Waters and Wetlands Delineation Report

Aero Drive Hotel Project

950 and 990 Aero Drive, San Luis Obispo, California

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DISCLAIMER

Terra Verde Environmental Consulting, LLC (hereafter, Terra Verde) has prepared this waters and wetlands delineation report for use by Sanjay Ganpule (owner). The results and conclusions of this report are conditional upon final approval by the United States Army Corps of Engineers. Results and conclusions presented in this report are based upon information available in the public domain (e.g., United States Geological Survey 7.5-minute topographic quadrangle maps, the Natural Resources Conservation Service Soil Surveys, aerial photographs from various sources, etc.), as well as Terra Verde's on-site reconnaissance, data collection, and analyses, which were completed using standard methods. Results and conclusions presented herein represent the best professional judgment of Terra Verde technical staff. In this context, surveying/boundary locations developed by Terra Verde are assumed to be true and correct.

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February 06, 2020
Date

EXECUTIVE SUMMARY

Terra Verde Environmental Consulting, LLC (Terra Verde) was retained by Sanjay Ganpule (owner) to complete a formal delineation of waters and wetlands under the jurisdiction of federal and state resource agencies in support of the proposed Aero Drive Hotel Project (project). The project site is located 950 and 990 Aero Drive in the City of San Luis Obispo, San Luis Obispo County, California. Field surveys included a delineation of all waters and wetlands, as defined by the U.S. Army Corps of Engineers (Corps) and California Department of Fish and Wildlife (CDFW). The survey area encompassed the entire proposed project site and the immediately surrounding wetland and riparian habitats.

This report has been developed by Terra Verde using current Corps guidance concerning waters and wetlands delineations, CDFW guidance on delineating state-defined waters and wetlands, and 2019 field-based observations of site conditions within the project area. Information offered in this report is arranged to describe the delineation objectives, discuss pertinent regulatory contexts, explain the approach and methodology used by Terra Verde in this delineation, and provide a summary of technical results. This report is intended to provide details regarding aquatic resources on site and may be used to support permit application(s) to the Corps, CDFW, the Regional Water Quality and Control Board (RWQCB), and the City of San Luis Obispo for the proposed project

Terra Verde delineated approximately 206 linear feet of federal-defined non-wetland waters and 0.13 acre of federal-defined wetlands. Further, Terra Verde delineated approximately 0.63 acre and 650 linear feet of CDFW-defined waters/wetlands. As necessary, this information may be used to support regulatory permits and/or project approvals from the Corps, CDFW, RWQCB, the City of San Luis Obispo and other resource agencies. The results of the delineation, as described in this report, are conditional upon a review and final jurisdictional determination by the Corps Los Angeles District and regional office of CDFW.

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1.0 INTRODUCTION & BACKGROUND

This waters and wetlands delineation report was prepared by Terra Verde Environmental Consulting, LLC (Terra Verde) in support of the proposed Aero Drive Hotel Project (project) located at 950 and 990 Aero Drive, San Luis Obispo, California (APN 053-412-010 and 053-412-011) (see Appendix A – Figure 1: Project Vicinity and Topographic Map). This report summarizes the regulatory context, methods, and results of field surveys, which focused on the delineation of federal and state wetlands and waters, including those defined by Section 404 of the Clean Water Act (i.e., waters of the U.S.) and those that fall under the jurisdiction of the state of California, as defined by the California Fish and Game Code and the Porter Cologne Water Quality Control Act. The survey area included the entire proposed project area, as well as immediately adjacent wetland and riparian habitats (see Appendix A – Figure 2: Project Site and Survey Area Map).

Preliminary site plans include the development of two new hotels and associated infrastructure on two undeveloped parcels totaling approximately 5 acres. The survey area encompassed the entirety of both parcels, focusing on one ephemeral drainage bordering the southwestern edge of the lot.

This report has been developed following guidance from the Los Angeles District of the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) (EPA and Corps 2008) pertaining to wetland delineations, as well as California Department of Fish and Wildlife (CDFW) guidance on delineating state wetlands (Cowardin et al. 1979). The results of the delineation are based on field observations made on October 03, 2019 and are subject to final review and approval by the Corps and CDFW. As needed, this report may be used in acquiring regulatory permits and/or project approvals from the Corps, CDFW, the Regional Water Quality Control Board (RWQCB), and the City of San Luis Obispo (City).

1.1 Overview of Site Characteristics

1.1.1 Current and Historical Land Uses

The proposed project site is located northeast of the San Luis Obispo County Regional Airport (Airport) at the southern limits of the City of San Luis Obispo. The site is also located within the Airport Overlay Zone (City 2019) which is zoned for business park development. It is surrounded by commercial developments, and public roadways. As such, the topography, soils, and vegetation of the proposed project site and surrounding areas have been altered considerably through past land conversion, construction of the adjacent commercial developments, expansion of the Airport, and realignment of Aero Drive. A review of historical aerial imagery indicates the

property has been regularly maintained (e.g., mowed) since the early 2000's (Google Earth 1994-2018). One unnamed drainage flows generally northwest across the southwestern edge of the survey area. Most of this drainage is located on the adjacent parcel.

1.1.2 Geomorphology and Landscape Context

The project site is located within the San Luis Obispo Creek watershed, approximately two miles east of the East Fork of San Luis Obispo Creek. The San Luis Obispo Creek watershed is a coastal basin that originates in the southern Santa Lucia Range, approximately 2,500 feet above sea level (City/County 2003). Topography within the survey area is mostly flat to gently sloping, except at the southwest edge where it slopes steeply up to a developed lot. Elevations on site range from approximately 164 to 180 feet (50 to 55 meters). The geology of the project site consists of alluvial deposits, comprised primarily of clay and silty clay loam (U.S. Dept. of Ag. 2019).

The project site is immediately bordered by Aero Drive to the south, a gravel parking lot to the west, existing commercial developments to the north and State Route 227 to the east. Highway 101 is located approximately 2.25 miles northwest of the project site.

1.1.3 Regional Climate

The regional climate is Mediterranean, with mild, rainy winters and hot, dry summers. Heavy marine fog is often present in the late spring and early summer. Historical temperature and precipitation data were acquired from the Western Regional Climate Center (WRCC) for San Luis Obispo (Station No. 047851). According to available data, average annual precipitation for a 123-year (1893 to 2016) period for the project region is 22.40 inches (WRCC 2019). The average minimum and maximum temperatures calculated for the same time period are 41.3°F in January and 77°F in September (WRCC 2019).

