U.S. Fish and Wildlife Service
National Wetlands Inventory

Pippin II Wetlands

May 19, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Aquatic Resources Delineation Report

MidPen Housing Project

SANTA CRUZ COUNTY, CALIFORNIA

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LIST OF ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CSRL	California Soil Resource Lab
CWA	Clean Water Act
EPA	Federal Environmental Protection Agency
FAC	Facultative Plant
FACU	Facultative Upland Plant
FACW	Facultative Wetland Plant
HTL	High Tide Line
NRCS	Natural Resources Conservation Service
OBL	Obligate Wetland Plant
OHWM	Ordinary High Water Mark
RHA	Rivers and Harbors Act
UPL	Upland Plant
USGS	U.S. Geological Survey
WRA	WRA, Inc.

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1.0 INTRODUCTION

This report describes the methods and results of a delineation of aquatic resources conducted within the boundaries of the proposed MidPen Housing Project located in Watsonville, California (Project Area, Appendix A). The Project Area consists of 14.91 acres of land composed of two parcels; a smaller parcel (APN: 019-236-01) located in the City of Watsonville and a larger parcel (APN: 048-221-09) located in unincorporated Santa Cruz County, California. These parcels are located south of Corralitos Creek and approximately 800 feet north of Freedom Boulevard. For the purposes of this report, these parcels are collectively referred to as the Project Area. The Project Area described herein refers to the area investigated for this aquatic resources' delineation.

On April 11, 2019, WRA conducted a routine delineation within the Project Area to identify wetlands and non-wetland waters (also referred to as "other waters") potentially subject to jurisdiction by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA). The following sections describe the regulatory background and methods used to guide the delineation and provide a description of potentially jurisdictional wetlands and non-wetland waters within the Project Area.

2.0 REGULATORY BACKGROUND

Section 404 of the Clean Water Act gives the Environmental Protection Agency (EPA) and the Corps regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States." Section 502(7) of the CWA defines "navigable waters" as "waters of the United States, including territorial seas." Section 328 of Chapter 33 in the Code of Federal Regulations (CFR) defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps under the CWA as revised under the 2015 Clean Water Rule currently in effect in California. A summary of the definition of "waters of the United States" in 33 CFR 328.3 (a) includes (1) waters used for commerce; (2) interstate waters and wetlands; (3) territorial seas; (4) impoundments of waters listed here; (5) tributaries to the above waters; (6) waters and wetlands adjacent to the above waters; and (7) prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools, and Texas coastal prairie wetlands, provided these features have a significant nexus to the above listed waters[1]; (8) all waters located within the 100-year floodplain of waters listed above in items 1-3 or within 4,000 feet of the high tide line (HTL) or ordinary high water mark (OHWM) of a water listed above in items 1-5, provided those waters are determined to have a significant nexus to waters identified in items 1-3 above. For purposes of the determining Corps jurisdiction under the CWA, "navigable waters" as defined in the CWA are the same as "waters of the U.S." defined in 33 CFR 328.3.

Areas not considered to be "waters of the United States" as defined in 33 CFR 328.3 (b), are summarized as follows: (1) waste treatment systems; (2) prior converted cropland; (3) specific classes of ditches, including (i) ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary, (ii) ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands, and (iii) ditches that do not flow, either directly or through another water, into a water identified in 33 CFR 328.3 paragraphs (a) (1) through (3); (4) artificially irrigated areas that would otherwise revert to dry land and manmade aquatic features

[1] Wetlands and non-wetland waters in this category are similarly situated and are combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of 33 CFR 328.3.

in otherwise dry land such as stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, cooling ponds, reflecting pools, swimming pools, small ornamental waters, depressions incidental to mining and construction activity, erosional features, and puddles; (5) groundwater; (6) stormwater control features; (7) wastewater recycling structures, groundwater recharge basins, percolation ponds for wastewater recycling, and distribution networks for wastewater recycling.

2.1 Wetlands

Wetlands are defined in 33 CFR 328.3 (c) as:

> *…those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

The basis for determining whether a given area is a wetland for the purposes of Section 404 of the CWA is outlined in the Corps *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers* Delineation Manual for the respective region. As defined in 33 CFR 328.4 (c), the extent of federal jurisdiction within wetlands is defined as extending to the limit of the wetland as determined using the methods outlined in the manuals.

2.2 Non-Wetland Waters

The limit of federal jurisdiction in tidal non-wetland waters extends to the HTL which is defined in 33 CFR 328.4 (a) as:

> *...the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.*

The limit of federal jurisdiction in non-tidal non-wetland waters extends to the OHWM which is defined in 33 CFR 328.3 (e) as:

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

3.0 PROJECT AREA DESCRIPTION

The approximately 14.91-acre Project Area is located in Watsonville and unincorporated areas, Santa Cruz County, California (Appendix A. Figure 1). Access to the site can be achieved at its northern boundary from Atkinson Lane and by the south from the northern terminus of Brewington Avenue (Appendix A. Figure 2). The Project Area's southern boundary at Brewington Avenue is approximately 2 miles west from State Route 1 in Santa Cruz County. The southern boundary can be reached from State Route 1 southbound by taking exit the 426 Main Street exit towards Watsonville/Gilroy, continue 2 miles east on Main Street; turning north on Freedom boulevard and continuing for 1 mile, turning east on Crestview Drive, and continuing for 0.3 miles, turning north on Brewington Avenue, and parking along the road.

The Project Area is located on partially in the City of Watsonville and partially in unincorporated areas. It is bounded in part by residential developments to the north, south, and west. The Project Area is bordered by Atkinson Lane and residential properties to the north, cultivated fields to the east, residential homes along Paloma Way to the south, and a newly constructed residential development to the west. Elevations on the site range from approximately 76 to 106 feet above sea level. The Project Area consists of undeveloped southward sloping fields, with a higher hilltop plateau area in the north, and a lowland depression area in the south. The fields on rolling hills and plateau area are dominated by ruderal vegetation. The majority of the open field is disced periodically, excluding a portion of the plateau area that is covered by broken asphalt and compacted gravel fill. An informal walking path traverses the site from the north to south. The path borders the aquatic features in the Project Area and is regularly used by locals and a small on-site homeless population. The south and west Project Area consist of a low-lying area between hillslopes that is dominated by aquatic features including ponded water, blackberry thickets, herbaceous, and woody vegetation. A constructed earthen berm separates this low lying aquatic feature into two sections, one side supports smartweed (*Persicaria* cf[2]. *amphibia*) and the other side supports cattail (*Typha* sp.), California bulrush (*Schoenoplectus californicus*), and willow (*Salix* sp.). The site contains a number of tree species including multiple clusters of willow and live oak (*Quercus agrifolia*). A general description of the vegetation, soils, and hydrology of the site is provided in the following sections.

3.1 Vegetation

Dominant vegetation within the Project Area primarily consisted of ruderal, non-native grasses and forbs. Dominant vegetation in areas determined to be uplands included jointed charlock (*Raphanus raphanistrum*, NL), black mustard (*Brassica nigra*, NL), corn spurry (*Spergula arvensis*, NL), narrow-leaved clover (*Trifolium angustifolium*, NL), and whitestem filaree (*Erodium moschatum,* NL), with grassland areas consisting of slim oats (*Avena barbata*, NL), ripgut brome (*Bromus diandrus*, NL), and foxtail barley (*Hordeum murinum*, FACU).

Dominant vegetation in areas determined to be seasonal wetland include a mix of native and invasive herbaceous vegetation including water smartweed (OBL), curly dock (*Rumex crispus*, FAC), cattail (OBL), California bulrush (OBL), perennial pepperweed (*Lepidium latifolium*, FAC), foxtail barley (Hordeum murinum, FACU), common purslane (*Portulaca oleracea*, FAC), and tall cyperus (*Cyperus eragrostis*, FACW). The informal walking paths traversing the site have led to compaction of soils and altered vegetation communities around the periphery of wetlands.

[2] cf. – Latin *confer*; meaning to compare with. Placed between genus name and species name to describe a specimen that is hard to identify because of practical difficulties, i.e. immature inflorescence.

Compaction of soils has likely led to muted presence of hydrophytic vegetation and introduction of invasive species.

Canopy cover in forested wetland areas is dominated by young arroyo willow (*Salix lasiolepis*, FACW) with understory vegetation consisting of a mix of herbaceous hydrophytes including cattails, California bulrush, Himalayan blackberry (*Rubus armeniacus*, FAC), and duckweed (*Lemna* sp., OBL).

Himalayan blackberry is the dominant vegetation in scrub shrub wetlands. Small sections consisted of California blackberry (*Rubus ursinus*, FAC). Understory, where present, consisted of patches of Bermuda buttercup (*Oxalis pes-caprae*, NL) and water smartweed. As a non-native, invasive shrub, Himalayan blackberry is adapted to a wide range of soil and hydrologic conditions and commonly occurs in both upland and wetland positions throughout its naturalized range. Where it occurs in wetlands (i.e. when it is acting as a hydrophyte,) Himalayan blackberry generally appears stunted and shorter in stature. This feature was used to help determine when this species was acting as a hydrophyte and when it was acting as an upland species.

3.2 Soils

The Soil Survey of Santa Cruz County (USDA 1980) and the California Soil Resource Lab's (CSRL) online soil viewer (CSRL 2019) list three soil mapping units within the Project Area: Elder Series, Pinto Series, and Watsonville Series. Descriptions of each soil series are provided below. The distribution of these soil mapping units and hydric ratings within the Project Area is depicted in Appendix C.

Elder Series: The Elder series consists of very deep, well drained soils that formed in alluvial material derived from mixed rock sources. Elder soils are on alluvial fans and in flood plains and have slopes of 0 to 15 percent. With irrigation, these soils are intensively cultivated because of their moderately rapid permeability. Uncultivated areas have typical cover consisting of annual grasses and forbs with scattered live oak. Elder soils are not considered hydric throughout its range.

In a typical soil profile, Elder soils have a dark gray (10YR 4/1) sandy loam surface horizon (Ap) with about 10 percent gravel from 0 to 8 inches below the soil surface, underlain by a similar dark gray (10YR 4/1) sandy loam horizon (A) with 10 percent gravel from 8 to 23 inches below the soil surface. The third A horizon is from 23 to 35 inches and contains a gray (10YR 5/1) sandy loam with much mixing from the C horizon below due to rodent activity, underlain by a light brownish gray (10YR 6/2) fine sandy loam from 35 to 72 inches below the soil surface.

Pinto Series: The Pinto Series consists of moderately well drained soils that formed in material derived mainly from sedimentary alluvium. Pinto soils are on marine terraces and old alluvial fans and have slopes of 0 to 15 percent. These soils occur under pasture, crop fields, and coastal chaparral and have slow to rapid runoff with slow permeability. Pinto series are not considered hydric throughout its range. A typical profile includes five soil horizons: A1, A2, B2t, B3t, and C.

The A1 horizon is a very dark brownish gray (10YR 3/2), moderately acidic (pH 5.8) loam from 0 to 14 inches. This is underlain by a very dark grayish brown (10YR 3/2) loam with moderate acidity 14 to 21 inches below the soil surface. Beneath this is a very pale brown (10YR 7.3) slightly acidic clay loam with black (10YR 2/1) manganese stains, films, and

concretions. This is underlain by the B3t horizon which consists of variegated brown (10YR 5/3) and yellow brown (10YR 5/6) moderately acidic (pH 5.6) clay loam with similar manganese stains at the B2t horizon above. Beneath this is the C horizon which consists of variegated yellowish brown (10YR 5/6) clay loam with many very fine interstitial pores and black (10YR 2/1) manganese stains.

