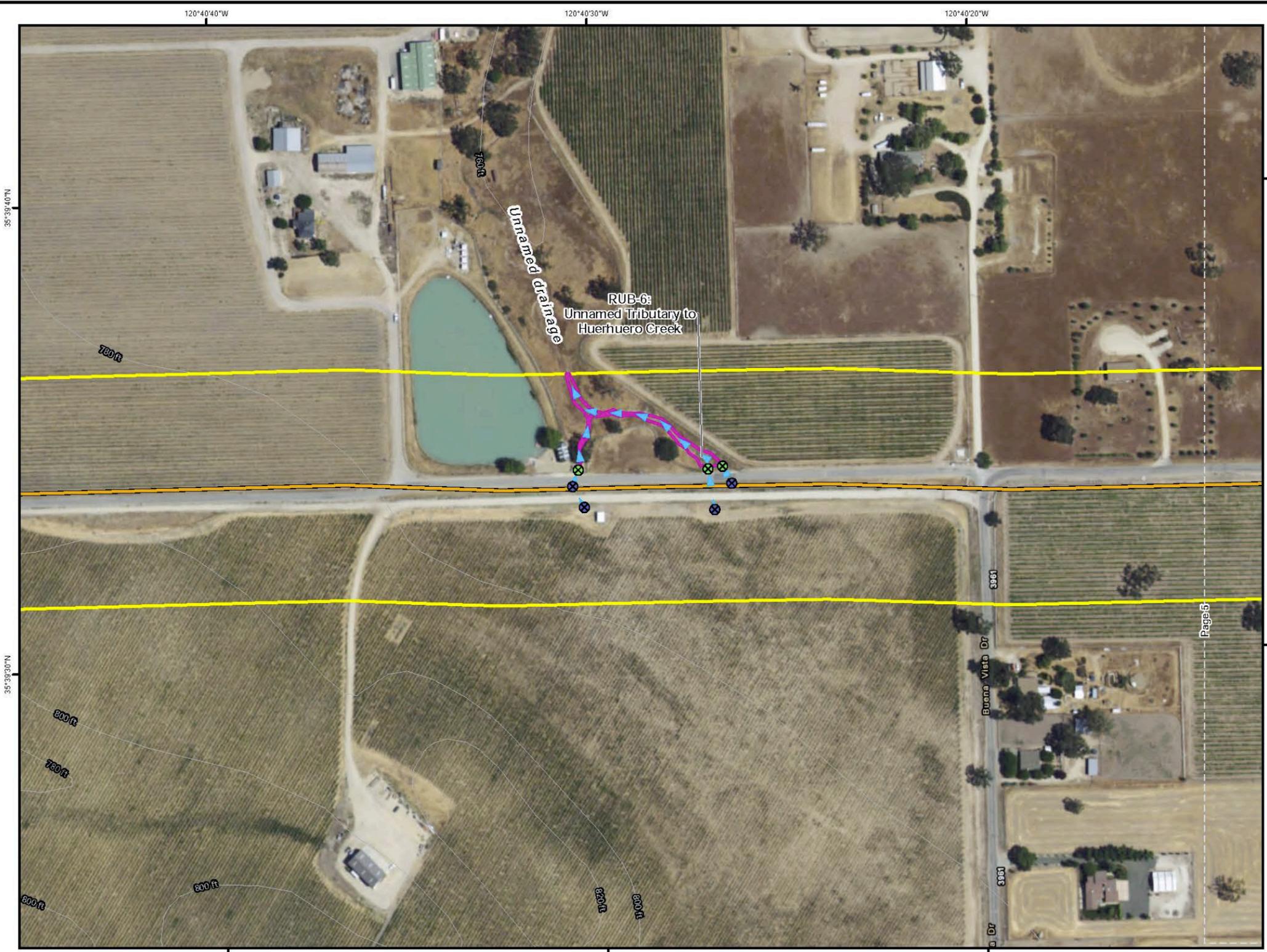
PLSS Location

 Paso Robles Quadrangle

 Rancho Santa Ysabel

 (Unsectioned)





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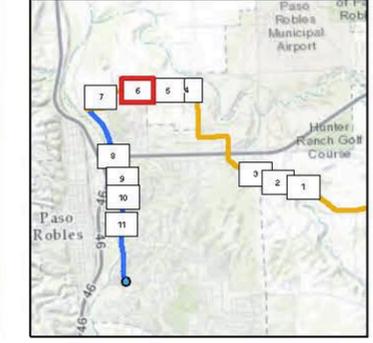

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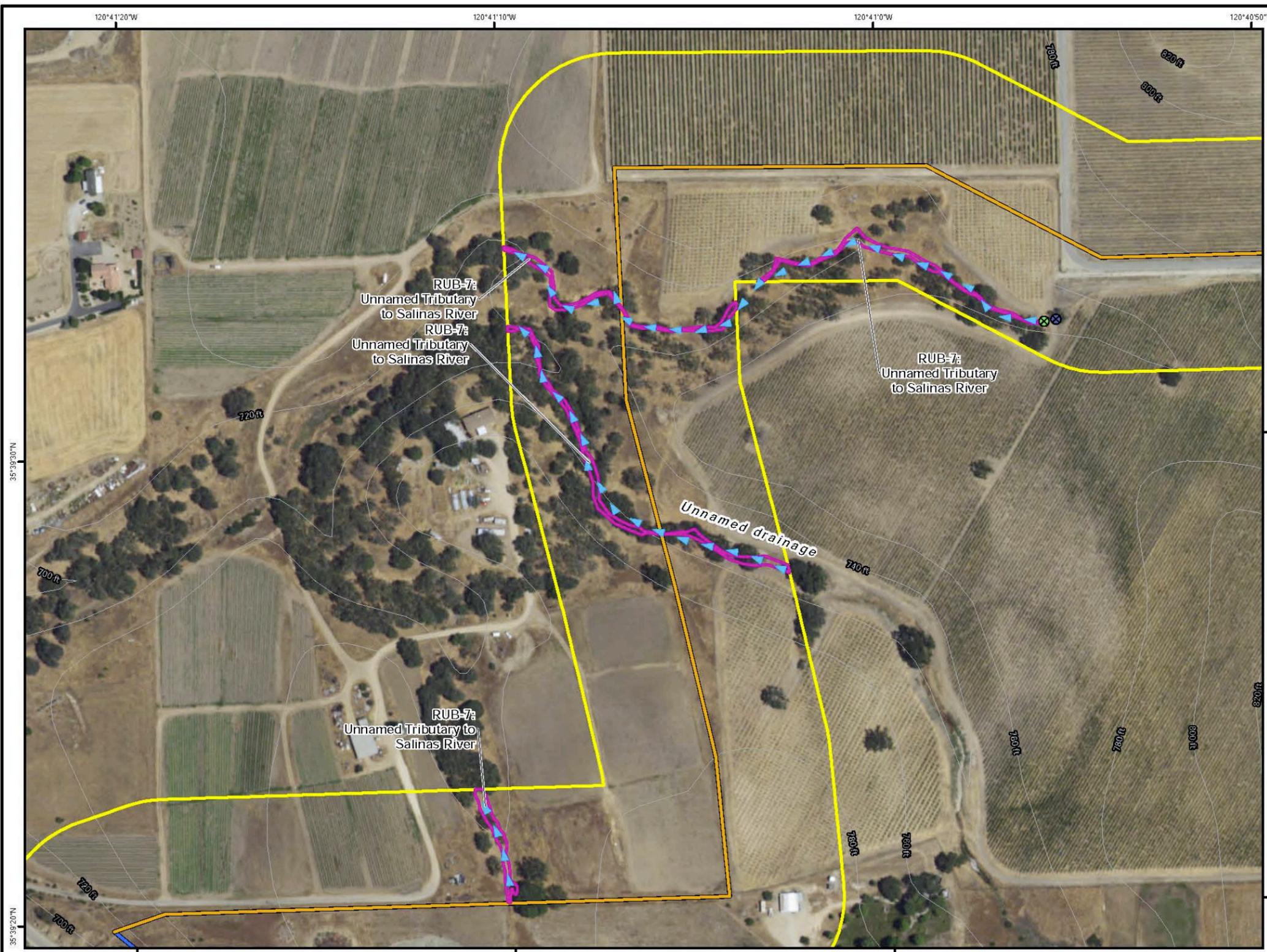
Estrella Substation and Paso Robles Area Reinforcement Project
 70 kV Power Line Route
 Wetland Delineation Map
 Page 6 of 11

PG&E Contact: Tom Johnson
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-  Potential USACE Jurisdiction
 -  Culvert inlet
 -  Culvert outlet
 -  Flow Direction

PLSS Location
 Paso Robles Quadrangle
 Rancho Santa Ysabel
 (Unsectioned)





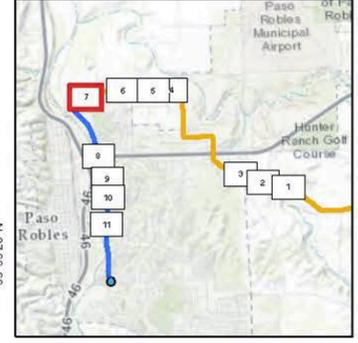
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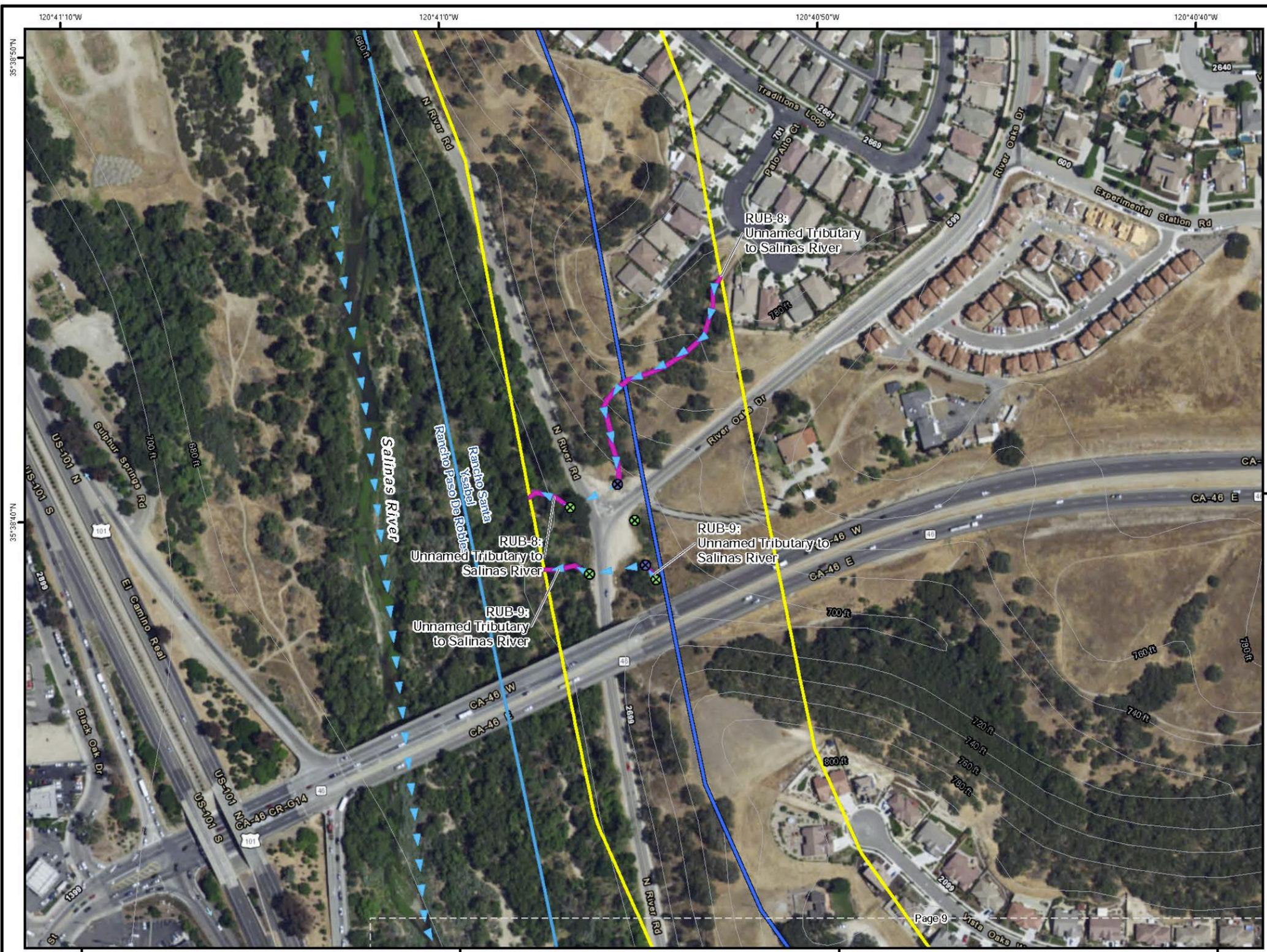
Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation Map
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- Potential USACE Jurisdiction
 - X
 Culvert inlet
 - X
 Culvert outlet
 - ▶
 Flow Direction