2.0 REGULATORY CONTEXTS

2.1 Rationale for the Determination of the Geographic Extent of Waters of the U.S.

Delineation of the geographic extent of waters of the U.S., including wetlands, within the survey area was consistent with definitions provided in 33 CFR 328.3 (a) (1-8), 328.3 (b, c, and e), as well as routine procedures detailed in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (*1987 Manual*) (Corps 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (*2008 Arid West Regional Supplement*) (Corps 2008). As defined in Section 404 of the CWA, the limits of Corps jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM) and includes all adjacent wetlands. The

following definitions are used by the Corps and EPA for the identification of wetlands and, as such, were used for the identification and delineation of wetlands at the project site.

Waters of the U.S. are defined in Section 404 of the CWA as:

> *"All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; including all interstate waters including interstate wetlands, all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce."*

Further, wetlands are considered waters of the U.S., and are identified 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 Corps uses a three-parameter approach for identifying and delineating jurisdictional wetlands, where a wetland is defined as a feature associated with waters of the U.S., which is characterized by a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

2.2 Rationale for the Determination of the Geographic Extent of Waters of the State

CDFW follows the definition used by the U.S. Fish and Wildlife Service (USFWS) for the identification of single-criterion wetlands (Cowardin et al. 1979), which requires that only one of the three wetland criteria used by the Corps (i.e., hydrology, hydric soils, and hydrophytic vegetation) be present in order to define a wetland. In addition, CDFW has jurisdiction over waters of the state, as defined under Section 1600 of the California Fish and Game Code.

Specifically, CDFW uses the following definition for the identification of wetlands:

> *"Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification, wetlands must have one or more of the following attributes: 1) at least periodically, the land supports predominantly*

hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season each year."

Based upon the above definitions, all wetlands determined to be under federal jurisdiction on site are also considered CDFW wetlands.

2.3 Consistency with SWANCC & Rapanos Guidance

U.S. Supreme Court rulings in two prominent court cases addressing the extent of federal jurisdiction (i.e., Solid Waste Agency of Northern Cook County [SWANCC] v. Corps et al. [531 U.S. 159, 2001]; and Rapanos et ux., et al. v. United States [547 U.S. 715, 2006]) led to the development of federal guidance that requires careful examination and documentation of the physical location(s) of and hydrologic connections among waters and wetlands. To determine federal jurisdiction, emphasis is given to surface hydrologic connections between a wetland and "navigable waters" or "adjacency" of a wetland to traditionally navigable waters, and, thus, a "significant nexus" to interstate commerce. In addition, waters and wetland features can be determined to be under federal jurisdiction by the Corps or EPA if a significant nexus can be shown between the wetland feature in question and its contribution to the maintenance or restoration of the physical, chemical, or biological integrity of downstream waters that are traditionally navigable. Federal guidance for field delineation procedures that address the Rapanos decision has been offered by the EPA and the Corps in a joint memorandum issued on June 5, 2007 (EPA and Corps 2008).

3.0 FIELD DELINEATION METHODS

3.1 Overview of Methodology

Prior to conducting field surveys, a desktop review was completed, which included a review of current and historical aerial imagery (Google Earth 1994 - 2018), an online Soil Survey for the County of San Luis Obispo (U.S. Dept. of Ag. 2019), USGS topographic maps (USGS 2019), regional weather data (WRCC 2019), the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2019), and preliminary site development plans.

Terra Verde botanist Kristen Nelson and biologist Sara Snyder completed a formal wetland delineation on October 03, 2019 to identify and map the extent of jurisdictional waters and wetlands on site. Delineation methods followed routine procedures detailed in the *1987 Manual* (Corps 1987) and the *2008 Arid West Regional Supplement* (Corps 2008). In addition, wetlands

were classified based on hydrogeomorphic classes (e.g., riverine, slope, etc.) described by Brinson (1993) and Brinson et al. (1995).

Field delineation of wetlands included an assessment of the hydrology, soil characteristics, and vegetation at eight sampling points (i.e., SP-01 through SP-08). Data was recorded using the Wetland Determination Data Form provided in the *2008 Arid West Regional Supplement* (Corps 2008). At each sampling point, a soil test pit was excavated to a depth of at least 15 inches where possible, vegetation was characterized within a 5-foot radius of the excavated soil test pit, and indicators of wetland hydrology were documented (see Appendix B – Wetland Determination Data Forms). In order to delineate the edge of federal wetlands, sampling was conducted in areas that displayed apparent indicators of wetland hydrology and vegetation, as well as adjacent areas where no apparent wetland indicators were present, and transitional areas in between. As stated above, all wetlands determined to be under federal jurisdiction also fall under state jurisdiction. Further, any areas that were determined to meet at least one of the three wetland criteria (i.e., hydric soils, hydrophytic vegetation, wetland hydrology) were determined to be CDFW wetlands.

The delineation of non-wetland waters included identifying the presence of field indicators for OHWM within the drainage. This assessment followed guidelines provided in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (*OHWM Manual*) (Lichvar and McColley 2008). In addition, all waters and wetlands were assessed for hydrologic connectivity and/or adjacency to traditionally navigable waters and their tributaries. Connectivity was confirmed by determining that the drainage is hydrologically connected to the traditionally navigable waters of the Pacific Ocean via the East Fork of San Luis Obispo Creek, and the main stem of San Luis Obispo Creek (see Appendix A – Figure 3). The limits of federal jurisdiction and the northern limits of state jurisdiction were mapped in the field. The southern limits of state jurisdiction were not field mapped. Rather, they were approximated from aerial imagery, as the current project design will not impact the southern limits of the drainage feature.

3.1.1 Delineation of Wetlands

Evidence of Wetland Hydrology

Consistent with the *1987 Manual* (Corps 1987), the *2008 Arid West Regional Supplement* (Corps 2008), and current regulatory guidance (Corps 1992), wetland hydrology can be identified by evaluating a variety of direct and indirect indicators, including stream gauge or well data, flood predictions (i.e., FEMA maps), historic records pertaining to the study area, and visual observation of field indicators for the identification of jurisdictional waters and wetlands. Field indicators may include inundation and/or saturation, sediment deposition, drainage patterns,

hydric soil characteristics, watermarks, drift lines, presence of oxidized pores associated with living roots and rhizomes (i.e., rhizospheres), and water-stained leaves (Corps 1987).