Watsonville Series: The Watsonville series consists of deep, somewhat poorly drained soils that formed in alluvium derived from sedimentary alluvium. They are located on old coastal terraces and valleys with slopes ranging from 0 to 50 percent. These soils occur under grasslands and specialty cropland, have very slow permeability, and are somewhat poorly drained due to a perched water tables that occur during periods of heavy water events. Watsonville series is considered a hydric soil where it occurs in Santa Cruz County. A typical profile includes eight soil horizons: Ap, E, Bt1, Bt2, Bt3, C1, C2 and C3.

The Ap horizon is a very dark greyish brown (10YR 3/2), slightly acidic (pH6.5) loam from 0-12 inches. Beneath this is an E horizon from 12-18 inches containing a slightly acid (pH 6.5), light gray (10YR 7/2) sandy loam with many fine prominent yellowish brown (10YR 5/6) redoximorphic features. This is underlain by three Bt horizons; the first Bt horizon (Bt1) is a slightly acid (pH 6.4), pale brown (10YR6/3) and dark grayish brown (10YR 4/2) clay from 18-26 inches. The second Bt horizon is from 26-33 inches and contains a slightly acid (pH 6.3), light gray (10YR 7/2) and very pale brown (10YR 7/3) clay. The third Bt horizon is from 33-39 inches and contains a slightly acid (pH 6.3), light gray (10YR 7/2) and very pale brown (10YR 7/3) clay. The Bt horizons are underlain by three C horizons, the first is from 39-45 inches and contains a slightly acid (pH 6.2), light gray (10YR 7/2) and very pale brown (10YR 7/3) sandy clay loam. This is underlain by the second C horizon from 45-57 inches containing a moderately acid (pH 6.0), variegated light gray (10YR 7/2), very pale brown (10YR 7/3) and yellow (10YR 7/6) sandy clay loam. The third C horizon from 57-63 inches contains moderately acid (pH 6.0), variegated light gray (10YR 7/2), very pale brown (10YR 7/3) and yellow (10YR 7/6) sandy clay loam.

3.3 Hydrology

The Project Area is located entirely within the Pajaro HUC-8 watershed (1806002) (NRCS, 2019). Hydrologic sources for the Project Area include direct precipitation, agricultural, and stormwater runoff from adjacent lands. The nearest USGS blue-line perennial water feature is Corralitos Creek located approximately 800 feet to the north within an incised channel. No direct flow from the Corralitos Creek channel to the Project Area exists; however, extreme storm events may overtop the creek bank and contribute to on-site hydrology.

Hydrology in the Project Area generally flows from the higher elevations in the north to the lower elevations in the south. The southward sloping fields collect overland flow and drainage and pond in the depressional areas on-site. Numerous excavated ditches in uplands of varying sizes are located within the Project Area where they collect and channelize drainage. The ditches appear to be the result of historic land disturbance and excavation activities in uplands. According to an offsite drainage study for the Atkinson Lane Environmental Impact Report (EIR), on-site wetland overflow drains to two existing catch basins at the end of Brewington Avenue (CSCPD 2014).

One exception to typical hydrology patterns on-site is the north corner of the Project Area. The north corner is an elevated hilltop adjacent to a plateau area. Human-influenced hydrology due the presence of compacted soils and crushed asphalt in the plateau area have created potential to artificially perch water and/or to direct overland drainage, contributing to saturated soils

conditions in neighboring areas. Another potential source of man-influenced hydrology input to this area is from an adjacent storm water drain north of the site. The neighboring storm water drain receives stormwater runoff from its surrounding parking lot. No visible water in the parking lot was present during the site visit; however, evidence of ponded water around the drain was evident including water stains, sediment build-up, and cracked surface on the sediment deposits.

4.0 METHODS

WRA, Inc. (WRA) biologists performed a delineation of aquatic resources within the Project Area on April 11, 2019. Prior to conducting the evaluation, WRA reviewed a range of background materials including the *Soil Survey of Santa Cruz County* (USDA, 1980), the CSRL online soil viewer (CSRL 2019), the National Wetland Inventory (USFWS 2019), the California Aquatic Resource Inventory (SFEI 2017) and the U.S. Geological Survey (USGS) Watsonville West quadrangle map (USGS 2018). WRA also reviewed historic aerial imagery from Google Earth (Google Earth 2019) and Nationwide Environmental Title Research (NETR 2019).

During the on-site evaluation, WRA followed the methods outlined in *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Supplement; Corps 2008) and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* ("OHWM Guide"; Lichvar and McColley 2008). All features meeting the wetland definition regardless of jurisdictional status were identified and their boundaries mapped using the Routine Method described in the Corps Manual. The limits of non-wetland waters under Section 404 of the CWA were field checked based on a combination of field indicators described in the OHWM Guide.

4.1 WETS Analysis

A comparison of the 2018/2019 water year (i.e. WETS analysis; USDA 1997; Sprecher and Warne 2000) was conducted to determine whether precipitation levels during the 2018-2019 water year prior to the site visit were above, below, or within the 30-year average for the region. Long-term precipitation data (i.e., the WETS table) were obtained from the weather station in Watsonville (Watsonville Waterworks, NCDC #4973) located approximately 0.45 miles to the southwest of the Project Area, part of the National Climate Data Center (NCDC) network. Long-term data Daily precipitation data for the 2018-2019 water year preceding the date of the site visit by WRA, were obtained from the PRISM Climate Group time series values for the location at; latitude 36.9315, longitude -121.7623. A summary of the 2018-2019 water year compared to the WETS tables analysis is provided below in Table 1.

The long-term average rainfall from October to March, as determined from the WETS table for the weather station in Watsonville, is approximately 20.02 inches. A comparison of current rainfall events from the PRISM Climate group showed that rainfall conditions were wetter than normal during the site visit conducted for this report. As of the April 11, 2019 site visit, 25.12 inches of rain had fallen through the end of March, or 116 percent of the average annual rainfall; this represents wetter than average conditions for that time of year.

Table 1. WETS Analysis for the 2018-2019 Water Year Prior to the Survey Dates.

Month	WETS			2018-2019 Water Year		
	Below	Average	Above	PRISM Precipitation	Above/Below	Percent of Average
October	0.28	1	1.09	0.16	Below	16%
November	0.85	2.27	2.75	4.15	Above	183%
December	1.61	4.39	5.15	2.54	Normal	58%
January	1.98	4.56	5.44	5.51	Above	121%
February	1.77	4.42	5.37	8.21	Above	186%
March	1.46	3.38	4.12	4.55	Above	135%
Total		***20.02***		***25.12***		***116%***

4.2 Wetlands

4.2.1 Routine Method

WRA followed the Routine Method to evaluate the Project Area for the presence or absence of indicators of the three wetland parameters described in the Corps Manual (Environmental Laboratory 1987) and Arid West Supplement (Corps 2008). Data on vegetation, hydrology, and soils were collected at sample points within potential wetland communities and adjacent upland areas. Sample points that contained positive indicators for hydrophytic vegetation, hydric soils, and wetland hydrology were considered to be wetland. Except in cases of atypical or problematic wetland situations (i.e., difficult wetland situations, as described below), sample points that lacked one or more indicators were considered to be upland. Sample point data were reported on Arid West Supplement data forms. Sample point locations were recorded using a handheld GPS unit with sub-meter accuracy. Wetland boundaries were identified in the field using a combination of indicators observed on the ground, most often minor shifts in topography and changes in dominant vegetation, in addition to other indicators. WRA also used County of Santa Cruz LIDAR data in the office during the map digitizing step to refine wetland boundaries.

4.3 Non-Wetland Waters

This study also evaluated the presence of non-wetland waters potentially subject to Corps jurisdiction under Section 404 of the CWA. Non-wetland waters subject to Corps jurisdiction include lakes, rivers, and streams (including intermittent and ephemeral streams) in addition to all areas below the OHWM in non-tidal areas.

5.0 RESULTS

The Project Area has a strong southward sloping topographic gradient. A large portion of the site topography conveys drainage toward the flat, lowland areas in the south and west end of the Project Area. As such, relatively few wetland features were mapped within the elevated or sloping portions of the Project Area. One feature was mapped in the elevated section of the Project Area; however, artificial conditions due to human related storm runoff from a parking area as described

in Section 3.3 of this report are the primary factor in the creation of this small area. The majority of wetland features were mapped in the south and west end of the Project Area where signs of ponding and saturation were evident. One ephemeral drainage feature was mapped as a downslope conveyance toward wetland features on the western portion of the property.

Descriptions of the aquatic resources identified within the Project Area that are potentially subject to federal jurisdiction under Section 404 of the CWA and/or Section 10 of the RHA are provided in the following sections. A summary of aquatic resource acreages is provided in Table 2. Maps showing the location and extent of aquatic resources mapped within the Project Area are provided as Appendix B. Wetland Determination Data Forms are provided as Appendix D. Photographs of the Project Area are provided as Appendix E. A list of all plant species observed during the delineation site visits is included as Appendix F.

Table 2. Summary of Potentially Jurisdictional Features Mapped within the Project Area

Habitat Type	Classification*	Acres	Linear Feet	Potential Section 404 Waters of the U.S. (acres/linear feet)
Wetlands				
Seasonal Wetland	PEM1/2E	1.87	-	1.87
Forested Wetland	PFO1E	2.38	-	2.38
Scrub-Shrub Wetland	PSS3E	0.22	-	0.22
Non-Wetland Waters				
Ephemeral Drainage	R	0.03	169	0.03/169
	Total:	**4.50**	**-**	**4.50/169**

*See Federal Geographic Data Committee 2013

A WETS analysis showed that there are wetter than average conditions this rain year. We employed a combination of topographic position, hydric soil characteristics, hydrophytic vegetation, and hydrology indictors to map the identified features. The extent of delineated features identified in this report is considered to be accurate despite the higher precipitation because one season of higher than average precipitation would not appreciably alter topographic position and redoximorphic soil indicators.

5.1 Section 404 of the Clean Water Act

5.1.1 Wetlands

Seasonal Wetland

The Project Area contains one seasonal wetland feature, SW1 with a total of 1.87 acre identified in the Project Area. SW1 is located in the southwestern quadrant of the Project Area, north of an earthen berm separating it from forested wetlands (FW2) (Appendix E. Photograph 8, 9, and 10).

The large seasonal wetland in the Project Area was dominated by facultative to obligate wetland species including water smartweed, tall cyperus, curly dock, and Himalayan blackberry. Soils identified in the seasonal wetland are consistent with the hydric soil indicator F6 (Redox Dark Surface). Hydrology indicators included direct observation of inundation or saturation observed during the April 11, 2019 site visit. The boundary of the seasonal wetland was delineated based on topographic breaks or a shift in wetland-rated herbaceous vegetation to upland vegetation.

The seasonal wetland was classified as PEM1/2E: Palustrine (P), emergent (EM), persistent (1) to non-persistent (2), seasonally flooded/saturated.