PLSS Location
Paso Robles Quadrangle
Rancho Santa Ysabel
(Unsectioned)







 0 50 100 200 Feet

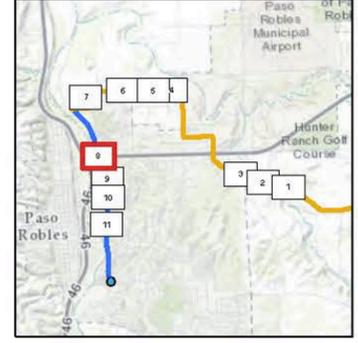
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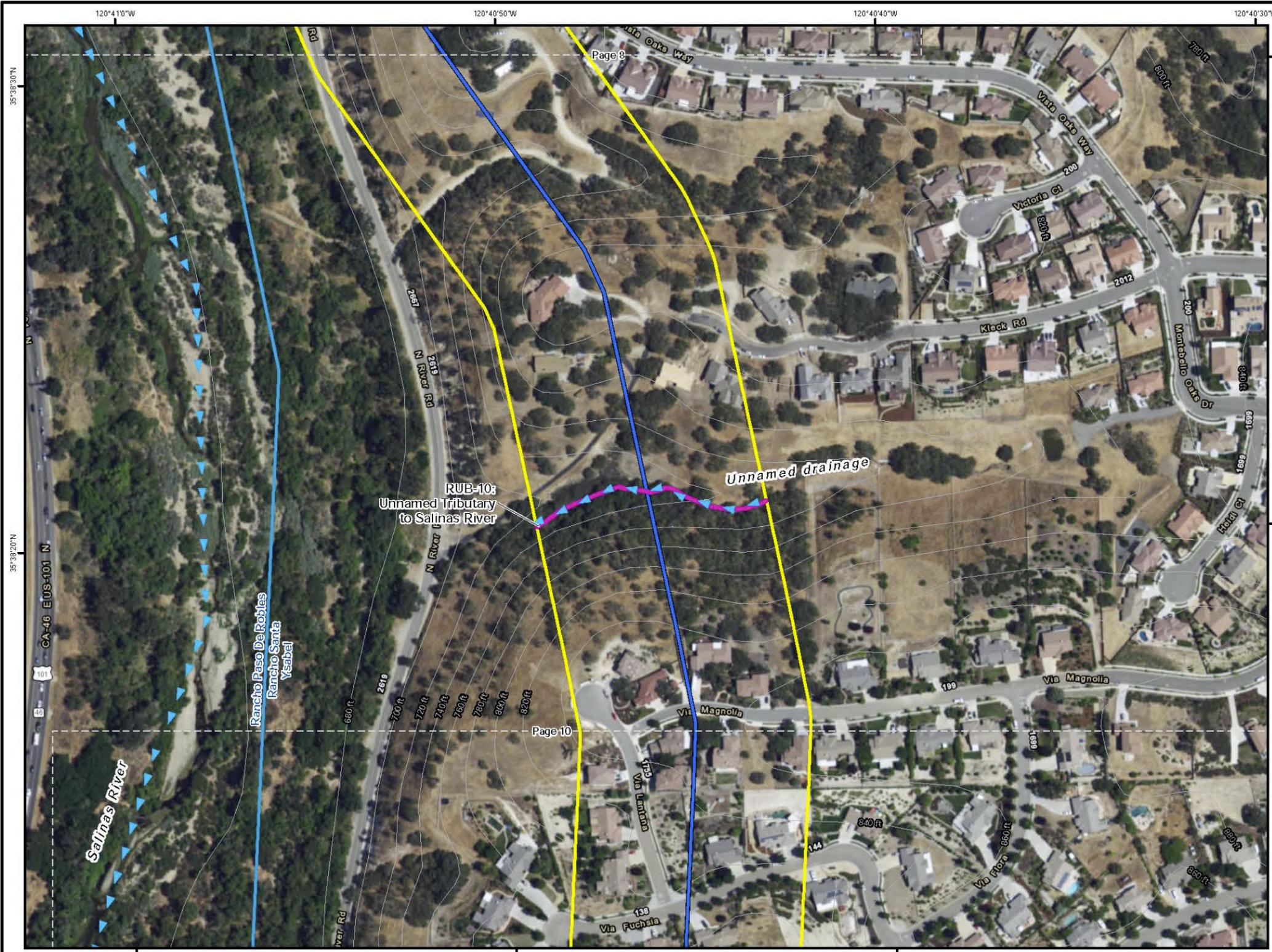
Estrella Substation and Paso Robles Area Reinforcement Project
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PLSS Location
 Paso Robles Quadrangle
 Rancho Santa Ysabel
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 0 50 100 200 Feet

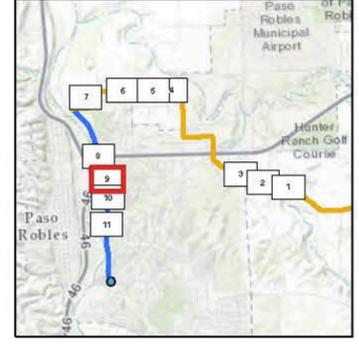
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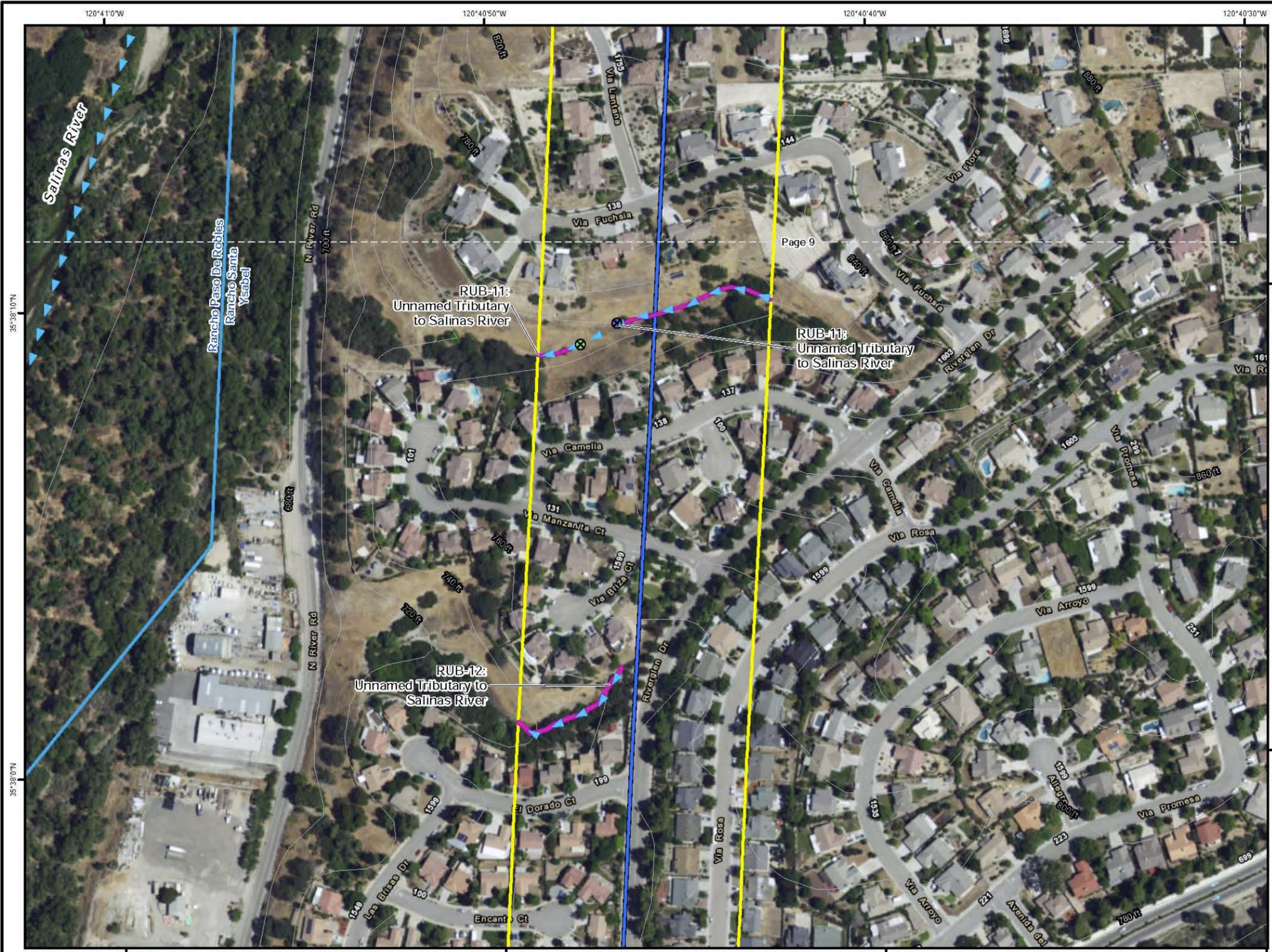
Estrella Substation and Paso Robles Area Reinforcement Project
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 Page 9 of 11

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PLSS Location
 Paso Robles Quadrangle
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 (Unsectioned)