Wetland hydrology is present at a location if field observations indicate the area has a high probability of being periodically inundated or saturated to the soil surface for a sufficient duration during the growing season to develop anaerobic conditions in the surface soil environment (i.e., root zone) (Corps 1987). According to guidance provided in the *2008 Arid West Regional Supplement,* if at least one primary indicator or at least two secondary indicators of hydrology are present at a sample point, the wetland hydrology criterion is met (Corps 2008). Observations of wetland hydrology were recorded at each sample point to document evidence of inundation or soil saturation.

Several types of evidence were examined to determine whether wetland hydrology previously existed or currently exists. In addition, the type and frequency of site manipulation and anthropogenic disturbances were considered for their potential to impact or alter current and historical site hydrology.

Identification of Hydric Soils

The presence of hydric soils was assessed based on the criteria outlined in the *1987 Manual* (Corps 1987) and the *2008 Arid West Regional Supplement* (Corps 2008). Hydric soils are defined as soils "*that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part*" (U.S. Dept. of Ag. 1994). Determination of whether or not a soil is hydric is based on the fulfillment of at least one of four technical criteria (U.S. Dept. of Ag. 2002), which can be satisfied using a combination of published soils information and field indicators. Field indicators for determining whether a soil satisfies the hydric soil definition and the technical criteria for hydric soils are listed in *Field Indicators of Hydric Soils in the United States* (U.S. Dept. of Ag. 2006).

Following the guidance provided in the above-referenced documents, the presence of hydric soils within the survey area was determined using a combination of direct field observations and a review of available online resources, including the Soil Survey of San Luis Obispo County, Web Soil Survey (U.S. Dept. of Ag. 2019) and the USFWS NWI (USFWS 2019). In the field, soil test pits were excavated at each of eight sampling points to examine the upper 15 inches of the soil profile for hydric soil indicators. Specifically, a Munsell Soil Color Book (2000) was used to classify the colors of matrix soils and redoximorphic (redox) concentrations within the matrix. The *2017 Pocket Guide to Hydric Soil Indicators* (Wetland Training Institute [WTI] 2017) was used to determine the texture of soils, and to assess the location, type, and extent of matrix soil colors and redox concentrations, to determine whether they qualified as hydric soils.

Dominance of Hydrophytic Vegetation

On June 1, 2012, the *2012 National Wetland Plant List* (NWPL) (Lichvar et al. 2012) replaced the USFWS 1988 National List of plant species that occur in wetlands for use under the CWA, Swamp Buster, and National Wetland Inventory programs. The NWPL and regional supplements have since been revised with updated plant listings. The *Arid West 2016 Regional Wetland Plant List* (*2016 Regional List*) (Lichvar et al. 2016) is the most current version available for use in the Arid West region, including coastal areas of California. The updated *2016 Regional List* indicates the relative frequency that a species occurs in wetland habitats and is used to determine whether the hydrophytic vegetation parameter is met when conducting wetland delineations under the CWA.

Species included on the *2016 Regional List* are assigned one of the following wetland indicator statuses (Lichvar et al. 2012):

- **Obligate (OBL)**: plants that almost always occur in wetlands.
- **Facultative Wetland (FACW)**: plants that usually occur in wetlands but may occur in non-wetlands.
- **Facultative (FAC)**: plants that are equally likely to occur in wetlands and non-wetlands.
- **Facultative Upland (FACU)**: plants that usually occur in non-wetlands but may occur in wetlands.
- **Upland (UPL)**: plants that almost never occur in wetlands; plants not included on the list are considered UPL.

Dominance of hydrophytic vegetation is determined by identifying all plant species within a 5-foot radius surrounding each soil excavation pit for herbaceous and shrub cover, and a 30-foot radius for tree and woody vine cover; documenting the absolute percent cover of each species within each stratum (i.e., herb, shrub, tree, and woody vine) for the sampling plot; and noting the indicator status for each (i.e., UPL, FACU, FAC, FACW, or OBL). Dominant species are then determined using the 50/20 rule, as recommended in the *2008 Arid West Regional Supplement* (Corps 2008). Based on this method, dominant species are those species that individually or collectively constitute more than 50 percent of the total vegetative cover (i.e., relative cover) within each stratum, in addition to those species that individually constitute 20 percent or more of the relative cover within each vegetation stratum. Species identifications and taxonomic nomenclature followed the second edition of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012), as well as taxonomic updates provided in the Jepson eFlora (Jepson Flora Project 2019).

According to both the Corps' *1987 Manual* (Corps 1987) and *2008 Arid West Regional Supplement* (Corps 2008), the hydrophytic vegetation parameter for wetlands is met when, under normal

circumstances, *more than* 50 percent of the dominant species across all strata have an indicator status of OBL, FACW, or FAC.

Connectivity/Adjacency

As noted above, particular emphasis is given to surface hydrologic connectivity of wetlands to traditionally navigable waters, including adjacency of wetlands to jurisdictional waters. Connectivity of wetlands was established via field investigations, a review of aerial imagery, and an assessment of site-specific topography.

3.1.2 Delineation of Non-wetland Waters

The *OHWM Manual* (Lichvar and McColley 2008) provides guidance on identifying field indicators of OHWM, including protocols for characterizing the overall system to determine the presence of waters of the U.S. Where apparent indicators of OHWM were observed, data was recorded using the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (OHWM Data Sheet) (Curtis and Lichvar 2010). Completed data sheets are provided in Appendix C (Arid West Intermittent and Ephemeral Streams OHWM Datasheets). In addition, the lateral limits of waters of the State typically include the bed and bank and may extend to the limits of riparian vegetation if present.

Cross-sectional Analysis

Cross sectional analyses were conducted at three locations along the drainage where there was a clear change in the limits of either the OHWM or the top of bank. The physical and biological characteristics present at each cross section were documented on OHWM Data Sheets, including a sketch of the site topography at each cross section. Specifically, the floodplain units were described for each cross section through the vegetation cover, sediment texture, and hydrology indicators at that location. The limits of OHWM were determined based on the presence of hydrology indicators such as debris wracking, shelving, scour, and change in sediment texture/substrate.