Scrub Shrub Wetland

The Project Area contains three mapped scrub-shrub wetland features, SS1, SS2, and SS3 that total 0.22 acre. Scrub shrub areas were dominated by two facultative species; Himalayan blackberry or California blackberry (Appendix E. Photograph 5 and 7). The understory primarily consisted on blackberry litter with scattered patches of water smartweed, Bermuda buttercup, and poison hemlock (*Conium maculatum*, FACW). Because of the height and thorny nature of blackberry brambles, it was not possible to thoroughly investigate these areas directly. Instead, vegetation was observed from adjacent vantage points or aerial photograph interpretation.

At scrub shrub wetland SS1, a thin sliver of a feature is located on the Project Area western boundary. The feature transitions from blackberry in the upslope position to a grass-dominated feature downslope. The feature orientation appears to convey water toward the western boundary and directs flow away from other on-site wetland features. At scrub shrub wetlands SS2 and SS3, hydrology was assumed based on growth form of blackberry and geomorphic position within the landscape. The presence of hydric soils was assumed at all three features based on the community shift from stunted blackberry growth to robust blackberry growth and geomorphic position within the landscape. Upland sample points SP-05 and SP-08 documents the presence of robust Himalayan blackberry growth in the upland area adjacent the wetland boundary. The sample points tended to be upslope with blackberry growth creeping out of mapped features. Boundaries of scrub shrub wetlands were delineated based on the combination on blackberry height, extent of willow (FACW) visible in aerial imagery, and topographic data.

Scrub-shrub wetlands were classified as PSS3E: Palustrine (P), scrub-shrub (SS), broad-leaved evergreen (3), seasonally flooded/saturated (E).

Forested Wetland

Features FW1 and FW2 in the forested wetland category correspond to stands of arroyo willow scattered throughout the Project Area. These stands are of a mixed age with some mature and others as saplings. Approximately 2.38 acre of mapped forested wetlands were identified in the Project Area. These are generally located in the lower elevations and are assumed to experience periodic to regular flooding and/or high-water tables based on their elevations. Understory primarily consisted of immature willow or scrub shrub blackberry thickets. It was not possible to investigate these areas directly due to multiple reasons including the presence of standing water, homeless encampments, or dense blackberry thickets. Instead, vegetation was observed in the field and vegetative signatures checked on aerial photographic imagery. Observed hydrology at FW1 and FW2 was dominated by standing water. However, hydrology in perimeter regions adjacent to upland was assumed based on observations of hydrophytic vegetation and

geomorphic position in the landscape. The presence of hydric soils was assumed based on dominance of hydrophytic understory species and geomorphic position within the landscape. Boundaries of forested wetlands were delineated based on a combination of the extent of willows (FACW) visible in aerial imagery and topographic data.

Forested wetlands were classified as PFO1E: Palustrine (P), forested (FO), broad-leaved deciduous (1), seasonally flooded/saturated (E).

5.1.2 Non-Wetland Waters

Ephemeral Drainage

One feature mapped as ephemeral drainage (ED1) occurs in the Project Area on a gentle slope. The feature originates from an approximately 24-inch concrete culvert outlet (C1) containing a large scour pool of an unknown depth. Exploratory sample point SP-04 was taken on the upland edge approximately three feet above the ponded pool area. After the culvert opening, ED1 immediately becomes a dense thicket of Himalayan blackberry with bank incision marking the OHWM. The ephemeral drainage is situated inside a riparian blackberry thicket. Sample point SP-05 was taken along the outer edge of the blackberry thicket and was determined to be upland. The ephemeral drainage channel bed is earthen and no flowing water was present in the upper portion of the feature.

Ephemeral streams were classified as R: riverine (R).

5.2. Areas Exempt from Section 404 Jurisdiction

Irrigated Wetland

The Project Area contains an irrigated wetland feature, IW1. A total of 0.01 acre of irrigated wetlands were identified in the Project Area. IW1, is one small feature in the northeast and located along the periphery in the north corner of the Project Area (Appendix E. Photograph 1 and 2). IW1 has formed in an elevated location appears to be the result of artificial hydrology inputs from overland flow over neighboring surface or shallowly buried asphalt or an off-site storm drain.

Sample point SP-01 was recorded at the feature. The irrigated wetland within the Project Area was dominated by facultative to obligate wetland species including arroyo willow, tall cyperus, and Himalayan blackberry. Soils identified as seasonal wetlands met the hydric soil indicator F6 (Redox Dark Surface). These soils generally had a very dark grey (10YR 3/1) matrix color with distinct or prominent redox concentrations in the matrix and along pore linings. Hydrology indicators included direct observation of saturation observed during the April 11, 2019 site visit and biotic crusts indicator. The boundaries was delineated based on the herbaceous vegetation change and slight topographic breaks. Consistent with the 2015 Clean Water Rule, artificially irrigated areas that would revert to dry land should application of irrigation water to the area cease are not considered waters of the U.S.

Excavated and Erosional Linear Features

Two types of linear features located within the Project Area, excavated ditches and erosional channels, were not considered potentially subject to jurisdiction by the Corps. Ditches are located

in the ruderal open fields in the north and south Project Area. Some of the ditches appear recently excavated with hand tools or mechanized equipment due to their vertically incised channel approximately two feet wide and one to two feet deep. Others are lined with plastic (Appendix E, Photograph 13 and 14). Excavated ditches change to downstream erosional channels on some southward facing slopes in upland areas. This occurs in the open sloping fields that are periodically disced and de-nuded of vegetation. This was evident in low spots between fields or along hillsides. These features appear to only follow during precipitation events.

Both types of features collect overland or agricultural runoff and convey water after precipitation events, however, they do so less regularly and for shorter duration than features mapped as potentially jurisdictional. All linear features lack a clear bed and bank, OHWM, or any riparian vegetation that is discernably different from adjacent vegetation. The exemption for excavated ditches is directly applicable to the excavated features on-site. In the 2015 Clean Water Rule, the categorically excluded features below are not considered waters of the U.S. (33 CFR 328.3)(b), even where they otherwise may meet definitions for included features defined in paragraph 33 CFR 328.3 (a). As relevant here, the Rule excludes:

- The following ditches (b)(3):
    - **Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary (b)(3)(i).**
    - Ditches with an intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands (b)(3)(ii).
    - Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3), (b)(3)(iii).

The site analysis above shows that the features observed are consistent with ditches excavated in uplands. Furthermore, the 2015 definition excludes erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways.

5.3 Uplands

The majority of upland within the Project Area are ruderal non-native forb and grassland areas (Appendix E. Photographs 3, 4, 11 and 12). Dominant vegetation in areas determined to be uplands included jointed charlock, black mustard, corn spurry, and whitestem filaree, with grassland areas consisting of slim oats, ripgut brome, and foxtail barley.

6.0 CONCLUSION

The results of this delineation of aquatic resources was based on conditions observed during the time of the assessment and information provided to WRA by Watsonville Development Office. It should be noted that the Corps makes all final decisions regarding regulatory jurisdiction, and WRA recommends securing a Jurisdictional Determination from the Corps before embarking on any project activities that could result in the loss of Waters of the United States.

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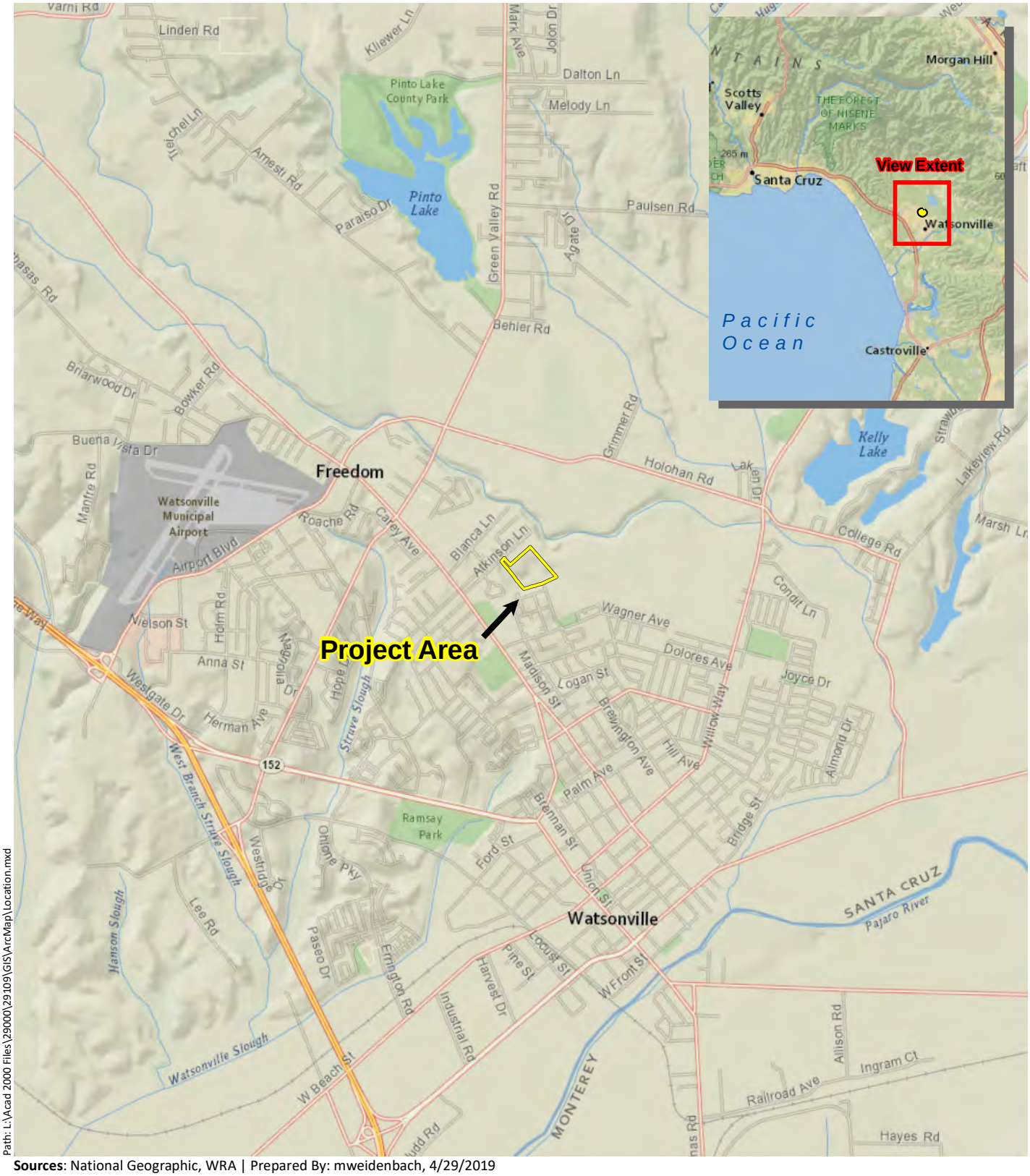
APPENDIX A

FIGURES



Path: L:\Acad 2000 Files\29000\29109\GIS\ArcMap\Location.mxd

Sources: National Geographic, WRA | Prepared By: mweidenbach, 4/29/2019

Figure 1. Project Area Location Map

MidPen Housing Project
Watsonville, Santa Cruz County, California

0 0.5 1 Miles

N

ENVIRONMENTAL CONSULTANTS

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Sources: ESRI World Imagery 2019, WRA | Prepared By: mweidenbach, 4/30/2019