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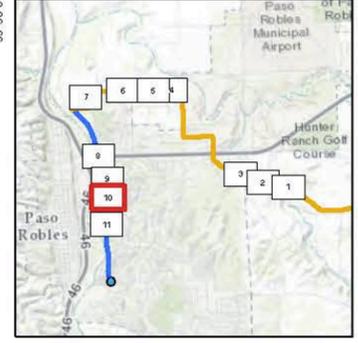
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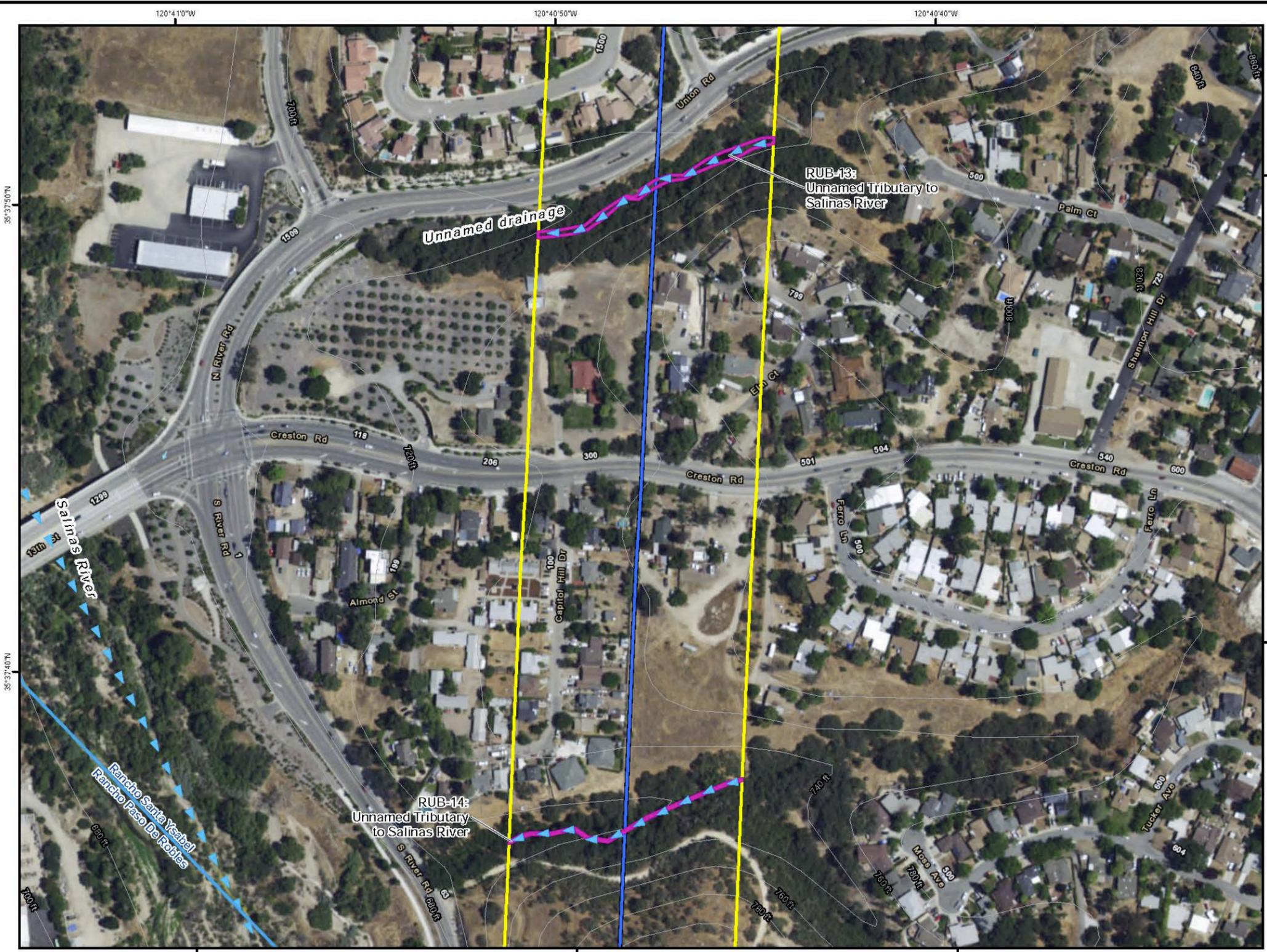
Estrella Substation and Paso Robles Area Reinforcement Project
 70 kV Power Line Route
 Wetland Delineation Map
 Page 10 of 11

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PLSS Location
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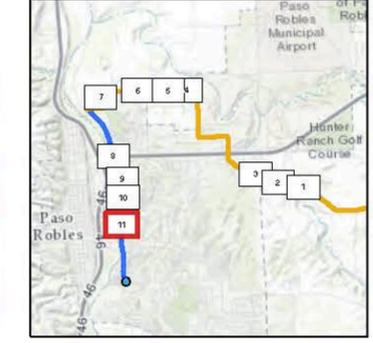
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Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
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PLSS Location
Paso Robles Quadrangle
Rancho Santa Ysabel
(Unsectioned)



Appendix B
Plant Species Observed in the Delineation Area

Appendix B. List of Plant Species Observed in the Delineation Area

Scientific Name	Common Name	Wetland Indicator Status ^a
GYMNOSPERMS		
<i>Pinaceae</i>	Pine family	
<i>Pinus pinea</i>	Italian stone pine	UPL
<i>Taxodiaceae</i>	Bald cypress family	
<i>Sequoia sempervirens</i>	coast redwood	UPL
ANGIOSPERMS (DICOTS)		
<i>Aizoaceae</i>	Fig-marigold family	
<i>Carpobrotus chilensis</i>	ice plant	UPL
<i>Amaranthaceae</i>	Amaranth family	
<i>Amaranthus albus</i>	tumbleweed	FACU
<i>Amaranthus retroflexus</i>	green amaranthus	FACU
<i>Anacardiaceae</i>	Sumac family	
<i>Rhus aromatica</i>	skunkbrush	FACU
<i>Rhus integrifolia</i>	lemonade berry	UPL
<i>Schinus molle</i>	Peruvian pepper tree	FACU
<i>Toxicodendron diversilobum</i>	poison oak	FACU
<i>Apiaceae</i>	Carrot family	
<i>Anthriscus caucalis</i>	bur chivel	UPL
<i>Bowlesia incana</i>	bowlesia	UPL
<i>Conium maculatum</i>	poison hemlock	FACW
<i>Daucus pusillus</i>	rattle snake weed	UPL
<i>Eryngium vaseyi</i>	coyote thistle	FACW
<i>Foeniculum vulgare</i>	sweet fennel	UPL
<i>Lomatium californicum</i>	California lomatium	UPL
<i>Torilis arvensis</i>	field hedge parsley	UPL
<i>Apocynaceae</i>	Dogbane family	
<i>Vinca major</i>	greater periwinkle	UPL
<i>Asclepiadaceae</i>	Milkweed family	
<i>Asclepias fascicularis</i>	narrow-leaf milkweed	FAC
<i>Asclepias vestita</i>	woolly milkweed	UPL
<i>Asteraceae</i>	Sunflower family	
<i>Achillea millefolium</i>	yarrow	FACU
<i>Achyrachaena mollis</i>	blow-wives	FAC
<i>Ambrosia acanthicarpa</i>	annual burweed	UPL
<i>Baccharis pilularis</i>	coyote brush	NI

Scientific Name	Common Name	Wetland Indicator Status ^a
<i>Baccharis salicifolia</i>	mule's fat	FAC
<i>Erigeron bonariensis</i>	flax-leaved horseweed	FACU
<i>Erigeron canadensis</i>	horseweed	FACU
<i>Erigeron foliosus</i>	leafy fleabane	UPL
<i>Erigeron glaucus</i>	seaside daisy	FACU
<i>Eriodictyon</i> sp.	yerba santa	UPL
<i>Eriophyllum confertifolium</i>	golden yarrow	UPL
<i>Eriophyllum confertifolium</i>	bristly ox-tongue	UPL
<i>Hesperevax sparsiflora</i>	erect dwarf cudweed	FACU
<i>Holocarpha heermannii</i>	Heermann's tarweed	UPL
<i>Hypochaeris glabra</i>	smooth cat's ear	UPL
<i>Hypochaeris radicata</i>	rough cat's ear	FACU
<i>Lactuca saligna</i>	slender lettuce	UPL
<i>Lactuca serriola</i>	prickly lettuce	FACU
<i>Logfia gallica</i>	narrow-leaved filago	FACU
<i>Micropus californicus</i> var. <i>californicus</i>	slender cottonweed	UPL
<i>Pseudognaphalium stramineum</i>	cottonbatting plant	FAC
<i>Senecio vulgaris</i>	ragwort	FACU
<i>Silybum marianum</i>	milk thistle	UPL
<i>Sonchus oleraceus</i>	sow thistle	UPL
<i>Stephanomeria virgata</i>	wire-lettuce	UPL
<i>Taraxacum officinale</i>	dandelion	FACU
<i>Xanthium spinosum</i>	spiny cocklebur	FACU
<i>Xanthium strumarium</i>	cocklebur	FAC
<i>Uropappus lindleyi</i>	silver puffs	UPL
Boraginaceae	Borage family	
<i>Amsinckia intermedia</i>	common fiddleneck	UPL
<i>Amsinckia menziesii</i>	small flowered fiddleneck	UPL
<i>Heliotropium curassavicum</i>	salt heliotrope	FACU
<i>Plagiobothrys canescens</i>	valley popcorn flower	UPL
Brassicaceae	Mustard family	
<i>Brassica nigra</i>	black mustard	UPL
<i>Brassica rapa</i>	field mustard	FACU
<i>Capsella bursa-pastoris</i>	shepherd's purse	FACU
<i>Hirschfeldia incana</i>	summer mustard	UPL
<i>Raphanus sativa</i>	wild radish	UPL
<i>Thysanocarpus curvipes</i>	lacepod	UPL

Scientific Name	Common Name	Wetland Indicator Status ^a
Campanulaceae	Bellflower family	
<i>Downingia sp.</i>	unknown	UPL
Caprifoliaceae	Honeysuckle family	
<i>Lonicera interrupta</i>	honeysuckle	UPL
<i>Sambucus nigra</i>	black elderberry	FACU
<i>Symphoricarpos mollis</i>	creeping snowberry	FACU
Caryophyllaceae	Pink family	
<i>Silene gallica</i>	catchfly	UPL
Chenopodiaceae	Goosefoot family	
<i>Chenopodium album</i>	pigweed	FACU
<i>Chenopodium californicum</i>	California pigweed	UPL
<i>Salsola tragus</i>	Russian thistle	FACU
Cistaceae	Rock-rose family	
<i>Cistus monspeliensis</i>	resinous rockrose	UPL
Convolvulaceae	Morning glory family	
<i>Convolvulus arvensis</i>	bindweed	UPL
Cucurbitaceae	Gourd family	
<i>Marah fabaceus</i> var. <i>fabaceus</i>	wild cucumber	UPL
Ericaceae	Heath family	
<i>Arctostaphylos glauca</i>	big berry manzanita	UPL
Euphorbiaceae	Spurge family	
<i>Croton setiger</i>	doveweed/turkey mullein	UPL
<i>Euphorbia ocellata</i> ssp. <i>ocellata</i>	valley spurge	UPL
Fabaceae	Pea family	
<i>Acmispon americanus</i>	Spanish lotus	UPL
<i>Acmispon glaber</i>	deer weed	UPL
<i>Astragalus douglasii</i> var. <i>douglasii</i>	Douglas's milkvetch	UPL
<i>Lathyrus odoratus</i>	sweet pea	UPL
<i>Lupinus albifrons</i>	silver lupine	UPL
<i>Lupinus bicolor</i>	miniature lupine	UPL
<i>Lupinus hirsutissimus</i>	stinging lupine	UPL
<i>Lupinus microcarpus</i> var. <i>microcarpus</i>	chick lupine	UPL
<i>Lupinus nanus</i>	sky lupine	UPL
<i>Melilotus indica</i>	sourclover	UPL
<i>Medicago polymorpha</i>	bur clover	FACU
<i>Trifolium hirtum</i>	rose clover	UPL