Connectivity/Adjacency

Connectivity to traditionally navigable waters was assessed via field investigations, site topography, and a review of aerial imagery (Google Earth 1994 – 2018).

4.0 RESULTS

4.1 Wetlands Determination

Terra Verde completed a wetland delineation on October 03, 2019 and determined that federal wetlands are present within the drainage, which occur in disjunct patches connected by sections

of non-wetland waters of the U.S. (see Appendix A – Figure 5: Waters and Wetlands Delineation Map). Further, all areas meeting at least one of the federal wetland criteria were also identified as state wetlands. The results of the federal wetland delineation and sampling point data was documented on Wetland Determination Data Forms (Appendix B) and is detailed below.

4.1.1 Hydrology

Within the drainage, field observations of wetland hydrology included primary and secondary indicators. Primary indicators observed included surface soil cracks (B6) and oxidized rhizospheres along living roots (C3). Secondary indicators observed included riverine water marks (B1), riverine sediment deposits (B2), riverine drift deposits (B3), drainage patterns (B10), saturation visible on aerial imagery (C9), and FAC-neutral test (D5). Wetland hydrology was determined to be present at SP-01 through SP-07, but not at SP-08 which was located on an adjacent flood plain outside the channel bottom (see Appendix A – Figure 5).

4.1.2 Soils

According to the NRCS online soil survey of San Luis Obispo County, two soil units occur within the survey area (U.S. Dept. of Ag. 2019). These include: Unit 128 (Cropley clay, 2 to 9 percent slopes), and Unit 197 (Salinas silty clay loam, 0 to 2 percent slopes) (see Appendix A – Figure 4: Soil Units Map). Unit 128 is listed as partially hydric (U.S. Dept. of Ag. 2019). A summary of the dominant characteristics of these soil types is provided below.

Soil Unit 128: Cropley clay, 2 to 9 percent slopes
The parent material of this soil type is alluvium derived from calcareous shale. The drainage class of this unit is moderately well drained, and it is composed mostly of clay over sandy clay loam. This soil type tends to occur on alluvial fans and terraces below 2,340 feet.

Soil Unit 197: Salinas silty clay loam, 0 to 2 percent slopes
The parent material of this soil type is alluvium derived from sedimentary rock. The drainage class of this unit is well drained, and it is composed mostly of silty clay loam and very fine sandy loam. This soil type tends to occur on alluvial fans and flats, and flood plains.

Soil test pits were excavated at each sampling point to classify the color and texture of the soil horizons down to at least 12 inches (except SP-01). Soil textures consisted of clay loam and clay at SP-03, silty loam and sand at SP-01, and clay at the remaining six sampling points (SP-02 and SP-04 through SP-08). Hydric soils were identified at SP-02, SP-03 and SP-05, all of which had a soil matrix of 10YR 2/1 with 2 to 5 percent reddish redox concentrations of 10YR 5/8 (SP-02) , 10YR 3/6 (SP-03) and 10YR 4/6 (SP-05) in the matrix and along pore linings (see Appendix D – Photos 4 through 6). SP-07 had a soil matrix of 10YR 2/1 in the upper 9 inches with 1 percent reddish redox concentrations and a mottled soil matrix of 80 percent 10YR 4/2 and 18 percent

10YR 3/2 below 9 inches with 2 percent reddish redox concentrations (see Appendix D – Photo 7). SP-01 was taken directly downstream of the culvert under Aero Drive and the upper 10 inches consisted of a mix of deposited sand/decomposed granite, landscaping soil, and woodchips that had been deposited from the upstream developed areas (see Appendix D – Photos 8). Below 10 inches was a layer of large rocks/riprap from armoring of the culvert outlet. A soil matrix color of 10YR 2/1 with no redox concentrations was documented at the remaining sampling points, SP-04, SP-06 and SP-08 (see Appendix D – Photos 9 and 10).

4.1.3 Vegetation

Greater than 50 percent relative cover of hydrophytic, herbaceous vegetation was documented at all eight sampling points. None of the sampling points supported tree, shrub, or woody vine cover. Dominant species included tall flatsedge (*Cyperus eragrostis*; FACW), common spikerush (*Eleocharis marcrostachya*; OBL), brown headed rush (*Juncus phaeocephalus*; FACW) and bristly ox-tongue (*Helminthotheca echioides*; FAC) at SP-01 through SP-07. Vegetation within the flood terrace surrounding SP-08 was dominated by salt grass (*Distichlis spicata*) and seaside barley (*Hordeum marinum*).

4.2 Non-Wetland Waters Determination

The drainage is ephemeral, conveying water from the adjacent parking lot south of Aero Drive and across the western portion of the survey area before entering a 36-inch culvert in the northwest corner of the survey area. Within the survey area, the drainage displayed intermittent evidence of OHWM and a clearly defined bed and bank. Portions of the drainage are likely considered non-wetland waters of the U.S. based on the presence of a clearly defined OHWM identified by a distinct transition in vegetative cover, debris wracking, scour, and connectivity to traditionally navigable waters. Areas displaying evidence of OHWM are limited to two sections of the channel: 1) immediately downstream of the culvert under Aero Drive, and 2) in the section downstream of SP-04 until the central wetland. These areas are connected by areas of federal-defined wetlands and also some transitional areas where seasonal flows become less concentrated, fanning out into a wide floodplains and in-channel wetlands. These transitional areas did not display evidence of OHWM (see Figure 5).

5.0 SUMMARY OF JURISDICTIONAL FINDINGS

The jurisdictional waters identified within the survey area fall under the regulatory jurisdiction of the Corps, CDFW, and RWQCB. A summary of the type and extent of jurisdictional waters and wetlands is presented in Table 1 below.

Table 1. Extent and Location of Jurisdictional Waters and Wetlands

Feature Type	Jurisdiction	Acres	Length (feet)
Waters of the U.S.	Corps	0.009	206
Waters/wetlands of the State	CDFW, RWQCB	0.63	650
Federal Wetlands	Corps	0.13	N/A

Table 2 (Summary of Sampling Point Data for Wetland Delineation), provides a summary of the data collected at each of the eight sampling points during the wetland delineation.