Figure 2. Aerial Map

MidPen Housing Project
Watsonville, Santa Cruz County, California

0 200 400 Feet

N

ENVIRONMENTAL CONSULTANTS

APPENDIX B

POTENTIAL WETLANDS AND WATERS OF THE UNITED STATES

Path: L:\Acad 2000 Files\29000\29109\GIS\ArcMap\AppendixB_WetlandWaters.mxd

Sources: ESRI World Imagery 2019, WRA | Prepared By: SGillespie, 7/24/2019

Appendix B. Potential Wetlands and Waters of the United States

MidPen Housing Project
Watsonville, Santa Cruz County, California

0 200 400 Feet

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ENVIRONMENTAL CONSULTANTS

APPENDIX C

SOILS AND HYDRIC RATINGS WITHIN THE PROJECT AREA

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Santa Cruz County, California

April 3, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,810 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 12, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
129	Elder sandy loam, 0 to 2 percent slopes, MLRA 14	4.1	23.0%
162	Pinto loam, 2 to 9 percent slopes	2.9	16.0%
177	Watsonville loam, 2 to 15 percent slopes	9.4	52.4%
185	Water	1.6	8.7%
Totals for Area of Interest		**17.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Santa Cruz County, California

129—Elder sandy loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tyyj
Elevation: 0 to 1,920 feet
Mean annual precipitation: 9 to 28 inches
Mean annual air temperature: 56 to 61 degrees F
Frost-free period: 300 to 360 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Elder and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elder

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 8 inches: sandy loam
A - 8 to 23 inches: sandy loam
AC - 23 to 31 inches: sandy loam
C - 31 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.83 to 9.92 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: A
Ecological site: LOAMY BOTTOMLAND (R014XY001CA)
Hydric soil rating: No

Minor Components

Arroyo seco

Percent of map unit: 4 percent

Hydric soil rating: No

Gorgonio
Percent of map unit: 4 percent
Hydric soil rating: No

Elkhorn, sandy loam
Percent of map unit: 2 percent
Hydric soil rating: No

Watsonville, loam
Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

San emigdio, sandy loam
Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Metz, loamy sand
Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Xerofluvents, sand
Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Baywood, loamy sand
Percent of map unit: 1 percent
Hydric soil rating: No

162—Pinto loam, 2 to 9 percent slopes

Map Unit Setting
National map unit symbol: h9fp

Elevation: 20 to 1,000 feet
Mean annual precipitation: 20 to 35 inches
Mean annual air temperature: 59 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Pinto and similar soils: 85 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pinto

Setting

Landform: Terraces, alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 21 inches: loam
H2 - 21 to 51 inches: sandy clay loam, clay loam, loam
H2 - 21 to 51 inches: sandy clay loam, clay loam
H2 - 21 to 51 inches:
H3 - 51 to 65 inches:
H3 - 51 to 65 inches:

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very high (about 14.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Watsonville

Percent of map unit: 5 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

Elkhorn, sandy loam

Percent of map unit: 5 percent

Hydric soil rating: No

177—Watsonville loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: h9g5
Elevation: 20 to 1,200 feet
Mean annual precipitation: 28 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Watsonville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Watsonville

Setting

Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: About 18 inches to abrupt textural change
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D

Ecological site: CLAYPAN (R014XD089CA)
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam
Percent of map unit: 5 percent
Hydric soil rating: No

Pinto, loam
Percent of map unit: 4 percent
Hydric soil rating: No

Watsonville, thick surface
Percent of map unit: 3 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

Cropley, silty clay
Percent of map unit: 1 percent
Hydric soil rating: No

Danville
Percent of map unit: 1 percent
Hydric soil rating: No

Elder
Percent of map unit: 1 percent
Hydric soil rating: No

185—Water

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

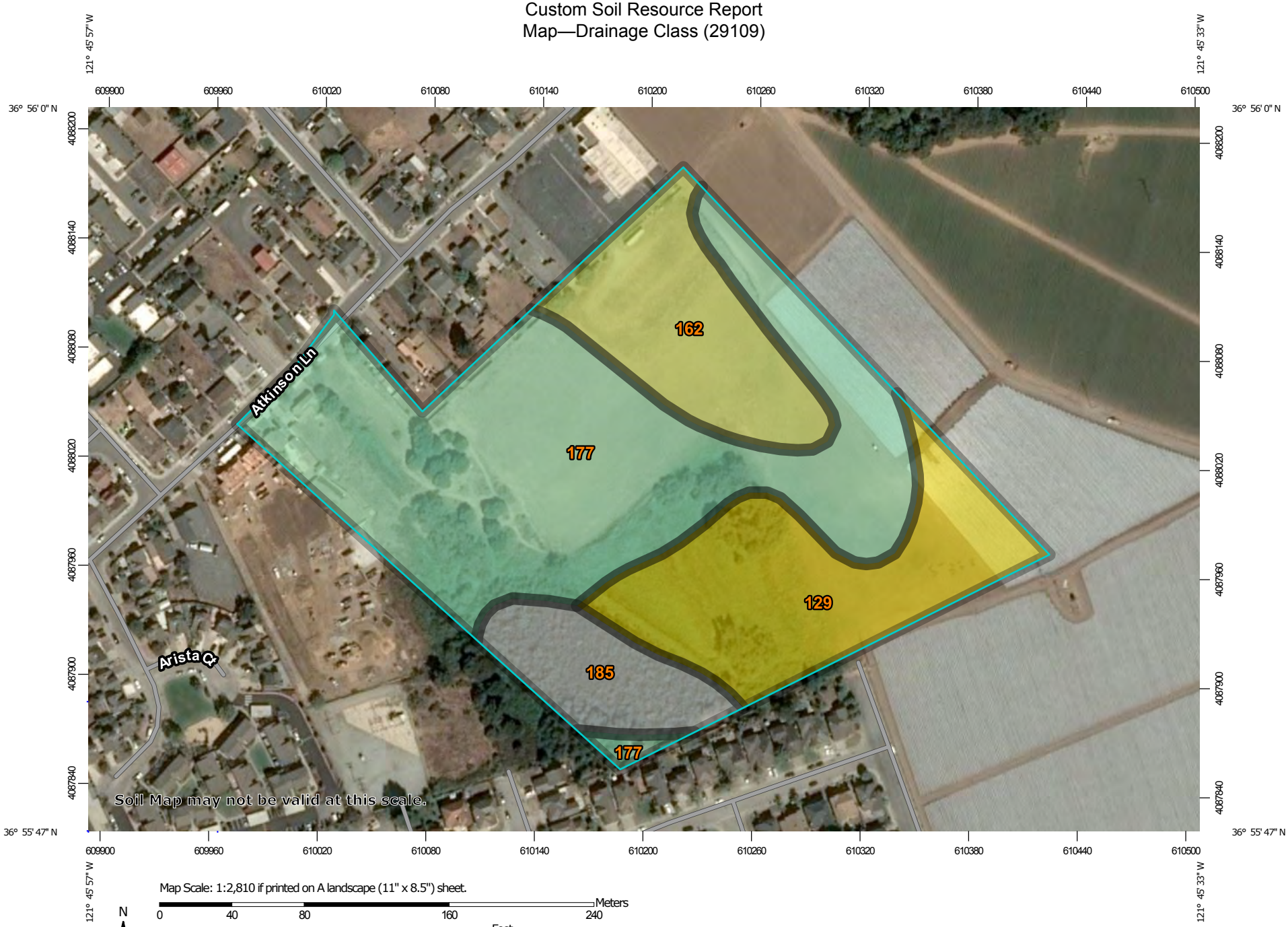
Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Drainage Class (29109)

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Custom Soil Resource Report
Map—Drainage Class (29109)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Soil Rating Lines

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Soil Rating Points

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 12, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Drainage Class (29109)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
129	Elder sandy loam, 0 to 2 percent slopes, MLRA 14	Well drained	4.1	23.0%
162	Pinto loam, 2 to 9 percent slopes	Moderately well drained	2.9	16.0%
177	Watsonville loam, 2 to 15 percent slopes	Somewhat poorly drained	9.4	52.4%
185	Water		1.6	8.7%
Totals for Area of Interest			**17.9**	**100.0%**

Rating Options—Drainage Class (29109)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group (29109)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group (29109)

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 12, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group (29109)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
129	Elder sandy loam, 0 to 2 percent slopes, MLRA 14	A	4.1	23.0%
162	Pinto loam, 2 to 9 percent slopes	C	2.9	16.0%
177	Watsonville loam, 2 to 15 percent slopes	D	9.4	52.4%
185	Water		1.6	8.7%
Totals for Area of Interest			**17.9**	**100.0%**

Rating Options—Hydrologic Soil Group (29109)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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APPENDIX D

WETLAND DETERMINATION DATA FORMS

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Watsonville County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-01**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S33 T11S R2E

Landform (hillslope, terrace, etc.) hilltop Local Relief (concave, convex, none) concave Slope(%) 1

Subregion(LRR) LRR C (Medit. CA) Lat: 36.933117 Long: -121.762388 Datum: WGS 84

Soil Map Unit Name Pinto-loam, 2 to 9 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Hydric Soil Present? ☒ Yes ☐ No

Wetland Hydrology Present? ☒ Yes ☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: Wetland sample point located in an elevated landscape position and adjacent to a parking lot storm drain. Edge of active agricultrual field and edge of broken asphalt lot covered in grass/forb species. Adjacent to old agricultural basin that was filled in 2010/2011 based on Google Earth historic imagery. Paired with sample point SP-02

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** 40'	Absolute % cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	8	x	FACW
2.			
3.			
4.			
Tree Stratum Total Cover:	8		
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Hordeum murinum*	15	x	FACU
2. *Cyperus eragrostis*	10	x	FACW
3. *Festuca perennis*	2		FAC
4. *Poa annua*	2		FAC
5. *Persicaria cf. amphipia*	2		OBL
6.			
7.			
8.			
Herb Stratum Total Cover:			
WOODY VINE STRATUM **Plot Size:** 30'			
1. *Rubus armeniacus*	3	x	FAC
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum ____ % cover of biotic crust 0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 3 (A)

Total number of dominant species across all strata? 4 (B)

% of dominant species that are OBL, FACW, or FAC? 75 (A/B)

Prevalence Index Worksheet

Total % cover of:	Multiply by:
OBL species	x1
FACW species	x2
FAC species	x3
FACU species	x4
UPL species	x5
Column Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Grass not in full flower. Pile of rubble & dead vegetation adjacent to pit.

Vegetation meets Dominance Test indicator

SOIL

Sampling Point SP-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-5	10YR 3/1	100					loam	some roots
5-10	10YR 3/1	90	10YR 3/4	10	C	PL/M	clay loam	less roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☒ Yes ☐ No

Remarks: Meets F6 (Redox Dark Surface) indicator

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☒ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☒ Yes ☐ No Depth (inches): 10"

Saturation Present? (includes capillary fringe) ☒ Yes ☐ No Depth (inches): 5"

Wetland Hydrology Present ? ☒ Yes ☐ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Meets primary wetland hydrology indicators A2 (High Water Table), A3 (Saturation), and B12 (Biotic Crust).