Scientific Name	Common Name	Wetland Indicator Status ^a
<i>Vicia sativa</i>	spring vetch	FACU
<i>Vicia villosa</i>	hairy vetch	UPL
Fagaceae	Oak family	
<i>Quercus agrifolia</i>	coast live oak	UPL
<i>Quercus berberidifolia</i>	scrub oak	UPL
<i>Quercus douglasii</i>	blue oak	UPL
<i>Quercus lobata</i>	valley oak	FACU
Geraniaceae	Geranium family	
<i>Erodium cicutarium</i>	red-stemmed filaree	UPL
<i>Erodium botrys</i>	filaree	FACU
<i>Erodium moschatum</i>	white-stemmed filaree	UPL
<i>Geranium dissectum</i>	cut leaf geranium	UPL
Hydrophyllaceae	Waterleaf family	
<i>Phacelia distans</i>	common phacelia	UPL
<i>Phacelia malviflora</i>	stinging phacelia	UPL
<i>Pholistoma auritum</i>	fiesta flower	UPL
Juncaceae	Rush family	
<i>Juncus bufonius</i>	toad rush	FACW
Juglandaceae	Walnut family	
<i>Juglans californica</i> var <i>californica</i>	S. California black walnut	UPL
Lamiaceae	Mint family	
<i>Lavandula</i> sp.	lavender	UPL
<i>Marrubium vulgare</i>	horehound	FACU
<i>Stachys bullata</i>	hedge nettle	UPL
Lauraceae	Laurel family	
<i>Umbellularia californica</i>	California bay	UPL
Malvaceae	Mallow family	
<i>Malva parviflora</i>	cheeseweed	UPL
Montiaceae	Minor's lettuce family	
<i>Claytonia perfoliata</i>	miners lettuce	FAC
Myrsinaceae	Myrsine family	
<i>Lysimachia arvensis</i>	scarlet pimpernel	FAC
Myrtaceae	Myrtle family	
<i>Eucalyptus globules</i>	blue gum	UPL
Oleaceae	Ash family	
<i>Olea europaea</i>	olive	UPL

Scientific Name	Common Name	Wetland Indicator Status ^a
Onagraceae	Evening primrose family	
<i>Clarkia affinis</i>	chaparral fairyfan	UPL
<i>Clarkia bottae</i>	punch bowl clarkia	UPL
<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	purple clarkia	UPL
<i>Clarkia speciosa</i>	red spotted clarkia	UPL
<i>Clarkia unguiculata</i>	elegant clarkia	UPL
<i>Epilobium canum</i>	California fuchsia	UPL
<i>Eremothera boothii</i> ssp. <i>decorticans</i>	shredding evening primrosa	UPL
Orobanchaceae	Broomrape family	
<i>Castilleja densiflora</i> ssp. <i>obispoensis</i>	San Luis Obispo owl's clover	UPL
Oxalidaceae	Woodsorrel family	
<i>Oxalis pes-caprae</i>	Bermuda buttercup	UPL
Papaveraceae	Poppy family	
<i>Eschscholzia californica</i>	California poppy	UPL
Plantaginaceae	Plantain family	
<i>Collinsia heterophylla</i>	Chinese houses	UPL
<i>Plantago lanceolata</i>	English plantain	FAC
Plantanaceae	Sycamore family	
<i>Platanus racemosa</i>	western sycamore	FAC
Polemoniaceae	Phlox family	
<i>Navarretia atractyloides</i>	holly leaf navarretia	UPL
Polygonaceae	Buckwheat family	
<i>Chorizanthe membranacea</i>	pink spineflower	UPL
<i>Eriogonum elegans</i>	elegant buckwheat	UPL
<i>Eriogonum gracillimum</i>	slender-stemmed buckwheat	UPL
<i>Eriogonum nudum</i>	naked buckwheat	UPL
<i>Eriogonum roseum</i>	wand buckwheat	UPL
<i>Polygonum aviculare</i>	prostrate knotweed	FAC
<i>Polygonum</i> sp.	unknown	Unknown
<i>Rumex acetosella</i>	sheep sorrel	FACU
<i>Rumex crispus</i>	curly dock	FAC
<i>Rumex pulcher</i>	fiddle dock	FAC
Ranunculaceae	Buttercup family	
<i>Delphinium parryi</i> ssp. <i>parryi</i>	San Bernardino larkspur	UPL
Rhamnaceae	Buckthorn family	
<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	wedgeleaf ceanothus	UPL

Scientific Name	Common Name	Wetland Indicator Status ^a
<i>Frangula californica</i>	coffeberry	UPL
<i>Rhamnus ilicifolia</i>	evergreen buckthorn	UPL
Rosaceae	Rose family	
<i>Heteromeles arbutifolia</i>	toyon	UPL
<i>Rosa californica</i>	California wild rose	FAC
Rubiaceae	Madder family	
<i>Galium aparine</i>	goose grass	FACU
Salicaceae	Willow family	
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont's cottonwood	UPL
<i>Salix exigua</i>	sandbar willow	FACW
<i>Salix lasiandra</i>	red willow	FACW
<i>Salix lasiolepis</i>	arroyo willow	FACW
<i>Salix laevigata</i>	red willow	FACW
Scrophulariaceae	Figwort family	
<i>Verbascum thapsus</i>	common mullein	FACU
Solanaceae	Nightshade family	
<i>Datura stramonium</i>	jimson weed	UPL
<i>Nicotiana acuminata</i>	manyflowered tobacco	UPL
<i>Solanum americanum</i>	American black nightshade	FACU
Urticaceae	Nettle family	
<i>Urtica dioica</i>	hoary nettle	FAC
<i>Urtica urens</i>	dwarf nettle	UPL
Verbenaceae	Verbena family	
<i>Verbena lasiostachys</i>	common vervain	FAC
Violaceae	Violet family	
<i>Viola pedunculata</i>	Johnny jump-up	UPL
Viscaceae	Mistletoe family	
<i>Phoradendron villosum</i>	oak mistletoe	UPL
Vitaceae	Grape family	
<i>Vitis</i> sp.	cultivated grape	UPL
ANGIOSPERMS (MONOCOTS)		
Araceae	Arum family	
<i>Lemna</i> sp.	duckweed	OBL
Cyperaceae	Sedge family	
<i>Cyperus eragrostis</i>	tall flat sedge	FACW
<i>Eleocharis macrostachya</i>	common spikerush	OBL

Scientific Name	Common Name	Wetland Indicator Status ^a
<i>Eleocharis parishii</i>	spikerush	FACW
<i>Schoenoplectus americanus</i>	bulrush	OBL
Liliaceae	Lily family	
<i>Bloomeria crocea</i>	common goldenstar	UPL
<i>Brodiaea terrestris</i>	dwarf brodiaea	UPL
<i>Calochortus luteus</i>	yellow mariposa lily	UPL
<i>Dichelostemma capitatum</i>	blue dicks	FACU
Poaceae	Grass family	
<i>Agrostis</i> sp.	unknown	Unknown
<i>Avena barbata</i>	slender wild oats	UPL
<i>Avena fatua</i>	wild oats	UPL
<i>Briza maxima</i>	rattle snake grass	UPL
<i>Bromus arenarius</i>	Australian chess	UPL
<i>Bromus carinatus</i>	California brome	UPL
<i>Bromus diandrus</i>	riggut brome	UPL
<i>Bromus hordeaceus</i>	soft chess brome	FACU
<i>Bromus madritensis</i>	Spanish brome	UPL
<i>Bromus rubens</i>	red brome	UPL
<i>Deinandra fasciculata</i>	clustered tarweed	FACU
<i>Distichlis spicata</i>	saltgrass	FAC
<i>Festuca bromoides</i>	brome fescue	UPL
<i>Festuca microstachys</i>	small fescue	UPL
<i>Festuca myuros</i>	rattail fescue	UPL
<i>Festuca perennis</i>	Italian ryegrass	UPL
<i>Hordeum brachyantherum</i>	meadow barley	FACW
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	foxtail	UPL
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	UPL
<i>Melica imperfecta</i>	melic grass	UPL
<i>Stipa pulchra</i>	purple needle-grass	UPL
<i>Stipa cernua</i>	nodding needle grass	UPL
Typhaceae	Cattail family	
<i>Typha latifolia</i>	cattail	OBL

Sources: Environmental Laboratory 1987; USACE 2013; Baldwin et al. 2012.

^a Indicator Status Definitions: OBL = Obligate, almost always occurs in wetlands (>99% probability of occurrence); FACW = Facultative wetland, usually occurs in wetlands (66%–99% probability); FAC = Facultative, equally likely to occur in wetlands or nonwetlands (34%–66% probability); FACU = Facultative upland, usually occurs in nonwetlands but occasionally in wetlands (1%–33% probability); UPL = Obligate upland, almost never occurs in wetlands (<1% probability); NI = No indicator (insufficient information to assign an indicator status)