Table 2. Summary of Sampling Point Data for Wetland Delineation

Sample Point	Wetland Vegetation	Hydric Soils	Wetland Hydrology	Connectivity/ Adjacency	Federal Wetland	State Wetland[1]
SP-01	Yes	No	Yes	Yes	No	Yes
SP-02	Yes	Yes	Yes	Yes	Yes	Yes
SP-03	Yes	Yes	Yes	Yes	Yes	Yes
SP-04	Yes	No	Yes	Yes	No	Yes
SP-05	Yes	Yes	Yes	Yes	Yes	Yes
SP-06	Yes	No	Yes	Yes	No	Yes
SP-07	Yes	No	Yes	Yes	No	Yes
SP-08	Yes	No	No	Yes	No	Yes

[1]State wetlands are synonymous in area and linear feet as state waters based on the single-criterion parameter. As such, no additional mapping or quantification of state wetlands has been completed as a part of delineation efforts.

The geographic extent of waters of the U.S. (all area below the OHWM), totals approximately 206 linear feet and 0.009 acre within the survey area. A total of 0.13 acre of federal wetlands were mapped. The total area of proposed impact within jurisdictional waters and wetlands will be determined based on final site plans. Section 404 of the CWA requires authorization from the Corps for the discharge of dredged or fill material into all waters of the U.S., including wetlands. The findings of this federal waters and wetlands delineation is subject to review and final concurrence by the Corps.

The geographic extent of waters of the state (all area below top of bank or edge of riparian vegetation), including CDFW-defined wetlands, totals approximately 650 linear feet and 0.63 acres within the survey area. These areas may be regulated under the California Environmental Quality Act (CEQA), by CDFW under Sections 1600-1607 of the Fish and Game Code, and the RWQCB under Section 401 of the Clean Water Act and Section 13260(a) of the California Water Code.

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APPENDIX A: Report Figures

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Aero Drive Hotel Wetland Delineation
Figure 1: Site Vicinity Map

Site Location

0 0.5 1 Miles

N

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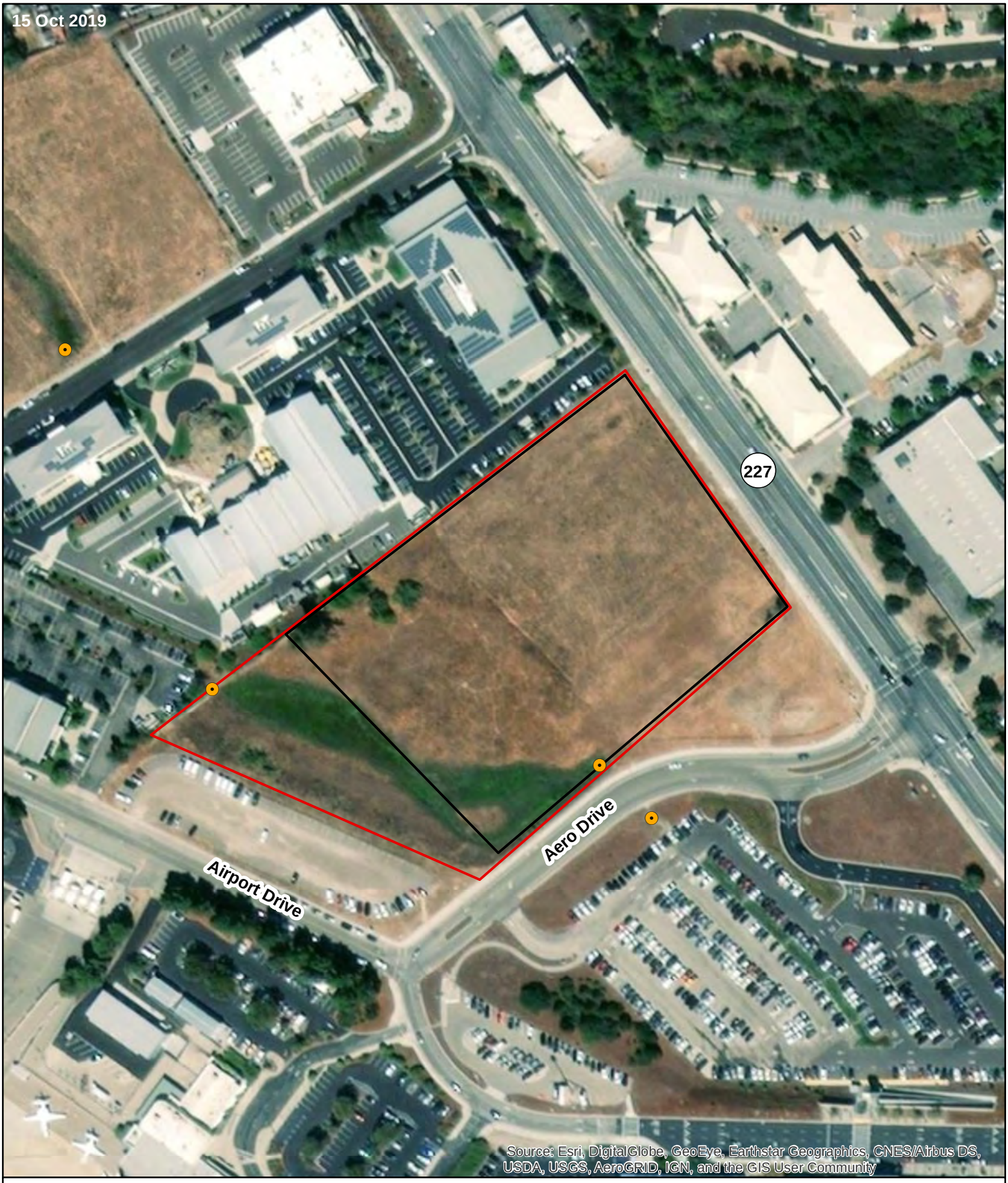

Aero Drive Hotel Wetland Delineation
Figure 2: Project Site and Survey Area Map

Approximate Project Site

Survey Area

Culverts

0 125 250 500 Feet

N

TERRA • VERDE

Aero Drive Hotel Wetland Delineation
Figure 3: Hydrologic Connectivity Map

Survey Area
Blue Line Drainage
Ephemeral Swale
Culvert (Assumed)
Culvert Inlet/Outlet