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Watsonville County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-02**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S33 T11S R2E

Landform (hillslope, terrace, etc.) plateau Local Relief (concave, convex, none) none Slope(%) 0

Subregion(LRR) LRR C (Medit. CA) Lat: 36.933011 Long: -121.762402 Datum: WGS 84

Soil Map Unit Name Pinto-loam, 2 to 9 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Hydric Soil Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: Upland sample point in open field with compacted soils. Asphalt below thin layer of topsoil. Paired with wetland sample point SP-01.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** --	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Hordeum murinum*	20	x	FACU
2. *Medicago polymorpha*	20	x	FACU
3. *Festuca myuros*	15		FACU
4. *Plantago coronopus*	15		FAC
5. *Trifolium subterraneum*	10		NL
6. *Poa annua*	t		FAC
7.			
8.			
Herb Stratum Total Cover:	80		
WOODY VINE STRATUM **Plot Size:** --			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum 20 % cover of biotic crust 0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 0 (A)

Total number of dominant species across all strata? 2 (B)

% of dominant species that are OBL, FACW, or FAC? 0 (A/B)

Prevalence Index Worksheet

Total % cover of:	Multiply by:	
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☐ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Grasses not mature.

No indicators met

SOIL

Sampling Point SP-02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-1	10YR 3/1	100					gravelly loam	many fine roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ashpalt

Depth (inches): 1

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: Compacted soils. Thin topsoil on asphalt.

No indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ Yes ☒ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No indicators met

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Unincorporated County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-03**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S32 T11S R2E

Landform (hillslope, terrace, etc.) shallow hillside Local Relief (concave, convex, none) concave Slope(%) 2

Subregion(LRR) LRR C (Medit. CA) Lat: 36.932027 Long: -121.764317 Datum: WGS 84

Soil Map Unit Name Watsonville loam, 2 to 15 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Hydric Soil Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: Upland SP in ruderal grassland. Invasives dominant. Paired with exploratory wetland pits SP-04 and SP-05.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** --	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Avena fatua*	65	x	FACU
2. *Bromus diandrus*	10		NL
3. *Hordeum murinum*	10		FACU
4. *Geranium dissectum*	5		NL
5. *Bromus hordeaceus*	5		FACU
6.			
7.			
8.			
Herb Stratum Total Cover:	95		
WOODY VINE STRATUM **Plot Size:**			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum 5 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 0 (A)

Total number of dominant species across all strata? 1 (B)

% of dominant species that are OBL, FACW, or FAC? 0 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☐ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Grass mature and growing throughout adjacent mound of soil.

No indicators met.

SOIL

Sampling Point SP-03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR 3/2	100					loam	none

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: No indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Several feet above closest visible source of hydrology.

No indicators met.

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Unincorporated County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-04**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S32 T11S R2E

Landform (hillslope, terrace, etc.) hillslope Local Relief (concave, convex, none) concave Slope(%) 2

Subregion(LRR) LRR C (Medit. CA) Lat: 36.931984 Long: -121.764329 Datum: WGS 84

Soil Map Unit Name Watsonville loam, 2 to 15 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Hydric Soil Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: Exploratory potential wetland point, based on presence of hydrophytes, at edge of ponded area. The ponded area appears to be a scour hole from cement culvert outlet. This ponding is approximatley 3 feet lower than surrounding uplands.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** --	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Conium maculatum*	45	x	FACW
2. *Bromus diandrus*	10		NL
3. *Geranium dissectum*	5		NL
4. *Persicaria cf. amphibia*	5		OBL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	65		
WOODY VINE STRATUM **Plot Size:** 30'			
1. *Rubus armeniacus*	5	x	FAC
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum _____ % cover of biotic crust _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 2 (A)

Total number of dominant species across all strata? 2 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Open water - 30%. Persicaria on vertical soil face.

Vegetation meets Dominance Test indicator

SOIL

Sampling Point SP-04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-14	10YR 3/2	100					loam	few buried litter/trash

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: Trash found in pit. No odor or restrictive layer.

No indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ Yes ☒ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Nearest source of hydrology is approximately 3-feet below in culvert scour hole.

No indicators met.

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Unincorporated County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-05**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S32 T11S R2E

Landform (hillslope, terrace, etc.) shallow hillslope Local Relief (concave, convex, none) none Slope(%) 1

Subregion(LRR) LRR C (Medit. CA) Lat: 36.931911 Long: -121.764275 Datum: WGS 84

Soil Map Unit Name Watsonville loam, 2 to 15 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Hydric Soil Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: Exploratory potential wetland pit in blackberry thicket. This sample point is along the side and is upslope of the incised linear feature leading from culvert. This may be indicative of blackberry climbing out from wetland into upland. Difficult to penetrate further into blackberry thicket.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** --	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Persicaria cf. amphibia*	10	x	FACW
2. *Oxalis pes-caprae*	10	x	NL
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	20		
WOODY VINE STRATUM **Plot Size:** 30'			
1. *Rubus armeniacus*	65	x	FAC
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum 10 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 2 (A)

Total number of dominant species across all strata? 3 (B)

% of dominant species that are OBL, FACW, or FAC? 66 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Litter - 5%. Dense rubus thicket. Difficult to maneuver and see topographic changes.

Vegetation meets Dominance Test indicator

SOIL

Sampling Point SP-05

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: Soils moistr than SP-03 & SP-04, likely due to overshadowing from rubus.

No indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ Yes ☒ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Difficult to detect adjacent source of hydrology due to thickness of rubus.

No indicators met.

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Watsonville County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-06**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S33 T11S R2E

Landform (hillslope, terrace, etc.) lowland Local Relief (concave, convex, none) none Slope(%) 0

Subregion(LRR) LRR C (Medit. CA) Lat: 36.930833 Long: -121.761750 Datum: WGS 84

Soil Map Unit Name Elder sandy loam, 0 to 2 percent slopes, MLRA 14 NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Hydric Soil Present? ☒ Yes ☐ No

Wetland Hydrology Present? ☒ Yes ☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: Wetland SP. Edge of rubus thicket hydrologically connected to large open wetland area to southeast. Paired with SP-07.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** 40'	Absolute % cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	20	x	FACW
2.			
3.			
4.			
Tree Stratum Total Cover:	20		
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Persicaria cf. amphibia*	30	x	FACW
2. *Lepidium latifolium*	15	x	FAC
3. *Rumux crispus*	10		FAC
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	55		
WOODY VINE STRATUM **Plot Size:** 30'			
1. *Rubus ursinus*	15	x	FAC
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum 5 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 4 (A)

Total number of dominant species across all strata? 4 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:	Multiply by:
OBL species	x1
FACW species	x2
FAC species	x3
FACU species	x4
UPL species	x5
Column Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Leaf litter - 5%

Vegetation meets Dominance Test indicator

SOIL

Sampling Point SP-06

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-4	10YR 2/1	100					loam	many roots
4-12	10YR 2/1	85	7.5YR 5/8	15	C	PL/M	loam	less roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☒ Yes ☐ No

Remarks: No odor or restrictive layer.

Meets F6 (Redox Dark Surface) indicator

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☒ Yes ☐ No Depth (inches): 12"

Saturation Present? (includes capillary fringe) ☒ Yes ☐ No Depth (inches): 10"

Wetland Hydrology Present ? ☒ Yes ☐ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Meets A2 (High Water Table) and A3 (Saturation) indicators for hydrology.

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Watsonville County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-07**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S33 T11S R2E

Landform (hillslope, terrace, etc.) field Local Relief (concave, convex, none) none Slope(%) 0

Subregion(LRR) LRR C (Medit. CA) Lat: 36.930889 Long: -121.761624 Datum: WGS 84

Soil Map Unit Name Elder sandy loam, 0 to 2 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Hydric Soil Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: Upland SP. Edge of informal walking path. Paired with SP-06

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** --	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'			
1. *Poa annua*	20	x	FAC
2. *Rumux crispus*	20	x	FAC
3. *Convolvus arvensis*	10		NL
4. *Brassica nigra*	5		NL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	55		
WOODY VINE STRATUM **Plot Size:** 30'			
1. *Rubus armeniacus*	5	x	FAC
2.			
Woody Vines Total Cover:	5		

% Bare ground in herb stratum 40 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 3 (A)

Total number of dominant species across all strata? 3 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:	Multiply by:
OBL species	x1
FACW species	x2
FAC species	x3
FACU species	x4
UPL species	x5
Column Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Vegetation community transition zone.

Vegetation meets Dominance Test indicator

SOIL

Sampling Point SP-07

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-16	10YR 3/2	98	7.5YR 4/6	2	C	PL	loam	many fine roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: No restrictive layer. Pockets of >5% redox, other pockets lack redox features -- percentage above averages conditions.

No indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ Yes ☒ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No indicators met

Wetland Determination Data Form - Arid West Region

Project/Site MidPen Housing Project City Watsonville County Santa Cruz Sampling Date 4/11/2019

Applicant/Owner Watsonville Development Office State CA Sampling Point **SP-08**

Investigator(s) Elan Alford (WRA Inc.), Steven Cognac (WRA, Inc.) Section,Township,Range S32 T11S R2E

Landform (hillslope, terrace, etc.) toe of slope Local Relief (concave, convex, none) none Slope(%) 2

Subregion(LRR) LRR C (Medit. CA) Lat: 36.931327 Long: -121.763343 Datum: WGS 84

Soil Map Unit Name Watsonville loam, 2 to 15 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Hydric Soil Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: Exploratory pit for blackberry thickets creeping from wetland into upland. No overstory canopy cover here. There is more blackberry downslope that is shorter in stature that what is in this plot. The two different growth patterns, comparing this plot to downslope, many be driven by a gradient in hydrology going downslope and closer to water.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** --	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** --			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:			
WOODY VINE STRATUM **Plot Size:** 30'			
1. *Rubus armeniacus*	60	x	FAC
2.			
Woody Vines Total Cover:	60		

% Bare ground in herb stratum 10 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 1 (A)

Total number of dominant species across all strata? 1 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:	Multiply by:	
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☐ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

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

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Litter - 30%. Rubus large & robust.

Vegetation meets Dominance Test indicator

SOIL

Sampling Point SP-08

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR 3/2	97	7.5YR 4/4	3	C	M	sandy loam	fine roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): no

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: No odor or restrictive layer. Insufficient redox concentrations to meet F6 indicator.

No indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)(Nonriverine)
- ☐ Sediment Deposits (B2)(Nonriverine)
- ☐ Drift Deposits (B3)(Nonriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ Yes ☒ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Observed soil pit >10 mins, no signs of saturation.

No indicators met.

APPENDIX E

PROJECT AREA PHOTOGRAPHS

Photograph 1. Overview of elevated irrigated wetland (IW1) in north corner of Project Area.

Photograph 2. Close-up view of hydric soils in sample pit SP-01. Meets hydric soils indicator F6, Redox Dark Surface.

Photograph 3. View of plateau area looking southwest from irrigated wetland IW1

Photograph 4. View of grasslands looking northeast towards Atkinson Lane.

Photograph 5. View looking southwest at culvert outlet (C1) and scour pool on edge of blackberry thicket.

Photograph 6. Close-up of exploratory wetland sample pit SP-04 on edge of culvert (C1) scour pool.

Photograph 7. View looking south of blackberry thicket in northwest corner of Project Area near SP-05.

Photograph 8. View from the north looking south at ponded water in seasonal wetland (SW1).

Photograph 9. Close-up of vegetated earthen berm that separates aquatic features.

Photograph 10. View looking south of close-up of emergent vegetation in seasonal wetland (SW1)

Photograph 11. View looking south at open fields from northeastern Project boundary. Clusters of willow (FW1) in background.

Photograph 12. View looking northwest at open south sloping fields from northeastern Project boundary.

Photograph 13. View looking north at excavated ditch. Photograph taken north of Brewington Avenue.

Photograph 14. View of black plastic-lined ditch along northeastern Project boundary. Ditch drains southwest.