Appendix C

Routine Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Estrella Substation and Paso Robles Area Reinforcement Project City/County: San Luis Obispo County Sampling Date: 4/17/2017
 Applicant/Owner: Pacific Gas and Electric Company (PG&E) State: CA Sampling Point: 1
 Investigator(s): Kristen Outten (SWCA), Travis Belt (SWCA), Tim Armstrong (PG&E) Section, Township, Range: Township 26 South, Range 12 East, Unsectioned (Rancho Santa Ysabel)
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR): C Lat: 35.6592187787703 Long: -120.663925036668 Datum: NAD83
 Soil Map Unit Name: Sesame sandy loam, 9 to 30 percent slopes NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: A small low-lying depression is located along the northeast corner of APN 020-011-038. Aerial imagery reveals use of mechanical equipment which likely attributes to the local relief and soil compaction. Sample Point 1 meets the criteria for hydric soils and wetland hydrology; however, does not meet the criteria for hydrophytic vegetation.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>10'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>35</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>3.4</u>
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
Herb Stratum				
1. <u>Erodium moschatum</u>	<u>40</u>	<u>Yes</u>	<u>None</u>	
2. <u>Festuca myuros</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Juncus bufonius</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
4. <u>Bromus hordeaceus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5. <u>Agrostis sp. (no inflorescence)</u>	<u>10</u>	<u>No</u>	<u>Unknown</u>	
6. _____				
7. _____				
8. _____				
<u>85</u> = Total Cover				
Woody Vine Stratum				
1. _____				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: Non-native annual grassland with <u>Juncus bufonius</u> , a facultative wetland species, observed in a shallow depression. Sample point is lacking a dominance of hydrophytic vegetation.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Estrella Substation and Paso Robles Area Reinforcement Project City/County: San Luis Obispo County Sampling Date: 4/17/2017
 Applicant/Owner: Pacific Gas and Electric Company (PG&E) State: CA Sampling Point: 2
 Investigator(s): Kristen Outten (SWCA), Travis Belt (SWCA), Tim Armstrong (PG&E) Section, Township, Range: Township 26 South, Range 12 East, Unsectioned (Rancho Santa Ysabel)
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): Gently sloping west Slope (%): 2
 Subregion (LRR): C Lat: 35.6592674710995 Long: -120.663927931956 Datum: NAD83
 Soil Map Unit Name: Sesame sandy loam, 9 to 30 percent slopes NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Sample point is located approximately 15 feet north of Sample Point #1. The site occurs within a vacant lot dominated by non-native annual grasses, and surrounded with viticulture and rural residential developments.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>10'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>2</u> (A) <u>8</u> (B) Prevalence Index = B/A = <u>4</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10'</u> radius)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10'</u> radius)				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, unless disturbed or problematic.
1. <u>Festuca myuros</u>	80	Yes	FACU	
2. <u>Erodium moschatum</u>	10	No	None	
3. <u>Juncus bufonius</u>	<3	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>93</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>10'</u> radius)				
1. _____				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>7</u> % Cover of Biotic Crust <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: Vegetation primarily consists of non-native annual grasses and forbs. San Luis Obispo owl's clover (<i>Castilleja densiflora</i> ; CNPS 1B.2) was observed scattered throughout the vicinity of the area.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Estrella Substation and Paso Robles Area Reinforcement Project City/County: San Luis Obispo County Sampling Date: 4/17/2017
 Applicant/Owner: Pacific Gas and Electric Company (PG&E) State: CA Sampling Point: 3
 Investigator(s): Kristen Outten (SWCA), Travis Belt (SWCA), Tim Armstrong (PG&E) Section, Township, Range: Township 26 South, Range 12 East, Unsectioned (Rancho Santa Ysabel)
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR): C Lat: 35.6597641101721 Long: -120.667419883366 Datum: NAD83
 Soil Map Unit Name: Sesame sandy loam, 9 to 30 percent slopes NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Sample point was taken in a low-lying depression in a grazed grassland. Vegetation within the depression appears to be reduced or dwarfed by some factor. Soils were moist throughout the soil profile. No evidence of wetland indicators observed within sample point.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>10'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet:
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10'</u> radius)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species _____ x 1 = _____
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
<u>0</u> = Total Cover				Column Totals: _____ (A) _____ (B)
<u>Herb Stratum</u> (Plot size: <u>10'</u> radius)				Prevalence Index = B/A = _____
1. <u>Lysimachia arvensis</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	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, unless disturbed or problematic.
2. <u>Hesperavax sparsiflora</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Polygonum sp. (not in flower)</u>	<u>5</u>	<u>No</u>	<u>Unkown</u>	
4. <u>Erodium cicutarium</u>	<u>5</u>	<u>No</u>	<u>None</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>80</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>10'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks: Vegetation appears to be reduced or dwarfed by some factor. <i>Juncus bufonius</i> observed growing around perimeter of low-lying depression.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Estrella Substation and Paso Robles Area Reinforcement Project City/County: San Luis Obispo County Sampling Date: 4/18/2017
 Applicant/Owner: Pacific Gas and Electric Company (PG&E) State: CA Sampling Point: 4
 Investigator(s): Kristen Outten (SWCA), Travis Belt (SWCA), Tim Armstrong (PG&E) Section, Township, Range: Township 26 South, Range 12 East, Unsectioned (Rancho Santa Ysabel)
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): C Lat: 35.6592183899214 Long: -120.668437005939 Datum: NAD83
 Soil Map Unit Name: Arbuckle fine sandy loam, 0 to 2 percent slopes NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Sample point taken within a seasonal wetland / low-lying depression. Surrounding habitat consists of annual grasslands and viticulture. Site was not ponding water immediately following a rain event. Seasonal wetland feature lacks hydrological connectivity to a traditionally navigable water.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>10' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				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 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10' radius</u>)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10' radius</u>)	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Eleocharis macrostachya</u>	9	Yes	OBL	
2. <u>Distichlis spicata</u>	8	Yes	FAC	
3. <u>Eriogonum vaseyi</u>	1	No	FACW	
4. <u>Hesperis matronalis</u>	1	No	FACU	
5. <u>Downingia sp.</u>	1	No	OBL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
20 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>10' radius</u>)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust <u>0</u>
0 = Total Cover				
Remarks: Sparsely vegetated low lying depression surrounded by non-native annual grasslands. Low-lying depression is dominated by wetland indicator species.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Estrella Substation and Paso Robles Area Reinforcement Project City/County: San Luis Obispo County Sampling Date: 4/18/2017
 Applicant/Owner: Pacific Gas and Electric Company (PG&E) State: CA Sampling Point: 5
 Investigator(s): Kristen Outten (SWCA), Travis Belt (SWCA), Tim Armstrong (PG&E) Section, Township, Range: Township 26 South, Range 12 East, Unsectioned (Rancho Santa Ysabel)
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): Gently sloping to near flat Slope (%): 1
 Subregion (LRR): C Lat: 35.6590835578771 Long: -120.668298437181 Datum: NAD83
 Soil Map Unit Name: Arbuckle fine sandy loam, 0 to 2 percent slopes NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Sample point located approximately 15 feet southeast of isolated seasonal wetland. Habitat consists of annual grasslands surrounded by viticulture.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>10'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status		Dominance Test worksheet:
1. _____	_____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
<u>0</u> = Total Cover					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 = _____
Sapling/Shrub Stratum	(Plot size: <u>10'</u> radius)				
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
<u>0</u> = Total Cover					
Herb Stratum	(Plot size: <u>10'</u> radius)				
1. <u>Erodium moschatum</u>	<u>50</u>	<u>Yes</u>	<u>None</u>		
2. <u>Avena barbata</u>	<u>25</u>	<u>Yes</u>	<u>None</u>		
3. <u>Hordeum marinum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>		
4. <u>Bromus hordeaceus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
5. <u>Achyrachaena mollis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
<u>115</u> = Total Cover					
Woody Vine Stratum	(Plot size: <u>10'</u> radius)				
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>					
Remarks: Annual grassland.					

Appendix D

Representative Photographs



**PHOTO 1.
RUB-1: Huerhuero
Creek**

View facing
northwest along
Huerhuero Creek
showing clearly
visible OHWMs and
the adjacent
floodplain.

Photo taken
April 2016.



**PHOTO 2.
RUB-2: Unnamed
Tributary to
Huerhuero Creek**

View facing south
showing the
ephemeral drainage
feature along the
south side of Union
Road.

Photo taken
April 2017.



PHOTO 3.
RUB-3: Unnamed
Tributary to
Huerhuero Creek

View facing south showing the ephemeral drainage feature along the south side of Union Road.

Photo taken April 2017.



PHOTO 4.
RUB-4: Unnamed
Tributary to
Huerhuero Creek

View facing south showing the ephemeral drainage feature along the south side of Union Road.

Note the stand of emergent cattail near the culvert inlet.

Photo taken April 2017.



PHOTO 5.
RUB-4: Unnamed
Tributary to
Huerhuero Creek

View facing
northeast showing
ponded water and
cattails growing near
the culvert inlet at
RUB-4.

Photo taken
April 2017.



PHOTO 6.
RUB-5: Unnamed
Tributary to
Huerhuero Creek

View facing south
showing ponded
water in the drainage
feature along
RUB-5.

Note the manmade
dam and spillway in
bottom of photo.

Photo taken
April 2017.



PHOTO 7.
PEW-1: Seasonal Wetland

View facing west showing the seasonal wetland that contained evidence of hydrophytic vegetation, hydric soils, and wetland hydrology.

Photo taken April 2017.



PHOTO 8.
PEW-1: Seasonal Wetland

View facing south showing the cracked soils in the seasonal wetland.

Photo taken April 2017.



PHOTO 9.
RUB-6: Unnamed
Tributary to
Huerhuero Creek

View facing north
showing concrete
debris scattered
through the
ephemeral drainage
feature.

Photo taken
April 2016.



PHOTO 10.
RUB-7: Unnamed
Tributary to Salinas
River

View facing
northwest showing
ephemeral drainage
feature.

Photo taken
April 2016.



PHOTO 11.
RUB-8: Unnamed
Tributary to Salinas
River

View facing northeast showing ephemeral drainage feature with rock slope protection around the culvert inlet.

Note storm water flowing through the channel.

Photo taken April 2017.



PHOTO 12.
RUB-9: Unnamed
Tributary to Salinas
River

View facing east showing where the culvert crossing beneath CA-46 drains out into a short (approximately 40-foot-long) ephemeral drainage channel before flowing back into another culvert that connects to the Salinas River riparian corridor.

Note flowing water in the channel.

Photo taken April 2017.



PHOTO 13.
RUB-10: Unnamed
Tributary to Salinas
River

View facing east
showing the
ephemeral drainage
channel.

Note scouring along
the banks and water
flowing through the
channel.

Photo taken
April 2017.



PHOTO 14.
RUB-11: Unnamed
Tributary to Salinas
River

View facing west
showing the
ephemeral drainage
channel.

Photo taken
April 2017.



PHOTO 15.
RUB-12: Unnamed
Tributary to Salinas
River

View facing east
showing the
ephemeral drainage
channel.

Note water flowing
through the rock-
lined channel.

Photo taken
April 2017.



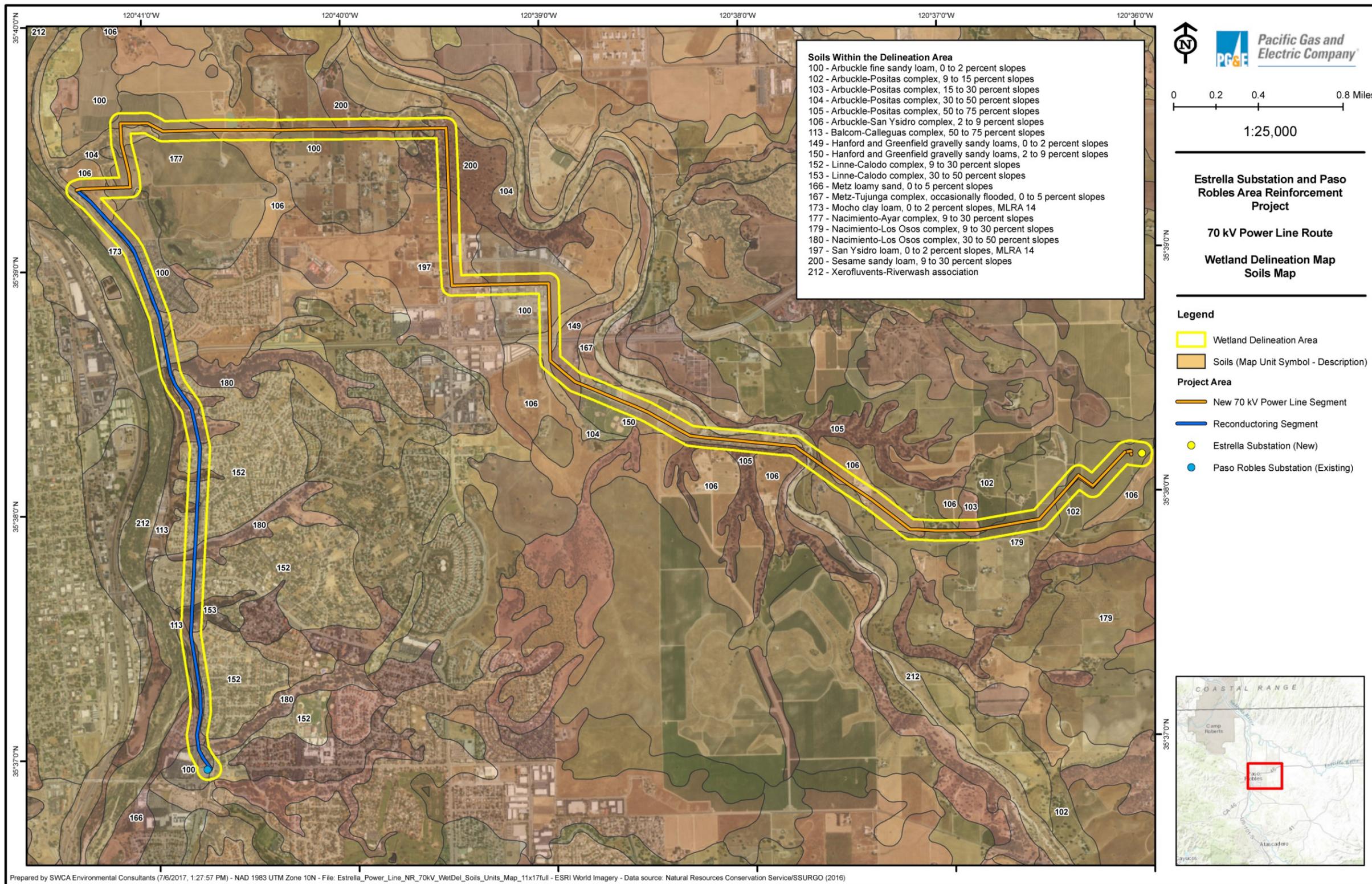
PHOTO 16.
RUB-14: Unnamed
Tributary to Salinas
River

View facing east
looking down from
above the culvert
inlet, showing the
storm water flowing
through the
ephemeral drainage
channel.