0 0.5 1 Miles

N

TERRA-VERDE

Aero Drive Hotel Wetland Delineation
Figure 4: Soils Units Map

Survey Area

Soil Unit

Cropley clay, 0 - 2% slopes

Cropley clay, 2 - 9% slopes

Salinas silty clay loam, 0 - 2% slopes

Tierra sandy loam, 2 - 9% slopes

0 125 250 500 Feet

N

TERRA • VERDE

Aero Drive Hotel Wetland Delineation
Figure 5: Waters and Wetlands Delineation Map

- Survey Area
- Federal-defined Wetlands*
- Waters of the U.S.*
- Approx. Centerline of Waters of the State**
- Northern Limits of Waters/Wetlands of the State*
- Approx. Southern Limits of Waters/Wetlands of the State**
- Assumed Culvert**
- Wetland Delineation Sampling Points*
- Culvert*

Feet
0 50 100

N

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APPENDIX B: Wetland Determination Data Forms

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19
Applicant/Owner: Ganpule State: CA Sampling Point: 01
Investigator(s): K Nelson S. Snyder Section, Township, Range: S12 T31S R12E
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope (%): 0-2
Subregion (LRR): LRR C Lat: 35.24078 Long: -120.639454 Datum: NAD83
Soil Map Unit Name: Salinas silty clay loam NWI classification: NONE
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ____ No ✓
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:
Ephemeral swale bordered by public road/development & an undeveloped, weedy/grassy field.

VEGETATION – Use scientific names of plants.

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

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

Herb Stratum (Plot size: 5' radius)			
1. Cyperus eragrostis	90	✓	FACW
2. Rumex crispus	2		FAC
3. Helminthotheca echioides	2		FAC
4. Polypogon monspeliensis	1		FACW
5. Cynodon hussaopifolia	1		OBL
6. Euphorbia peplus	<1		UPL
7.			
8.			
	97	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	/	= 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: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	91	x 2 =	162
FAC species	4	x 3 =	12
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	97 (A)		180 (B)

Prevalence Index = B/A = 2.01

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Scoured pool immediately downstream of culvert outlet; conveying surface flows from adjacent parking lot & landscaping area.

SOIL

Sampling Point: 61

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 2/2	100	—	—	—	—	SiLo	TOPSOIL RUNOFF
3-6	10YR 4/2	100	—	—	—	—	sand	
6-9	10YR 3/2	100	—	—	—	—	SiLo	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Upper +/- 10 inches consist of deposited sand/DG, landscaping soil & woodchips & other urban debris that has runoff from adjacent developed areas. At ~10" depth, a layer of large rocks is deposited from culvert armoring.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Vegetated drainage/swale bordering an undeveloped lot along the edge of a public road; receives seasonal/ephemeral flows from culvert & adjacent developments (runoff).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19
Applicant/Owner: Ganpule State: CA Sampling Point: 02
Investigator(s): K. Nelson, S. Snyder Section, Township, Range: S12 T31S R12E
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR): LRRC Lat: 35.240606 Long: -120.63959 Datum: NAD83
Soil Map Unit Name: Salinas silty clay loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:
Ephemeral swale bordered by a public road & development on one side, & an undeveloped grassy/weedy field on the other.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	\ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	\ = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cyperus eragrostis	75	✓	FACW
2. Juncus phaeocephalus	55	✓	FACW
3. Rumex crispus	2		FAC
4.			
5.			
6.			
7.			
8.			
	132 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	\ = Total Cover		

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	130	x 2 =	260
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	132 (A)		266 (B)

Prevalence Index = B/A = 2.01

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
In-channel wetland associated with a wide, slow-moving, seasonally flooded section of the drainage/swale

SOIL

Sampling Point: 02

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	98	10YR 5/8	2	C	PL	clay	20-30% OM
4-8	10YR 3/1	95	10YR 5/8	5	C	PL/M	clay	
8-14	10YR 2/1	98	10YR 5/8	2	C	M	clay	heavy blocky clay

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Very heavy, blocky, dark clay associated with wide, seasonally flooded portion of a drainage.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Vegetated drainage swale receives ephemeral/seasonal flows from culvert + adjacent developments (runoff).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19

Applicant/Owner: banpule State: CA Sampling Point: 03

Investigator(s): K. Nelson, S. Snyder Section, Township, Range: S12 T31S R12E

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRRC Lat: 35.240565 Long: -120.63965 Datum: NAD83

Soil Map Unit Name: Salinas silty clay loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:
Ephemeral swale bordered by public road & development on one side, & undeveloped grassy/weedy field on the other

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Cyperus eragrostis	100	✓	FACW
2. Rumex crispus	1		FAC
3.			
4.			
5.			
6.			
7.			
8.			
	101 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 =
FACW species 100	x 2 = 200
FAC species 1	x 3 = 3
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 101 (A)	203 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Transitional zone along the drainage between a wide, seasonally flooded area and a section of more channelized flows.

Sampling Point: 03

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	97	10YR 3/6	3	C	M	Clay	20-30% OM
2-13	10YR 2/1	98	10YR 3/6	2	C	M	Clay	heavy blocky clay

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Transitional area between wide, seasonally-flooded portion of drainage & narrow, channelized flows

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Vegetated drainage swale, receives ephemeral/seasonal flows from culvert & adjacent developments (runoff)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19
Applicant/Owner: Ganpule State: CA Sampling Point: 04
Investigator(s): K.Nelson, S.Snyder Section, Township, Range: S12 T31S R12E
Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0-2
Subregion (LRR): LRR C Lat: 25.240431 Long: -120.639988 Datum: NAD83
Soil Map Unit Name: Cropley clay NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:
ephemeral swale bordered by public road & development on one side, & undeveloped grassy/weedy field on the other

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cyperus eragrostis	30	✓	FACW
2. Helminthotheca echioides	25	✓	FAC
3. Polypogon monspeliensis	3		FACW
4. Hordeum marinum	2		FAC
5. Rumex crispus	2		FAC
6. Brachypodium distachyon	1		UPL
7.			
8.			
	63 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	33	x 2 =	66
FAC species	29	x 3 =	87
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	63 (A)		158 (B)

Prevalence Index = B/A = 2.51

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Vegetated drainage channel with a mix of species from adjacent upland & flood terrace

SOIL

Sampling Point: 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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/1	100	–	–	–	–	clay	heavy blocky clay