APPENDIX F

PLANT SPECIES OBSERVED WITHIN THE PROJECT AREA

Appendix F. Plant Species Observed within the MidPen Housing Project Area on April 11, 2019

Scientific Name[1]	Common Name	Origin	Form	Rarity Status[2]	Cal-IPC Status[3]	Wetland Status[4]	NWPL Synonym
Avena barbata	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-	-
Avena fatua	Wild oats	non-native (invasive)	annual grass	-	Moderate	-	-
Baccharis pilularis	Coyote brush	native	shrub	-	-	-	-
Brassica nigra	Black mustard	non-native (invasive)	annual herb	-	Moderate	-	-
Brassica rapa	Common mustard	non-native (invasive)	annual herb	-	Limited	FACU	-
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-	-
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU	-
Capsella bursa-pastoris	Shepherd's purse	non-native	annual herb	-	-	FACU	-
Conium maculatum	Poison hemlock	non-native (invasive)	perennial herb	-	Moderate	FACW	-
Convolvulus arvensis	Field bindweed	non-native	perennial herb, vine	-	-	-	-
Cortaderia jubata	Andean pampas grass	non-native (invasive)	perennial grass	-	High	FACU	-
Cyperus eragrostis	Tall cyperus	native	perennial grasslike herb	-	-	FACW	-

[1] Jepson eFlora (Jepson Flora Project 2019)
[2] CNPS Inventory of Rare and Endangered Plants (CNPS 2019)
[3] California Invasive Plant Inventory (Cal-IPC 2019)
[4] National Wetland Plant, Arid West Region (Lichvar 2016)

Scientific Name[1]	Common Name	Origin	Form	Rarity Status[2]	Cal-IPC Status[3]	Wetland Status[4]	NWPL Synonym
Erodium botrys	Big heron bill	non-native	annual herb	-	-	FACU	-
Erodium moschatum	Whitestem filaree	non-native	annual herb	-	-	-	-
Festuca myuros	Rattail sixweeks grass	non-native (invasive)	annual grass	-	Moderate	FACU	*Vulpia myuros*
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC	*Lolium perenne*
Frangula californica	California coffeeberry	native	shrub	-	-	-	-
Geranium dissectum	Wild geranium	non-native (invasive)	annual herb	-	Limited	-	-
Helminthotheca echioides	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC	-
Hordeum marinum ssp. gussoneanum	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate	FAC	-
Hordeum murinum	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU	-
Lemna sp.	-	native	perennial herb	-	-	OBL	-
Lepidium latifolium	Perennial pepperweed	non-native (invasive)	perennial herb	-	High	FAC	-
Lysimachia arvensis	Scarlet pimpernel	non-native	annual herb	-	-	FAC	-
Malva parviflora	Cheeseweed	non-native	annual herb	-	-	-	-
Matricaria discoidea	Pineapple weed	native	annual herb	-	-	FACU	-
Medicago polymorpha	California burclover	non-native (invasive)	annual herb	-	Limited	FACU	-

Scientific Name[1]	Common Name	Origin	Form	Rarity Status[2]	Cal-IPC Status[3]	Wetland Status[4]	NWPL Synonym
Oxalis pes-caprae	Bermuda buttercup	non-native (invasive)	perennial herb	-	Moderate	-	-
Persicaria amphibia	Water smartweed	native	perennial herb (aquatic)	-	-	OBL	-
Persicaria lapathifolia	Common knotweed	native	annual herb	-	-	FACW	-
Plantago coronopus	Cut leaf plantain	non-native	annual herb	-	-	FAC	-
Plantago lanceolata	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC	-
Poa annua	Annual blue grass	non-native	annual grass	-	-	FAC	-
Portulaca oleracea	Common purslane	non-native	annual herb	-	-	FAC	-
Quercus agrifolia	Coast live oak	native	tree	-	-	-	-
Raphanus raphanistrum	Jointed charlock	non-native	annual, perennial herb	-	-	-	-
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	shrub	-	High	FAC	-
Rubus ursinus	California blackberry	native	vine, shrub	-	-	FAC	-
Rumex crispus	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC	-
Salix lasiolepis	Arroyo willow	native	tree, shrub	-	-	FACW	-
Schoenoplectus californicus	California bulrush	native	perennial grasslike herb	-	-	OBL	-
Sequoia sempervirens	Coast redwood	native	tree	-	-	-	-

Scientific Name[1]	Common Name	Origin	Form	Rarity Status[2]	Cal-IPC Status[3]	Wetland Status[4]	NWPL Synonym
Sonchus asper ssp. asper	Prickly sow thistle	non-native	annual herb	-	-	FAC	-
Spergula arvensis	Corn spurry	non-native	annual herb	-	-	-	-
Taraxacum officinale	Red seeded dandelion	non-native	perennial herb	-	-	FACU	-
Toxicodendron diversilobum	Poison oak	native	vine, shrub	-	-	FACU	-
Trifolium angustifolium	Narrow leaved clover	non-native	annual herb	-	-	-	-
Trifolium subterraneum	Subterranean clover	non-native	annual herb	-	-	-	-
Typha latifolia	Broadleaf cattail	native	perennial herb (aquatic)	-	-	OBL	-
Vicia sativa	Spring vetch	non-native	annual herb, vine	-	-	FACU	-

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

November 2, 2021

Regulatory Division

Subject: File Number 2021-00231S

Mr. Joe Rigney
Ecological Concerns
125 Walk Circle
Santa Cruz, California 95060
jrigney@ecologicalconcerns.com

Dear Mr. Rigney:

This correspondence is in reference to your submittal of July 14, 2021, on behalf of Midpen Housing concerning whether there is a requirement for Department of the Army (DA) authorization to construct the Pippin Phase II Development project on a 14.91 acre property located at APN-019-236-01 in the City of Watsonville and APN-048-221-09 in unincorporated Santa Cruz County, California (lat 36.931637, long -121.762444). The proposed project has been depicted in the enclosed plans and drawings titled "USACE File # 2021-00231, Pippin Phase II Development Project," dated June 4, 2021 in one sheet.

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States (U.S.), or below the high tide line in tidal waters of the U.S., or within the lateral extent of wetlands adjacent to these waters, typically require DA authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq*.). All proposed structures and work, including excavation, dredging, and discharges of dredged or fill material occurring below the plane of mean high water in tidal waters of the U.S.; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the U.S., typically require DA authorization and the issuance of a permit under Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq*.). Navigable waters of the U.S. generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use, to transport interstate or foreign commerce.

The enclosed map titled "Extent of U.S. Army Corps of Engineers' Jurisdiction Pursuant to Section 404 Clean Water Act, Pippin Phase II Development Project, Watsonville, Santa Cruz County, California (APN: 019-236-01 and 048-221-09)" in one sheet and date certified November 2, 2021, and the enclosed project plans, demonstrate that the proposed

project will not result in the placement of fill materials within waters or wetlands subject to Corps regulation on the project site; therefore, no DA permit would be required.

This approved jurisdictional determination is based on a review of data included in your submittal. This approved jurisdictional determination will expire in five years from the date of this letter unless new information or a change in field conditions warrants a revision to the delineation map prior to the expiration date. The basis for this approved jurisdictional determination is explained in the enclosed Approved Jurisdictional Determination Form. This approved jurisdictional determination is presumed to be consistent with the official interagency guidance of June 5, 2007, interpreting the Supreme Court decision Rapanos v. United States, 126 S. Ct. 2208 (2006).

You are advised that the approved jurisdictional determination may be appealed through the U.S. Army Corps of Engineers' Administrative Appeal Process, as described in 33 C.F.R. § 331 (65 Fed. Reg. 16,486; Mar. 28, 2000) and outlined in the enclosed flowchart and Notification of Administrative Appeal Options, Process, and Request for Appeal (NAO-RFA) Form. If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to this office for reconsideration of this decision. If you do not provide new information to this office, you may elect to submit a completed NAO-RFA Form to the Division Engineer to initiate the appeal process; the completed NAO-RFA Form must be submitted directly to the Appeal Review Officer at the address specified on the NAO-RFA Form. You will relinquish all rights to a review or an appeal unless this office or the Division Engineer receives new information or a completed NAO-RFA Form within 60 days of the date on the NAO-RFA Form. If you intend to accept the approved jurisdictional determination, you do not need to take any further action associated with the Administrative Appeal Process.

This determination does not obviate the need to obtain other Federal, State, or local approvals required by law, including compliance with the Federal Endangered Species Act (ESA) (16 U.S.C. § 1531 *et seq*.). Even though this activity is not prohibited by or otherwise subject to regulation under section 404 of the Clean Water Act, the take of a threatened or endangered species as defined under the ESA is not authorized. In the absence of a separate authorization from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, both lethal and non-lethal take of protected species are a violation of the ESA. Similarly, the appropriate Regional Water Quality Control Board may still regulate your proposed activity because of impacts to a "water of the State." Therefore, you should also contact appropriate Federal, State, and local regulatory authorities to determine whether your activity may require other authorizations or permits.

This determination will expire in five years from the date of this letter unless new information or a change in project design or field conditions warrants further review prior to the expiration date. You may refer any questions on this matter to Elise Piazza of my Regulatory

staff by telephone at (415) 503-6732 or by e-mail at elise.h.piazza@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: http://www.spn.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Katerina Galacatos, Ph.D.
South Branch Chief, Regulatory Division

Enclosures

Electronic copy furnished:

CA RWQCB, San Luis Obispo, CA (Attn: Kim Sanders, kim.sanders@usace.army.mil)
Midpen Housing, Watsonville Development Office, Watsonville CA (Attn: Luis Preciado lpreciado@midpen-housing.org, Joanna Carman Joanna.carman@midpen-housing.org, Vanessa Diffenbaugh vanessa.diffenbaugh@midpen-housing.org)
Ecological Concerns, Santa Cruz, California (Attn: Jon Laslett jlaslett@ecologicalconcerns.com)

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

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2 November 21

B. DISTRICT OFFICE: San Francisco District **FILE NUMBER:** SPN-2021-00231S
File Name: Pippin Phase II Development Project
Waterbody Name: Unnamed ephemeral drainage and adjacent wetlands

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: California County/parish/borough: Santa Cruz Co. City: Watsonville
Center coordinates of site: (lat/long (in degree decimal format): Lat: 36.931637 N Long: -121.762444 W
Pick List (lat/long (in degree decimal format): Lat: Pick Long: Pick
Pick List (lat/long (in degree decimal format): Lat: Pick Long: Pick
Universal Transverse Mercator:
Name of nearest waterbody: Corralitos Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pajaro River
Name of watershed or Hydrologic Unit Code (HUC): 1806002

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form**.**

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): 21 Sep 21

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION

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

1. Waters of the U.S:
a. Indicate presence of waters of U.S. in review area (check all that apply): [1]

☐ TNWs, including territorial seas
☐ Wetlands adjacent to TNWs
☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
☐ Non-RPWs that flow directly or indirectly into TNWs
☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area
Non-wetland waters: 169 linear feet: width (ft) and/or 0.03 acres. (other comments:)
Wetlands: 4.47 acres. (other comments:)

c. Limits (boundaries) of jurisdiction **based on:** 1987 Delineation Manual
Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):[3]
☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. *Explain:* One irrigated wetland was recorded within the project area. This wetland falls within the category described in the preamble to the 1986 rule as an artificially irrigated area which would revert to upland if the irrigation ceased. These features are generally not considered jurisdictional. Therefore IW1 does not fall within the Corps' jurisdiction.