Photo taken
April 2017.

Appendix E
Soil Survey and Hydric Soil Information

Appendix E. Web Soil Survey Map



Prepared by SWCA Environmental Consultants (7/6/2017, 1:27:57 PM) - NAD 1983 UTM Zone 10N - File: Estrella_Power_Line_NR_70kV_WetDel_Soils_Units_Map_11x17full - ESRI World Imagery - Data source: Natural Resources Conservation Service/SSURGO (2016)

Appendix E. Soil Map Units in the Delineation Area

Soil Map Unit	Map Symbol	Existing Drainage Class	Landform	Typical Horizonation	Hydric Components (C) or Inclusions (I)	Hydric Criteria ^a
Arbuckle fine sandy loam, 0 to 2 percent slopes	100	Well drained	Terraces	Sandy loam over gravelly sandy loam over very gravelly sandy clay loam	--	--
Arbuckle-Positas complex, 9 to 15 percent slopes	102	Well drained	Terraces	Fine sandy loam over sandy clay loam over stratified sandy loam to very gravelly sandy clay loam	--	--
Arbuckle-Positas complex, 15 to 30 percent slopes	103	Well drained	Terraces	Fine sandy loam over sandy clay loam over stratified sandy loam to very gravelly sandy clay loam	--	--
Arbuckle-Positas complex, 30 to 50 percent slopes	104	Well drained	Terraces	Fine sandy loam over sandy clay loam over stratified sandy loam to very gravelly sandy clay loam	--	--
Arbuckle-Positas complex, 50 to 75 percent slopes	105	Well drained	Terraces	Fine sandy loam over sandy clay loam over stratified sandy loam to very gravelly sandy clay loam	--	--
Arbuckle-San Ysidro complex, 2 to 9 percent slopes	106	Well drained	Terraces	Fine sandy loam over sandy clay loam over stratified sandy loam to very gravelly sandy clay loam	Unnamed (I)	2
Balcom-Calleguas complex, 50 to 75 percent slopes	113	Well drained	Mountains	Loam over weathered bedrock	--	--
Hanford and Greenfield gravelly sandy loams, 0 to 2 percent slopes	149	Well drained	Terraces	Gravelly sandy loam	--	--

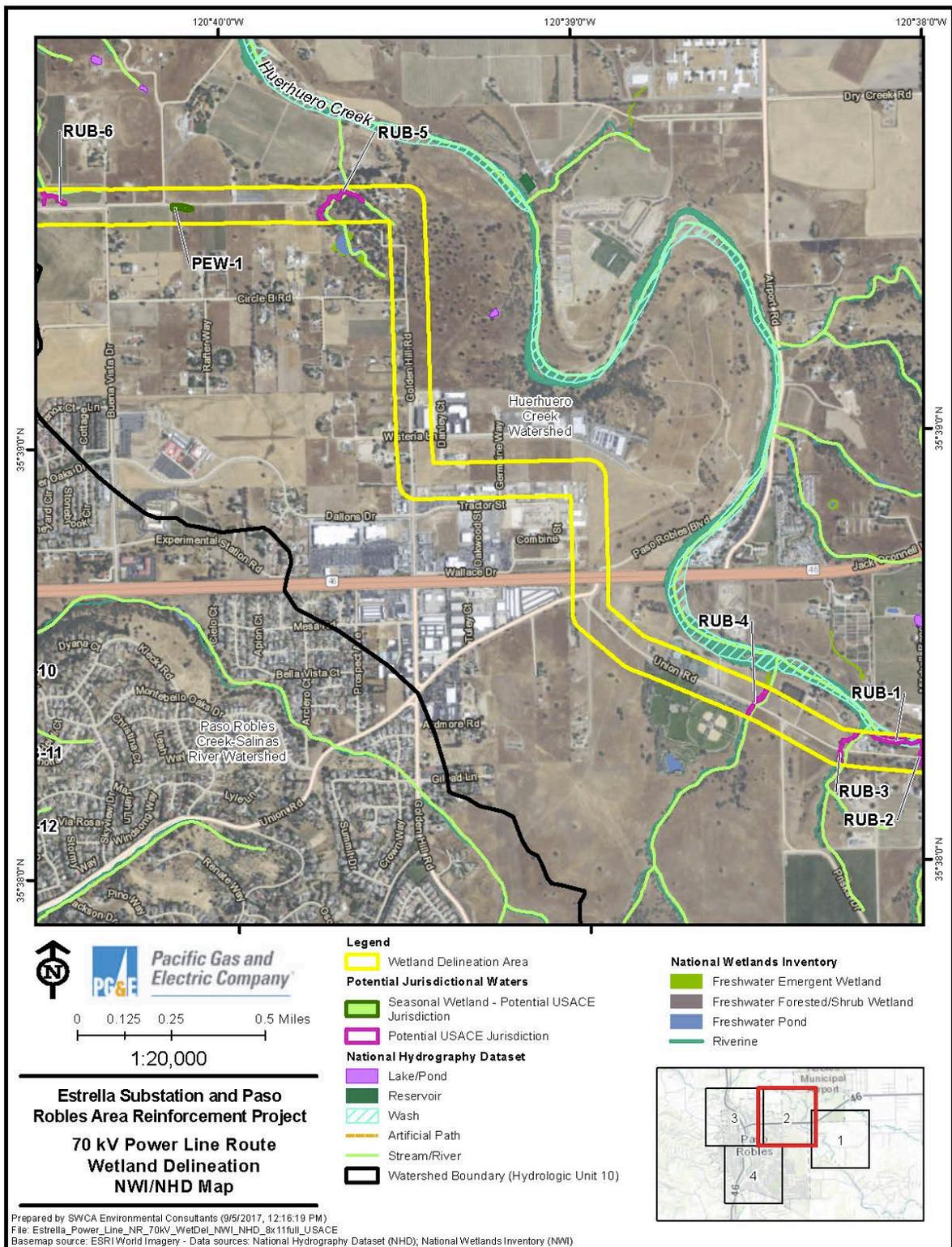
Soil Map Unit	Map Symbol	Existing Drainage Class	Landform	Typical Horizonation	Hydric Components (C) or Inclusions (I)	Hydric Criteria ^a
Hanford and Greenfield gravelly sandy loams, 2 to 9 percent slopes	150	Well drained	Terraces	Gravelly sandy loam	--	--
Linne-Calodo complex, 9 to 30 percent slopes	152	Well drained	Hills	Channery clay loam over weathered bedrock	--	--
Linne-Calodo complex, 30 to 50 percent slopes	153	Well drained	Hills	Channery clay loam over weathered bedrock	--	--
Metz loamy sand, 0 to 5 percent slopes	166	Somewhat excessively drained	Flood plains	Loamy sand over stratified sand to very fine sandy loam	Xerofluvents (I)	4
Metz-Tujung complex, occasionally flooded, 0 to 5 percent slopes	167	Somewhat excessively drained	Flood plains	Loamy sand over stratified sand to very fine sandy loam	Xerofluvents (I)	4
Mocho clay loam, 0 to 2 percent slopes, Major Land Resource Area (MLRA) 14	173	Well drained	Alluvial fans, alluvial flats	Clay loam over loam over gravelly loam over silt loam	--	--
Nacimiento-Ayar complex, 9 to 30 percent slopes	177	Well drained	Hills	Silty clay loam over weathered bedrock	--	--
Nacimiento-Los Osos complex, 9 to 30 percent slopes	179	Well drained	Hills	Silty clay loam over weathered bedrock	--	--
Nacimiento-Los Osos complex, 30 to 50 percent slopes	180	Well drained	Hills	Silty clay loam over weathered bedrock	--	--
San Ysidro loam, 0 to 2 percent slopes, MLRA 14	197	Moderately well drained	Alluvial fans, terraces, valley floors	Loam over clay loam	Pescadero (I) Palexeralfs (I)	2, 3 2
Sesame sandy loam, 9 to 30 percent slopes	200	Well drained	Hills	Sandy loam over sandy clay loam over weathered bedrock	--	--

Soil Map Unit	Map Symbol	Existing Drainage Class	Landform	Typical Horizonation	Hydric Components (C) or Inclusions (I)	Hydric Criteria ^a
Xerofluvents-Riverwash association	212	Somewhat excessively drained	Flood plains	Sand over stratified gravel to sand to sandy loam over stratified gravelly sand to gravelly loam	Xerofluvents (C) Riverwash (C)	2, 2 2, 4

^a Source: NRCS 2015.

2. Map unit components in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, or Andic, Cumulic, Pachic, or Vitrandic subgroups that:
 - a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - b. Show evidence that the soil meets the definition of a hydric soil;
3. Map unit components that are frequently ponded for long duration or very long duration during the growing season that:
 - a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - b. Show evidence that the soil meets the definition of a hydric soil; or
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
 - a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - b. Show evidence that the soils meet the definition of a hydric soil.

Appendix F
National Wetland Inventory and
National Hydrography Dataset



Pacific Gas and Electric Company

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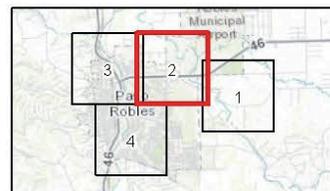
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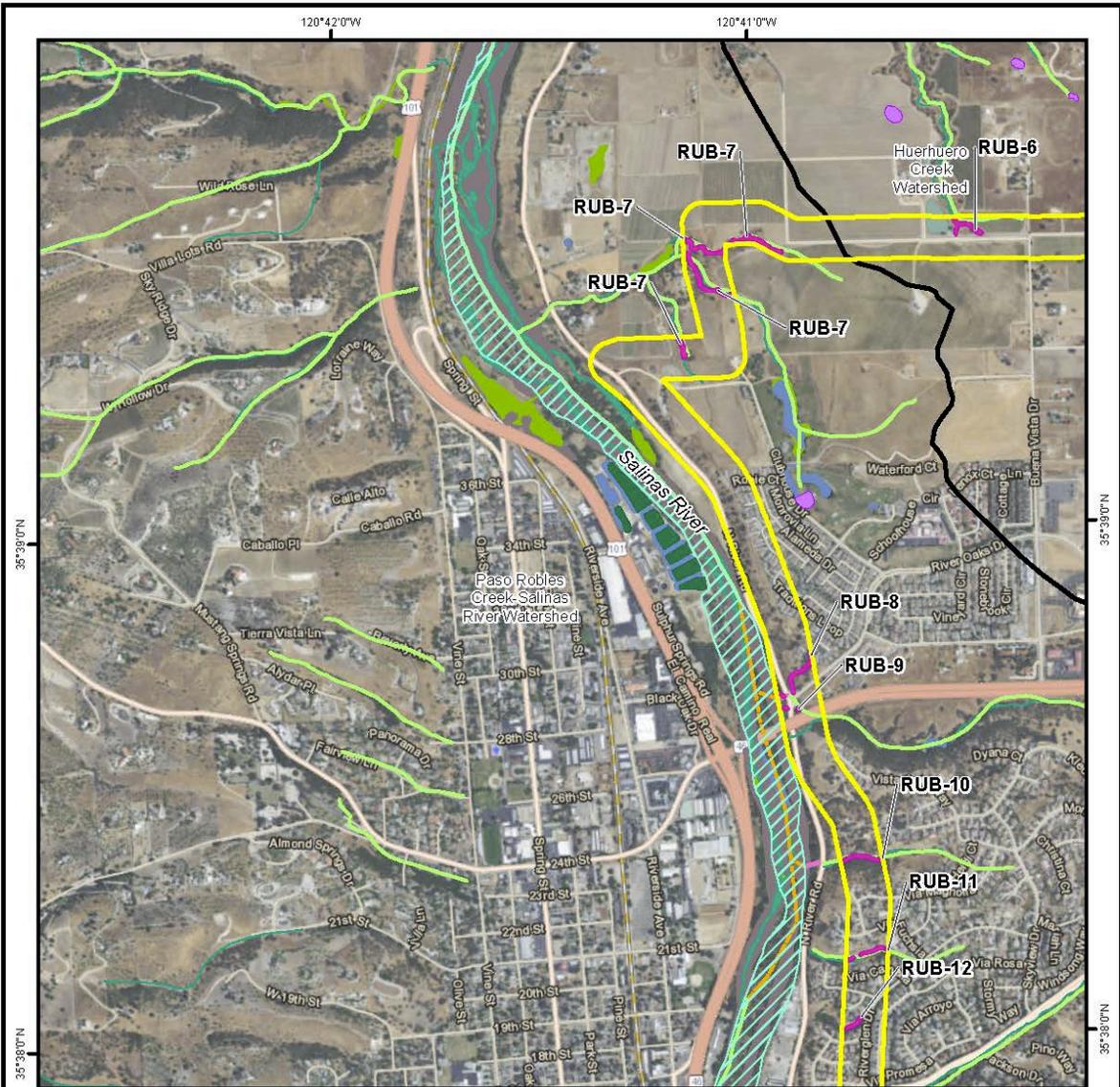
Legend