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Heavy clay w/no redox features, area transitions to more channelized flows w/elevated flood terrace that is likely not inundated long enough to form hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Vegetated drainage swale, receives seasonal flows from culvert & runoff from adjacent development.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19
Applicant/Owner: Ganpule State: CA Sampling Point: 05
Investigator(s): K. Nelson, S. Snyder Section, Township, Range: S12 T31S R12E
Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0-2
Subregion (LRR): LRR C Lat: 35.240746 Long: -120.640422 Datum: NAD83
Soil Map Unit Name: Salinas silty clay loam NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:
Ephemeral swale bordered by public road/development on one side & an undeveloped weedy/grassy field on the other

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Eleocharis macrostachya	100	✓	OBL
2. Helminthotheca echioides	5		FAC
3. Rumex crispus	1		FAC
4. Bromus hordeaceus	1		FACU
5. Festuca perennis	1		FAC
6. Juncus patens	1		FACW
7.			
8.			
	109 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	1	x 2 =	2
FAC species	7	x 3 =	21
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	109 (A)		127 (B)

Prevalence Index = B/A = 1.17

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Wide, seasonally flooded portion of a drainage/swale. This area likely flooded following storms, due to back up @ downstream culvert

SOIL

Sampling Point: 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[2]	Texture	Remarks
0-12	10YR 2/1	95	10YR 4/6	5	C	M	clay	heavy blocky clay

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Heavy, blocky clay w/ 5+% prominent redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Vegetated drainage/swale bordering an undeveloped lot along the edge of a public road, receives seasonal/ephemeral flows from culvert & adjacent developments (runoff).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19

Applicant/Owner: Ganpule State: CA Sampling Point: 06

Investigator(s): K.Nelson, S Snyder Section, Township, Range: S12 T31S R12E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): LRR C Lat: 35.240691 Long: -120.640421 Datum: WAWE83

Soil Map Unit Name: Salinas silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:
Ephemeral swale bordered by public road/development on one side, & undeveloped weedy/grassy field on the other

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	\	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	\	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Helminthotheca echioides	40	✓	FAC
2. Hordeum murinum	42	✓	FAC
3. Festuca perennis	5		FAC
4. Rumex crispus	2		FAC
5.			
6.			
7.			
8.			
	89	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	\	= Total Cover	

% Bare Ground in Herb Stratum 12 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	89	x 3 =	267
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	89 (A)		267 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Transitional area adjacent to Eleocharis-mats in wide, seasonally flooded area within drainage/swale.

SOIL

Sampling Point: 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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-14	10YR 2/1	100	—	—	—	—	clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Transitional area; heavy, blocky clay with no redox features

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Slightly elevated transitional area along low flood terrace within drainage swale

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19

Applicant/Owner: Ganpak State: CA Sampling Point: 07

Investigator(s): K. Nelson, S. Snyder Section, Township, Range: S12 T31S R12E

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): LRR C Lat: 35.240927 Long: -120.640661 Datum: NAD83

Soil Map Unit Name: Salinas silty clay loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Ephemeral drainage/swale bordered on one side by a public road/development & on the other by an undeveloped field

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Festuca perennis	35	✓	FAC
2. Eleocharis macrostachya	30	✓	OBL
3. Polygonum monspeliensis	30	✓	FACW
4. Helminthotheca echioides	3		FAC
5. Cyperus eragrostis	2		FACW
6. Rumex crispus	1		FAC
7.			
8.			
	101 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 1 % 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	32	x 2 =	64
FAC species	39	x 3 =	117
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	101 (A)		211 (B)

Prevalence Index = B/A = 2.09

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

Transitional area between dense patches of Eleocharis & Cyperus.

Sampling Point: 07

SOIL

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[2]	Texture	Remarks
0-9	10YR 2/1	99	10YR 4/6	1	C	M	Clay	
9-14	10YR 4/3	80	10YR 4/6	2	C	M	Clay	Mottled matrix
	↳ 10YR 2/1	18						" "

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Few, faint redox indicators observed, mostly below 10 inches; transitional area.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Transitional area in wide, floodplain area within channel

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Aero Drive Hotel City/County: San Luis Obispo Sampling Date: 10/03/19

Applicant/Owner: Sanpue State: CA Sampling Point: 08

Investigator(s): K. Nelson, J. Snyder Section, Township, Range: S12 T31S R12E

Landform (hillslope, terrace, etc.): flood terrace Local relief (concave, convex, none): convex Slope (%): 1-3

Subregion (LRR): LRR C Lat: 35.240727 Long: -120.640253 Datum: NAD83

Soil Map Unit Name: Salinas silty clay loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:
Low bank @ edge of main channel and adjacent undeveloped field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	1 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	1 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Distichlis spicata	90	✓	FAC
2. Hordeum marinum	25	✓	FAC
3. Avena barbata	1		UPL
4.			
5.			
6.			
7.			
8.			
	116 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	1 = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	116 (A)		350 (B)

Prevalence Index = B/A = 3.02

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Area adjacent to main channel dominated by Distichlis.

SOIL

Sampling Point: C8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-14	10YR 2/1	100	—	—	—	—	Clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Loose, crumbly clay; no redox features

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Area adjacent to main channel - no indicators of regular inundation or flow.

APPENDIX C: Arid West Intermittent and Ephemeral Streams OHWM Datasheets

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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: AERO DRIVE HOTEL PROJECT
Project Number: N/A
Stream: Unnamed tributary to Acacia Creek
Investigator(s): K Nelson, S. Snyder

Date: 10/03/19 **Time:** 1100 - 1400
Town: San Luis Obispo **State:** CA
Photo begin file#: — **Photo end file#:** —

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: 950 & 990 Aero Drive, San Luis Obispo, CA 93401

Projection: **Datum:**
Coordinates:

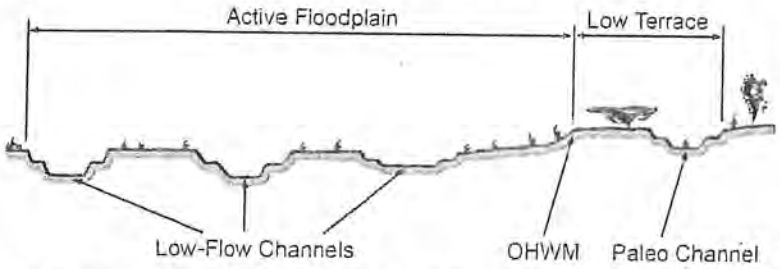
Potential anthropogenic influences on the channel system:
Drainage is culverted @ upstream & downstream edges of subject property; it receives runoff from upstream landscaped area. Site is surrounded by public roads & commercial developments. Upland portion of subject property is regularly mowed