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

SECTION III: CWA ANALYSIS

A TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW:

Summarize rationale supporting determination that waterbody is a TNW:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

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

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

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

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

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

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

(i) General Area Conditions:

Watershed size: Pick List

Drainage area: Pick List

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

a. <u>Relationship with TNW</u>:

☐ Tributary flows directly into TNW

☐ Tributary flows through Pick List tributaries before entering TNW

Project waters are Pick List river miles from TNW.

Project waters are Pick List river miles from RPW.

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

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

Project waters cross or serve as a state boundary. ***Explain:***

Identify flow route to TNW[5]:

Tributary stream order, if known:

b. <u>General Tributary Characteristics (check all that apply):</u>:

Tributary **is:**

☐ Natural: (comment if needed)

☐ Artificial (man-made): ***Explain:***

☐ Manipulated (man-altered): ***Explain:***

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

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary **properties with respect to top of bank (*estimate*):**

Average width: feet (measured from top of bank to top of bank)
Average depth: feet. (measured from OHWM to top of bank)
Average side slopes: Pick List

Primary tributary substrate composition (***check all that apply***):

- ☐ Silt**:**
- ☐ Sand:
- ☐ Clay:
- ☐ Cobbles:
- ☐ Gravel:
- ☐ Muck:
- ☐ Bedrock:
- ☐ Concrete:
- ☐ Vegetation (Type / % cover):
- ☐ Other (Explain):

Tributary condition/stability [e.g., highly eroding, sloughing banks]. ***Explain***: .

Presence of run/riffle/pool complexes. ***Explain***: .

Tributary geometry: Pick List.

Tributary gradient (approximate average slope): %

c. FLOW INFORMATION

Tributary provides for: Pick List
Estimate average number of flow events in review area/year: Pick List
Describe flow regime: .
Other information on duration and volume: .
Surface flow is: Pick List. Characteristics: .
Subsurface flow: Pick List. ***Explain findings***: .

- ☐ Dye (or other) test performed:. .

Tributary has (check all that apply):

- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):
  - ☐ clear, natural line impressed on the bank
  - ☐ changes in the character of soil
  - ☐ destruction of terrestrial vegetation
  - ☐ vegetation matted down, bent, or absent
  - ☐ leaf litter disturbed or washed away
  - ☐ multiple observed or predicted flow events
  - ☐ water staining
  - ☐ abrupt change in plant community. ***Explain***:
  - ☐ other (list):
  - ☐ the presence of litter and debris
  - ☐ shelving
  - ☐ the presence of wrack line
  - ☐ sediment sorting
  - ☐ scour
  - ☐ sediment deposition
- ☐ Discontinuous OHWM.[7] ***Explain***:

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

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

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

(iii) Chemical Characteristics:

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

Identify specific pollutants, if known:

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

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

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties

Wetland size: acres

Wetland type. ***Explain***:

Wetland quality. ***Explain***:

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

(b) General Flow Relationship with Non-TNW:

Flow is: Pick List Explain:

Surface flow is: Pick List

Characteristics:

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

- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

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

(d) Proximity (Relationship) to TNW

Project wetlands are Pick List river miles from TNW.

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

Flow is from: Pick List

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

(ii) Chemical Characteristics:

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

Identify specific pollutants, if known: ***Explain***:

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

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

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

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

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

(iii) For each wetland associated with the reach or waterbody being analyzed in this form, specify the following:

Number/Name[8]	Directly abuts (Yes/No)	Size	Number/Name	Directly abuts (Yes/No)	Size
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres

(iv) Summarize overall biological, chemical and physical functions being performed**:**

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

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

[8] In the Number/Name column, add the number and/or name that you have given the wetland being referred to in the table. Example, you are referring to a wetland on your wetland delineation map number 6, that you call wetland No.3 on a reach you refer to as Putah Creek. For this wetland you would add to the table in the Number/Name column, something like the following: (No. 3, Putah Ck., Map # 6).

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

☐ **1. TNWs and Adjacent Wetlands**. Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), and/or acres.
- ☐ Wetlands adjacent to TNWs: acres.

☒ **2. RPWs that flow directly or indirectly into TNWs**.

- ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: This feature has a defined bed and bank and indicators of an ordinary high water mark.
- ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

  Provide estimates for jurisdictional waters in the review area (***check all that apply***)

  - ☒ Tributary waters: 169 linear feet 7.7width (ft).
  - ☐ Other non-wetland waters: acres.

    Identify type(s) of waters: .

☐ **3. Non-RPWs[9] that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

  Provide estimates for jurisdictional waters within the review area (***check all that apply***):

  - ☐ Tributary waters: linear feet width (ft).
  - ☐ Other non-wetland waters: acres.

    Identify type(s) of waters: .

☒ **4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - ☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in **Section III.D.2**, above. Provide rationale indicating that wetland is directly abutting an RPW: The forested wetlands, seasonal wetland, and scrub shrub wetlands share surface flow with the ephemeral drainage..
  - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in **Section III.B** and rationale in **Section III.D.2**, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: 4.47 acres.

☐ **5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

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

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

☐ **6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

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

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

[9]See Footnote # 3.

☐ **7. Impoundments of jurisdictional waters.[10]**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (*CHECK ALL THAT APPLY*):[11]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (***check all that apply***)

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. ***Explain***: .
- ☒ Other: (explain, if not covered above): This wetland falls within the category described in the preamble to the 1986 rule as an artificially irrigated area which would revert to upland if the irrigation ceased. These features are generally not considered jurisdictional. Therefore IW1 does not fall within the Corps' jurisdiction. .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (***check all that apply***):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.
- ☐

[10] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[11] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - **checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "potential Wetland and Watrs of the United States" prepared by WRA, Inc in 1 sheet**.**
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☒ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite scale & quad name: .
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date): .
  ☒ Other (Name & Date):Provided by consutlant, Joe Rigney of Ecological Conerns on 18 Aug 21.
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☐ Other information (please specify): .
- ☐

B. ADDITIONAL COMMENTS TO SUPPORT JD:

☐

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Mr. Luis Preciado, Midpen Housing	File Number: SPN-2021-00231	Date: 11/2/21
Attached is:		See Section below
☐	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
☐	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
☐	PERMIT DENIAL	C
☑	APPROVED JURISDICTIONAL DETERMINATION	D
☐	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

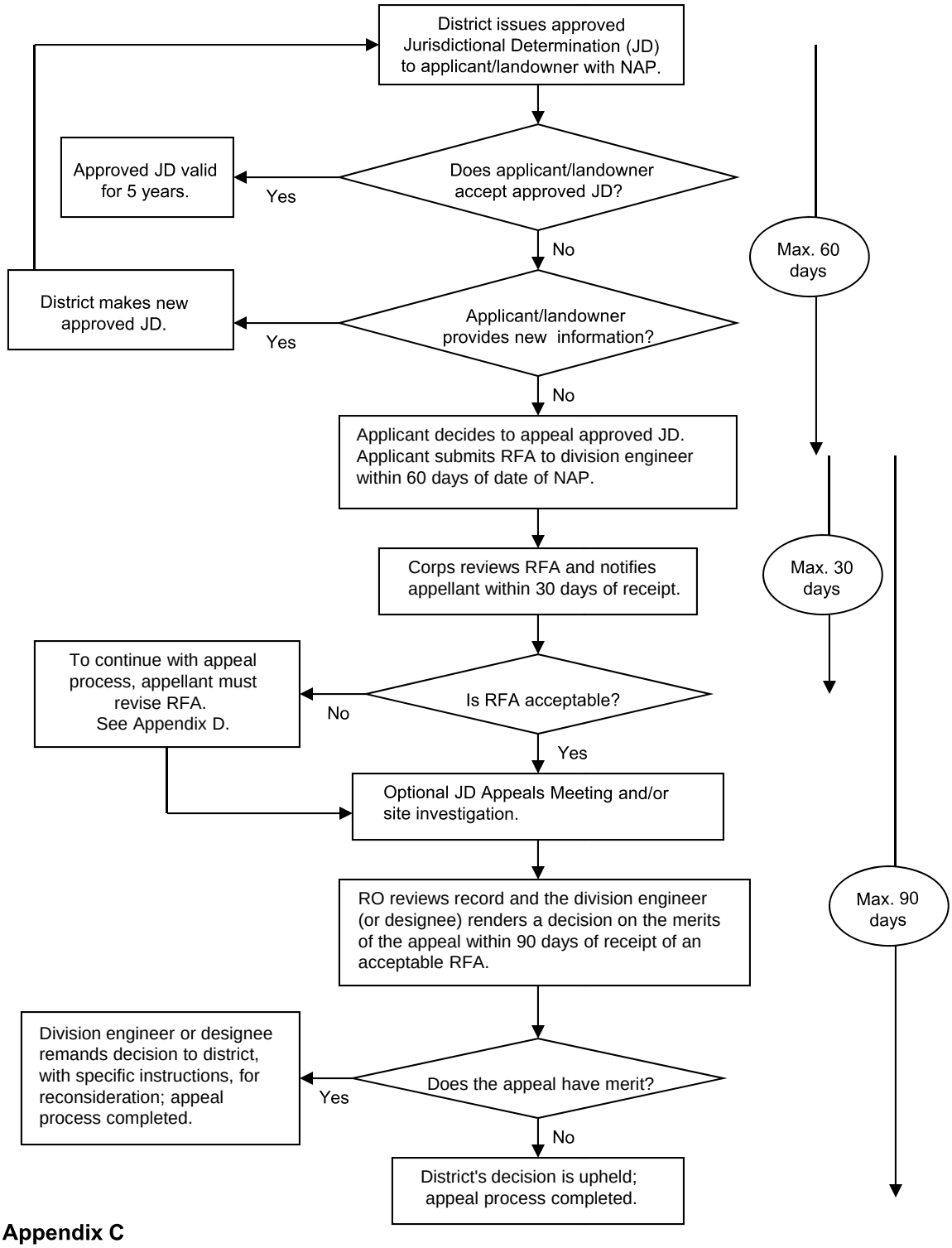
Katerina Galacatos
South Branch Chief, Regulatory Division
San Francisco District, U.S. Army Corps of Engineers
450 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102-3404
Phone: (415) 503-6778 Email: Katerina.Galacatos@usace.army.mil

If you only have questions regarding the appeal process you may also contact: Thomas J. Cavanaugh
Administrative Appeal Review Officer,
U.S. Army Corps of Engineers
South Pacific Division
450 Golden Gate Avenue, 6th Floor
San Francisco, California 94102-3406
Phone: (415) 503-6574 Fax: (415) 503-6646
Email: thomas.j.cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

Project Area (14.91 ac.)

Culvert

1-Foot Contour

Sample Point

Upland

Wetland

Jurisdictional Wetlands and Other Waters

Ephemeral Drainage (169 ft., 0.03 ac.)

Forested Wetland (2.38 ac.)

Seasonal Wetland (1.87 ac.)

Scrub Shrub Wetland (0.22 ac.)

Non Jurisdictional, Exempt Features

Irrigated Wetland (0.01 ac.)