- Wetland Delineation Area
- Potential Jurisdictional Waters**
- Seasonal Wetland - Potential USACE Jurisdiction
- Potential USACE Jurisdiction
- National Hydrography Dataset**
- Lake/Pond
- Reservoir
- Wash
- Artificial Path
- Stream/River
- Watershed Boundary (Hydrologic Unit 10)

National Wetlands Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine





0 0.125 0.25 0.5 Miles
1:20,000

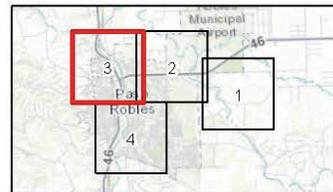
**Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation
NWI/NHD Map**

Legend

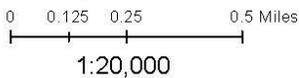
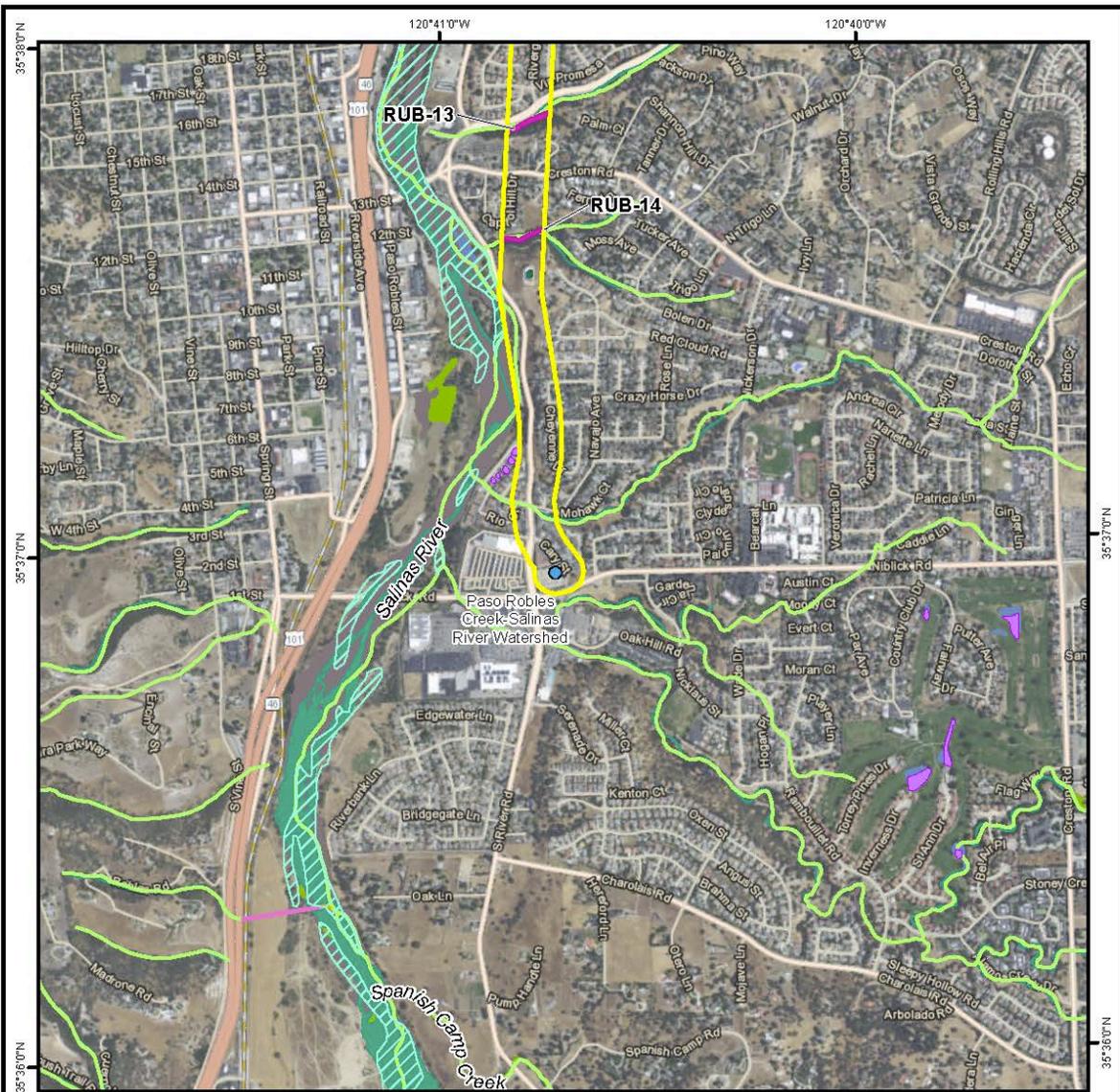
- Wetland Delineation Area
- Potential Jurisdictional Waters**
- Potential USACE Jurisdiction
- National Hydrography Dataset**
- Lake/Pond
- Reservoir
- Wash
- Artificial Path
- Connector
- Stream/River
- Watershed Boundary (Hydrologic Unit 10)

National Wetlands Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Prepared by SWCA Environmental Consultants (9/5/2017, 12:18:37 PM)
File: Estrella_Power_Line_NR_70kV_WetDel_NWI_NHD_8x11full_USACE
Basemap source: ESRI World Imagery - Data sources: National Hydrography Dataset (NHD); National Wetlands Inventory (NWI)



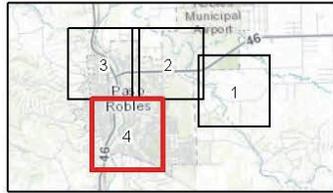
Estrella Substation and Paso Robles Area Reinforcement Project
70 kV Power Line Route
Wetland Delineation
NWI/NHD Map

Legend

- Wetland Delineation Area
- Potential Jurisdictional Waters
- Potential USACE Jurisdiction
- Paso Robles Substation (Existing)
- National Hydrography Dataset**
- Lake/Pond
- Reservoir
- Wash
- Artificial Path
- Connector
- Stream/River
- Watershed Boundary (Hydrologic Unit 10)

National Wetlands Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Prepared by SWCA Environmental Consultants (9/5/2017, 12:16:49 PM)
 File: Estrella_Power_Line_NR_70kV_WetDel_NWI_NHD_8x11full_USACE
 Basemap source: ESRI World Imagery - Data sources: National Hydrography Dataset (NHD); National Wetlands Inventory (NWI)

Appendix G
WETS Table

WETS Table

WETS Station: PASO ROBLES, CA								
Requested years: 1971 - 2000								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	61.9	33.9	47.9	3.31	1.26	3.89	6	0.0
Feb	65.1	37.2	51.2	3.33	1.10	3.86	6	0.0
Mar	67.9	39.7	53.8	2.88	1.33	3.39	5	0.0
Apr	74.1	40.6	57.3	0.79	0.24	0.85	2	0.0
May	80.4	44.6	62.5	0.24	0.00	0.15	1	0.0
Jun	87.0	48.3	67.7	0.03	0.00	0.05	0	0.0
Jul	91.9	51.6	71.7	0.01	0.00	0.00	0	0.0
Aug	92.3	51.2	71.8	0.06	0.00	0.00	0	0.0
Sep	88.6	48.5	68.5	0.34	0.00	0.21	1	0.0
Oct	81.1	42.5	61.8	0.59	0.28	0.66	1	0.0
Nov	68.6	36.0	52.3	1.30	0.38	1.48	3	0.0
Dec	62.0	31.4	46.7	1.95	0.86	2.32	4	0.1
Annual:					10.98	17.34		
Average	76.7	42.1	59.4	-	-	-	-	-
Total	-	-	-	14.83			29	0.1

GROWING SEASON DATES

Years with missing data:	24 deg = 1	28 deg = 1	32 deg = 1
Years with no occurrence:	24 deg = 4	28 deg = 0	32 deg = 0
Data years used:	24 deg = 29	28 deg = 29	32 deg = 29
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	1/19 to 12/8; 323 days	2/21 to 11/19; 271 days	4/3 to 10/30; 210 days
70 percent *	1/3 to 12/25; 356 days	2/9 to 12/2; 296 days	3/25 to 11/7; 226 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1894	1.06	0.59	0.22	0.24	1.09	0.12		0.50	1.13	0.33	0.09	M6.14	11.51
1895	6.43	0.47	1.28	0.48	0.08					M0.61	1.53	0.55	11.43
1896	4.64		3.77	1.25	0.77	T		1.19	T	1.66	2.48	15.76	
1897	3.65	4.18	M3.48	T	0.00			0.02	0.03	0.56	0.23	12.15	
1898	M0.82	1.55	0.83		0.68		0.00		M0.10	0.13	0.30	0.27	4.68
1899	4.16	0.08	4.99	1.37	MT		0.00	0.00	T	2.55	1.40	2.53	17.08
1900	2.11	0.08	1.90	0.42	0.67	T	T	T	T	1.54	6.10	0.25	13.07
1901	6.11	5.37	0.63	1.37	1.43	0.00	0.00	0.00	0.04	0.01	1.04	0.00	16.00
1902	1.05	5.32	2.50	1.23	0.00		0.00		0.	1.	0.71	0.96	12.