Brief site description: Undeveloped infill lot supporting mostly non-native herbaceous vegetation & few ornamental trees. Drainage flows NW across SW edge of undeveloped lot. Downstream culvert likely backs up seasonally, causing temporary flooding within subject property.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 1994 - 2018
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☑ GPS
   - ☐ Digitized on computer
   - ☐ Other:

Project ID: AERO DR **Cross section ID:** AD-01 **Date:** 10/03/19 **Time:** 1100

Cross section drawing:

OHWM

GPS point: AD-01

Indicators:

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

Comments:
A small scour pool has formed @ the outlet of the upstream culvert on site. Substrate in this area consists of mixed landscaping + urban runoff (commercial potting soil, mulch, D.G., etc.). This pool is intermittently inundated by excess irrigation water from upstream source

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: AD-01

Characteristics of the floodplain unit:

Average sediment texture: Gravel-sand

Total veg cover: 80 % Tree: 0 % Shrub: 0 % Herb: 80 %

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: Δ in veg species
- [ ] Other: _____
- [ ] Other: _____

Comments:
Pool is scoured to a depth below the elevation of the low flow channel in immediately downstream area.

Project ID: HERO DR **Cross section ID:** AD-02 **Date:** 10/03/19 **Time:** 1200

Cross section drawing:

OHWM

GPS point: AD-02

Indicators:

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

Comments:
Wide section of drainage, where seasonal inundation floods the active floodplain adjacent to the low flow channel

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: AD-02

Characteristics of the floodplain unit:

Average sediment texture: CLAY

Total veg cover: 20 % Tree: 0 % Shrub: 0 % Herb: 20 %

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [x] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: Δ in veg. cover
- [ ] Other: _____
- [ ] Other: _____

Comments:
Low flow channel is narrow, characterized by sparse cover, where water flows.

Project ID: AEKO DR. **Cross section ID:** AD-02 **Date:** 10/03/19 **Time:** 1200

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: AD-02

Characteristics of the floodplain unit:

Average sediment texture: clay

Total veg cover: 75 % Tree: 0 % Shrub: 0 % Herb: 75 %

Community successional stage:

- ☑ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☑ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☑ Other: Δ in veg. species
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain seasonally inundated - apparent on aerial imagery. Mapped based on topography + vegetation.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

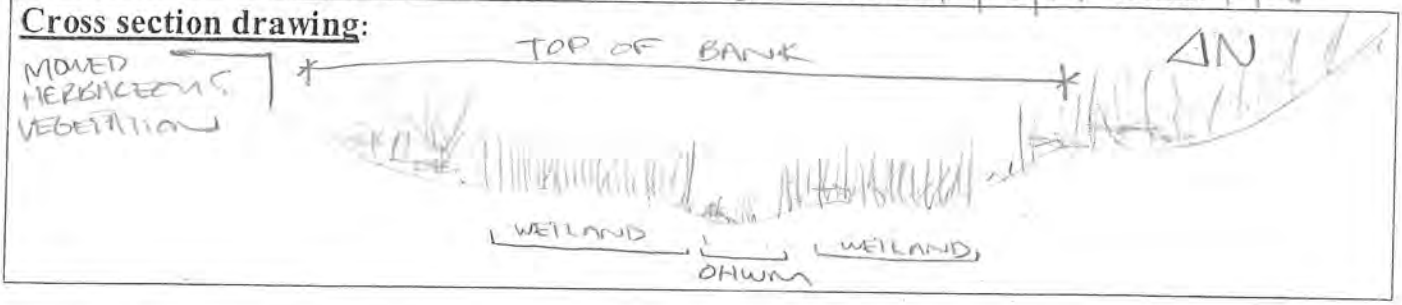
Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: AERO DR **Cross section ID:** AD-03 **Date:** 10/03/19 **Time:** 1400

Cross section drawing:



OHWM

GPS point: AD-03

Indicators:

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

Comments:

Narrow, vegetated low flow channel, surrounded by in channel wetlands.

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: AD-03

Characteristics of the floodplain unit:

Average sediment texture: clay

Total veg cover: 100 % Tree: 0 % Shrub: 0 % Herb: 100 %

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Narrow, meandering channel through dense wetland vegetation

Project ID: AERO DR **Cross section ID:** AD-03 **Date:** 10/03/19 **Time:** 1400

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: AD-03

Characteristics of the floodplain unit:

Average sediment texture: clay

Total veg cover: 100 % Tree: 0 % Shrub: 0 % Herb: 100 %

Community successional stage:

- ☑ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☑ Other: Δ in veg species
- ☐ Other: _____
- ☐ Other: _____

Comments:

Wide active floodplain likely resulting from seasonal backup of downstream culvert.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

APPENDIX D: Representative Site Photographs

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Photo 1. View east of drainage where it enters the survey area through a culvert (red arrow) under Aero Drive (10-03-19).

Photo 2. View north of downstream end of drainage where it flows northwest through the survey area and exits via a culvert (red arrow) (10-03-19).

Photo 3. View of culvert under Aero Drive (red arrow) where drainage enters the survey area, aspect northeast (10-03-19).

Photo 4. Soil ped from SP-02, showing redox features as concentrations in the matrix and oxidized pore linings along root channels (05-15-18).

Photo 5. Soil ped from SP-03, showing redox features as oxidized pore linings along root channels (05-15-18).

Photo 6. Soil plug from SP-05, showing redox features as oxidized pore linings along root channels (05-15-18).

Photo 7. Soil plug from SP-07, lacking any redox features (10-03-19).

Photo 8. Soil plug from SP-01 showing deposited sand/decomposed granite, landscaping soil and woodchips that has runoff from adjacent developed areas (03-23-18).

Photo 9. Soil plug from SP-04, lacking any redox features (10-03-19).

Photo 10. Soil plug from SP-06, lacking any redox features (10-03-19).