U.S. Army Corps of Engineers
San Francisco District
Regulatory Division

Extent of U.S. Army Corps of Engineers' Jurisdiction Pursuant to Section 404 Clean Water Act

Pippin Phase II Development Project
Watsonville, Santa Cruz County, California

(APN: 019-236-01 and 048-221-09)

Study Area Boundary

Accurate as depicted in legend

File ID. **2021-00231S** Date: **November 2, 2021** Sheet 1

SP-01
IW1
SP-02
SP-03
C1
SP-04
SP-05
ED1
SS1
SP-08
SS2
SW1
FW1
SP-06
SP-07
FW2
SS3

Path: L:\Acad 2000 Files\29000\29109\GIS\ArcMap\AppendixB_WetlandWaters.mxd

Sources: ESRI World Imagery 2019, WRA | Prepared By: SGillespie, 7/24/2019

Wetlands and Waters of the United States

MidPen Housing Project
Watsonville, Santa Cruz County, California

0 200 400 Feet

N

wra ENVIRONMENTAL CONSULTANTS

USACE File # 2021-00231S
Pippin Phase II Development Project
Santa Cruz County, California
June 4, 2021 — 1 Sheet

U.S. Army Corps of Engineers
San Francisco District
Regulatory Division

NOT FOR CONSTRUCTION

BY	REVISION	DATE
	PER PLAN CHECK COMMENTS	06/09/21

IFLAND ENGINEERS
5300 SOQUEL AVE, SUITE 101
SANTA CRUZ, CA 95062
TEL (831) 426-5313
FAX (831) 426-3703
www.ifandengineers.com
CIVIL ENGINEERING • LAND PLANNING • STRUCTURAL DESIGN

PRELIMINARY

OVERALL GRADING AND DRAINAGE PLAN

PIPPIN II HOUSING

78 ATKINSON LANE, WATSONVILLE, CALIFORNIA

APN 048-221-09 & 019-236-01

DESIGN DEVELOPMENT

DESIGN MR | DRAWN STAFF | DATE 06/04/2021

SHEET C3.0

JOB NO. 20011

ESTIMATED EARTHWORK QUANTITIES

20,500	CUBIC YARDS CUT
7,800	CUBIC YARDS FILL
12,700	CUBIC YARDS CUT
OVEREXCAVATION	5,220 CY
RECOMPACTION (25% FACTOR)	6,525 CY

NOTES:
1. EARTHWORK VOLUMES PROVIDED BY EARTHCALC INC., ON 01/04/2021.
2. ESTIMATE DOES NOT INCLUDE BUILDING OR RETAINING WALL FOUNDATIONS, OR UTILITY TRENCH VOLUMES.
3. ESTIMATE ASSUMES A 15% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 0% EXPANSION FACTOR ON ALL CUT MATERIAL.
4. PRIOR TO COMMENCEMENT OF WORK CONTRACTOR SHALL CONFIRM THAT ESTIMATES ARE CORRECT.
5. OFF-HAUL SHALL BE TAKEN TO A CITY APPROVED LANDFILL UNLESS A SITE WITH A VALID GRADING PERMIT CAN BE IDENTIFIED.
6. OVEREXCAVATION/RECOMPACTION SHALL BE PERFORMED UNDER

AREA OF DISTURBANCE

6.45 ACRES

GRAPHIC SCALE: 1 INCH = 40 FEET

CALL BEFORE YOU DIG USA 811

DRAFT - SAMPLE RESTRICTIVE COVENANT for FLOODPLAINS and WETLANDS

WHEN RECORDED RETURN TO:

[NAME]
[ADDRESS]

DECLARATION OF RESTRICTIVE COVENANT

This Declaration of Restrictive Covenant ("**Declaration**") is executed as of this ____ day of _____, 20__ (the "**Effective Date**"), by [Property Owner] ("**Owner**").

RECITALS

A. _____ is the owner of that certain parcel of land located in the County of _____, State of _____(the "State"), which is more fully described on Exhibit A hereto (the "**Property**").

B. [That portion of the Property which is described and/or depicted on Exhibit B hereto is located within a [100][500] year Floodplain (said portion of the Property hereinafter referred to as the "**Floodplain**").]

AND/OR

[That portion of the Property which is described and/or depicted on Exhibit B [or C] hereto contains wetlands as defined at 24 CFR 55.2(b)(11)[describe whether depicted on a map or determined through other information] (said portion of the Property hereinafter referred to as the **"Wetlands"**).]

C. In connection with [the financing of the Property through a loan from _____ insured by the United States Department of Housing and Urban Development ("**HUD**")], Owner has agreed to establish certain restrictions with respect to the use of the [Floodplain] [and] [Wetlands] that are intended to run with the land as more fully set forth herein.

D. The purpose of this Declaration is to provide for permanent preservation of the [Floodplain] [and] [Wetlands], as set forth herein.

NOW THEREFORE, in consideration of the foregoing premises, the making, receiving and insuring of the loan, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged [Revise as necessary if standard language is different in your state and/or if HUD provides other assistance rather than loan or mortgage insurance], Owner declares as follows:

1. Use Restrictive Covenant.

(a) From and after the Effective Date, (i) no new structure, paving, or other improvements shall be constructed on, and no new modifications or landscaping activities (except for minor grubbing, clearing of debris, pruning, sodding or seeding, or other similar activities) shall be carried out within the [Floodplain] [and] [Wetlands]; and (ii) the use of the [Floodplain] [and] [Wetlands] shall be limited solely to passive open or green space.

[In addition to the above, for Property containing Wetlands use also the following:]

[In addition, from and after the Effective Date, (i) no new construction activities, including draining, dredging, channelizing, filling, diking, impounding, flooding, releasing wastes, and related activities that impact the Wetlands shall be performed; and (ii) no exotic species shall be introduced into the Wetlands, except biological controls preapproved in writing by the Army Corps of Engineers local office or the State environmental office. Provided, that the following are expressly permitted: (i) cumulatively very small impacts associated with hunting (excluding planting or burning), fishing, and similar recreational or educational activities, consistent with the continuing natural condition of the Property; and (ii) restoration or mitigation required under law.]

(b) This Declaration and the covenants set forth herein restricting the use and occupancy of the [Floodplain] [and] [Wetlands] (i) shall be and are covenants running with, touching, and encumbering the Property, binding upon the Owner and all successors in interest or title, transferees, vendees, lessees, mortgagees, and assigns who are owners and/or users of the Property, and (ii) are not merely personal covenants of the Owner.

(c) Any and all requirements of the laws of the State to be satisfied in order for the provisions of this Declaration to constitute deed restrictions and covenants running with the land shall be deemed to be satisfied in full, and any requirements or privileges of estate are intended to be satisfied, or in the alternate, an equitable servitude has been created to insure that these restrictions run with the land. Each and every contract, deed, or other instrument hereafter executed conveying the Property or portion thereof (excluding instruments granting security interests) shall expressly provide that such conveyance is subject to this Declaration, provided, however, that the covenants contained herein shall survive and be effective regardless of whether such contract, deed or other instrument hereafter executed conveying the Property or portion thereof provides that such conveyance is subject to this Declaration.

2. Enforcement. In the event of a breach or threatened breach of this Declaration, any party adversely affected by such breach, the county or municipality where the Property is located, the State, or the United States of America shall be entitled to institute

proceedings at law or in equity for relief from the consequences of said breach including seeking injunctive relief to prevent a violation thereof. The prevailing party in any such action shall be awarded its costs and expenses, including reasonable attorneys' fees, which shall be deemed to have accrued on the commencement of such action and shall be awarded whether or not such action is prosecuted to judgment.

3. Superiority. The charges and burdens of this Declaration are, and shall at all times be, prior and therefore superior to the lien or charge of any mortgage or deed of trust hereafter made affecting the Property or any part thereof, including any improvements now or hereafter placed thereon, and notwithstanding a foreclosure or other voluntary or involuntary transfer of title pursuant to such instrument, shall remain in full force and effect, but are subordinate to the security interests of record on the Effective Date. Provided, however, that a breach of any of the restrictions hereof shall not defeat or render invalid the lien or charge of any mortgage or deed of trust. The charges and burdens of this Declaration are not intended to either create a lien upon the Property, or grant any right of foreclosure, to any person or party.

4. Release. Any person or entity having or acquiring fee or leasehold title to the Property or any portion thereof shall be required to comply with this Declaration only during the period such person or entity is the fee or leasehold owner of the Property, and thereafter shall be released therefrom, except that such person or entity shall continue to be liable for, and shall not be released from liability for, obligations, liabilities or responsibilities that accrue or accrued during said period of ownership. Although persons or entities may be released under this paragraph, the restrictions of this Declaration shall continue to be restrictions upon the Property, running with the land, and shall inure to the benefit of, and be binding upon, their successors and assigns in title or interest.

5. Notices. All notices provided for herein may be delivered in person, sent by Federal Express or other overnight courier service, mailed in the United States mail postage prepaid, or sent by electronic or facsimile transmission, and, regardless of the method of delivery used, shall be considered delivered upon the actual receipt or refusal of receipt thereof. The name, address and other information to be used in connection with such correspondence and notices to Owner shall be the then-current owner's name and address information maintained in the official real property tax records with respect to the Property.

6. Miscellaneous.

(a) Headings. The headings in this Declaration are for convenience only and do not in any way limit or affect the terms and provisions hereof.

(b) Unenforceability. If any provision of this Declaration is held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the remainder of such provision or any other provisions hereof.

(c) Gender. Wherever appropriate in this Declaration, the singular shall be deemed to refer to the plural and the plural to the singular, and pronouns of certain genders shall be deemed to include either or both of the other genders.

(d) Governing Law. This Declaration shall be construed and enforced in accordance with the laws of the State.

(e) [omit if covenant for Wetlands only] Remapping of Floodplain. In the event that a final Flood Insurance Rate Map or a Letter of Map Amendment issued by the U.S. Federal Emergency Management Agency (or successor federal agency having responsibility therefor) after the date of this Declaration revises the boundaries of the Floodplain with the effect of reducing the extent of the Property that is within the floodplain, the Use Restrictive Covenant in the Declaration shall apply within the revised boundaries of the Floodplain from and after the effective date of the revised Flood Insurance Rate Map or Letter of Map Amendment; provided, that Owner and its successors may not deposit fill within the Floodplain nor obtain a Letter of Map Revision based upon such fill, and any such Letter of Map Revision based on fill shall not alter the applicability of the Use Restrictive Covenant to the Floodplain as delineated prior to such Letter of Map Revision.

(f) Amendments. This Declaration may be amended or canceled only by written instrument executed by HUD and the then-current owner of the Property.

(g) No General Public Access. This Declaration does not establish any rights of access in favor of the general public for any purposes whatsoever.

(h) Entire Agreement. This Declaration constitutes the entire agreement of Owner with respect to the subject matter hereof and supersedes all prior negotiations or discussions, whether oral or written, with respect thereto.

IN WITNESS WHEREOF, the undersigned has caused this Agreement to be signed by its duly authorized representatives, as of the day and year first above written.

OWNER

_____

By:_____

Printed Name:_____

Title:_____

STATE OF_____)

)ss.

COUNTY OF_____)

On this _____day of _____ , 20___, before me, a notary public, personally appeared _____ , the _____ of the_____ [the_____ of _____], a _____ , named in the foregoing instrument and acknowledged said instrument on behalf of the_____ ____.

_____

Notary Public

EXHIBIT A

(Description of the Property)

EXHIBIT B

(Description and/or Depiction of the [Floodplain] [Wetlands])

[EXHIBIT C]

[(Description and/or Depiction of the Wetlands)]