										00	08		85
1903	M2.19	1.36	4.16	0.79	0.00	0.00	0.00						8.49
1904	0.44												0.44
1905													
1906			6.12	0.27	2.09	0.00		0.00	0.00	0.00	1.23	5.28	14.99
1907	7.51	1.24	6.54	0.20		0.00					2.92	3.01	21.42
1908	5.40	3.28	0.40	0.25	0.05								9.38
1909							0.00	0.00	T	0.72		6.30	7.02
1910	3.81	0.28	3.82	0.22	0.00	0.00	0.00	0.00	0.63	0.27	0.17	0.62	9.82
1911	11.20	2.39	9.95	1.41	0.00		0.00	0.00	0.04	0.13	0.12	1.74	26.98
1912	1.40	0.00	5.14	2.89	0.91	0.00	0.00	0.00	0.04	0.00	0.35	0.12	10.85
1913	4.37	1.88	0.68	0.31	0.16	0.15	0.00	0.45	0.70	0.00	3.02		11.72
1914	12.13	2.53	0.72	0.06	0.28	0.14	0.00	0.00	0.00	0.40	0.11	5.52	21.89
1915	6.36	8.15	1.09	1.85	1.48						0.24	0.95	20.12
1916	14.76	2.01	1.82	M0.14	0.11			0.21	M0.78	M1.96	0.47	7.61	29.87
1917	M1.12	5.56	M0.47	M0.19	M0.14			M0.01			M0.57	M0.08	8.14
1918	M0.36	7.90	5.45	0.00					M0.46	0.49	3.04	M1.29	18.99
1919	M0.61	M3.61	M2.26		M0.15	0.00	0.00	0.00	0.10	0.03	M0.03	M4.92	11.71
1920	M0.80	2.22	4.05	1.00		M0.01				0.68	1.42	1.95	12.13
1921	3.76	1.21	2.85	0.66	1.17	T	MT		0.44	0.50	0.07	7.36	18.02
1922	4.44	5.45	2.79	0.21	0.54	M0.01	MT			0.41	3.39	4.61	21.85
1923	2.11	1.01	0.09	3.52		0.31		MT	0.29	0.26	0.18	0.22	7.99
1924	1.52	0.56	3.05	0.26	0.04	MT		T	0.02	0.89	0.90	1.08	8.32
1925	0.34	2.44	2.57	2.01	2.41	0.08	0.09	0.12	0.02	0.17	0.21	1.98	12.44
1926	2.13	6.26	0.27	3.52	0.00	0.02	0.00	0.00	0.00	0.25	7.14	0.90	20.49
1927	1.84	9.04	1.45	1.27	T	0.02	0.00	0.00	T	1.33	2.02	1.63	18.60
1928	0.23	2.87	2.76	0.37	0.29	0.00	0.00	0.00	0.00	0.01	1.82	2.87	11.22
1929	1.27	1.65	1.22	0.49	0.00	0.49	0.00	0.00	M0.01	T	0.00	M0.24	5.37
1930	4.32	1.80	3.00	0.54	1.01	0.04	0.00	T	0.04	0.00	1.64	M0.16	12.55
1931	4.58	1.87	0.39	0.56	2.01	0.93	0.00	0.09	T	0.01	1.89	7.04	19.37
1932	2.74	3.89	0.50	0.30	0.13	0.00	0.00	0.00	T	0.04	0.11	1.28	8.99
1933	6.05	0.08	0.84	0.22	0.32	0.68	0.00	T	0.00	0.64	0.00	4.26	13.09
1934	2.06	3.75	0.04	T	0.12	0.75	0.00	0.00	T	1.56	2.61	2.66	13.55
1935	6.23	0.65	4.08	3.41	0.02	0.00	T	0.16	0.07	0.18	1.58	1.66	18.04
1936	0.61	11.07	1.24	1.52	M0.01	0.04	0.25	T	T	1.93	0.00	6.10	22.77
1937	4.59	4.54	5.25	0.16	0.00	T	0.00	0.00	0.00	0.16	0.66	7.40	22.76

1938	1.73	12.74	6.77	0.93	0.30	0.00	0.00	0.00	0.41	0.23	0.38	1.45	24.89
1939	3.11	1.45	1.58	0.05	0.09	T	T	T	0.43	0.55	0.78	1.29	9.33
1940	5.28	5.57	1.13	0.54	0.00	0.00	0.00	M0.00	0.00	0.19	0.13	8.18	21.02
1941	4.73	8.16	6.14	2.76	0.19	0.00	0.00	0.02	0.00	1.34	0.70	5.15	29.19
1942	2.40	0.76	1.77	3.01	0.15	0.00	0.00	0.00	0.00	0.53	1.01	1.64	11.27
1943	8.00	1.68	3.63	0.72	0.00	0.00	0.00	0.00	0.00	0.39	0.12	3.38	17.92
1944	1.03	5.96	0.64	0.65	0.13	0.00	0.00	0.00	0.00	0.26	2.64	1.09	12.40
1945	0.80	4.17	2.76	0.26	0.02	0.00	0.00	0.00	0.00	0.09	0.49	3.89	13.48
1946	0.31	1.64	3.01	0.05	0.72	0.00	0.26	0.00	T	0.19	4.57	2.17	12.92
1947	0.56	0.97	1.14	0.13	0.28	0.00	0.00	T	0.04	0.32	0.18	0.62	4.24
1948	0.00	1.85	3.51	3.50	0.45	0.00	0.00	0.00	0.00	0.06	0.00	3.04	12.41
1949	1.09	1.95	3.73	0.36	0.38	T	T	0.00	0.00	T	0.78	2.33	10.62
1950	3.05	2.43	1.65	1.00	0.05	0.00	0.68	0.00	T	1.24	1.18	2.50	13.78
1951	2.50	0.68	0.58	1.11	0.00	0.00	0.00	0.00	0.03	0.33	1.91	4.64	11.78
1952	5.54	0.20	3.92	1.49	0.03	0.00	0.07	0.00	M0.02	0.02	1.76	4.78	17.83
1953	1.71	0.00	0.66	1.90	0.06	0.01	0.00	0.00	0.00	0.00	2.46	0.00	6.80
1954	3.06	1.89	3.12	0.64	0.10	0.00	0.00	0.00	0.00	0.00	1.29	1.51	11.61
1955	3.57	1.85	0.37	1.16	1.31	M0.00	0.00	0.13	0.00	0.00	1.36	8.14	17.89
1956	3.82	0.99	0.01	1.87	1.45	0.00	0.00	0.00	0.00	1.07	0.00	0.17	9.38
1957	4.77	1.90	0.31	1.63	0.70	0.37	M0.00	0.00	0.02	0.60	0.30	3.30	13.90
1958	2.93	6.02	6.35	5.22	0.37	0.00	0.00	0.38	1.20	0.00	0.13	0.48	23.08
1959	1.69	4.53	0.03	0.44	0.05	0.00	0.00	0.00	0.52	0.00	0.00	0.31	7.57
1960	2.42	4.20	0.70	1.40	0.04	0.00	0.00	0.00	0.00	0.10	3.63	1.17	13.66
1961	1.72	0.20	0.88	0.22	0.74	0.00	T	T	0.00	0.01	1.99	2.59	8.35
1962	2.05	8.49	1.98	0.00	0.12	T	0.00	0.00	T	0.79	0.01	2.49	15.93
1963	4.41	3.79	2.10	3.32	0.17	0.01	0.00	T	0.24	1.00	4.25	0.01	19.30
1964	1.87	0.15	1.46	0.68	0.55	0.06	0.00	0.08	0.03	1.05	2.27	2.37	10.57
1965	2.50	0.51	1.16	2.48	0.00	T	0.04	0.03	0.15	0.00	6.43	3.24	16.54
1966	1.17	0.68	0.08	0.00	0.01	0.14	0.08	0.00	0.11	0.00	2.43	8.60	13.30
1967	3.93	0.35	3.99	4.41	0.03	0.02	T	0.00	0.79	0.14	1.74	1.70	17.10
1968	1.19	0.68	1.76	0.70	0.04	0.00	0.00	T	0.00	0.83	1.14	3.13	10.47
1969	13.93	9.12	0.35	1.68	0.06	0.01	0.25	0.00	T	0.24	0.44	0.68	26.76
1970	3.71	1.66	1.83	0.37	0.00	0.04	0.00	0.00	0.00	0.08	3.14	4.56	15.39
1971	1.08	0.24	0.85	0.69	0.21	0.00	0.00	0.00	0.05	0.29	0.88	4.27	8.56

1972	1.36	0.30	T	0.53	T	0.00	0.00	0.00	0.03	1.68	4.14	0.85	8.88
1973	6.54	6.96	2.60	0.01	0.06	0.00	0.00	0.00	0.00	0.61	3.09	1.61	21.47
1974	6.39	0.05	4.56	0.91	T	T	0.00	0.00	0.00	0.64	0.43	2.33	15.31
1975	0.01	4.12	2.81	0.89	0.00	0.00	0.00	0.01	0.00	0.77	0.03	0.10	8.74
1976	0.00	2.61	1.09	0.66	0.00	0.08	0.00	1.02	2.90	0.58	0.55	1.80	11.29
1977	1.47	0.03	1.41	0.00	1.71	0.00	0.00	0.00	0.00	0.08	0.25	5.25	10.20
1978	5.77	7.31	3.10	2.77	0.00	0.00	0.00	0.00	0.92	0.00	2.47	1.04	23.38
1979	4.70	3.52	2.30	T	0.00	0.00	0.00	0.00	0.06	0.93	0.85	2.31	14.67
1980	4.47	8.05	1.88	0.65	0.24	T	0.35	0.00	0.00	0.00	0.02	0.44	16.10
1981	4.00	1.60	4.52	0.56	T	0.00	0.00	0.00	0.00	0.01	1.44	0.62	13.75
1982	2.65	0.88	5.10	3.05	0.00	0.02	0.00	T	1.04	0.90	3.98	1.98	19.60
1983	5.84	4.53	4.69	3.35	0.05	0.00	0.00	0.52	0.37	1.34	2.07	3.68	26.44
1984	0.20	0.24	0.66	0.35	0.00	0.00	0.00	T	0.00	0.38	2.10	3.01	6.94
1985	0.52	0.92	2.11	0.19	0.00	0.00	0.02	T	0.04	0.40	1.07	0.97	6.24
1986	2.11	6.93	4.64	0.32	0.00	0.00	0.03	0.00	0.63	0.02	0.15	0.75	15.58
1987	M0.88	M2.01	M3.40	0.14	0.06	0.07	0.00	0.00	0.00	1.50	2.63	2.73	13.42
1988	1.94	2.54	0.10	2.02	0.21	0.14	0.00	0.00	0.00	0.00	1.29	2.87	11.11
1989	0.98	1.59	0.71	0.37	0.07	0.00	0.00	0.00	1.59	0.97	0.22	0.00	6.50
1990	3.02	1.48	0.24	0.12	M0.66	0.00	0.00	0.00	0.51	0.00	0.14	0.20	6.37
1991	0.63	2.17	10.25	0.08	0.03	0.20	0.00	0.10	0.10	0.50	0.16	3.00	17.22
1992	1.44	6.09	2.99	0.10	0.00	0.03	0.03	0.00	0.01	0.79	0.00	3.59	15.07
1993	9.63	8.31	3.89	0.07	0.01	0.14	0.00	0.00	0.00	0.17	0.86	1.28	24.36
1994	1.90	3.37	1.16	0.49	1.05	0.00	M0.00	0.00	1.17	0.70	2.32	0.93	13.09
1995	11.51	1.42	12.31	0.09	0.44	0.14	0.00	0.00	0.00	0.00	0.12	1.92	27.95
1996	1.84	6.52	2.03	0.78	0.55	0.00	0.00	0.00	0.00	1.78	1.85	5.83	21.18
1997	7.93	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.10	0.07	4.05	3.93	16.14
1998	2.99	9.06	2.71	1.90	1.87	0.11	0.00	0.00	0.08	0.21	0.99	0.73	20.65
1999	1.84	1.26	2.68	1.19	0.00	0.00	0.00	T	0.47	0.00	0.71	0.22	8.37
2000	3.16	5.89	1.55	1.56	0.05	0.04	0.00	0.00	0.03	1.34	0.05	0.16	13.83
2001	4.43	5.14	3.59	0.68	0.00	0.00	0.04	0.00	T	0.24	2.81	2.19	19.12
2002	0.87	0.33	1.40	0.23	0.25	0.00	0.00	0.00	0.00	0.00	2.54	4.36	9.98
2003	0.00	2.10	1.85	1.70	1.18	0.00		0.03	0.00	0.00	1.36	2.31	10.53
2004	0.91	4.31	0.30	0.32	0.00	0.00	0.00	0.00	0.00	M5.11	1.39	6.75	19.09
2005	4.81	5.02	3.07	0.76	1.10	0.01	0.00	0.08	0.00	0.02	0.44	2.54	17.85

