Appendix C-4

Wetland Delineation and
Jurisdictional Determination Report

APPENDIX C

Wetland Delineation and Jurisdictional Determination Report

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Wetland Delineation and Jurisdictional Determination

for the

Strauss Wind Energy Project

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1 INTRODUCTION

Dudek has prepared this wetland delineation and jurisdictional determination report (report) to present the results of a formal (routine) wetland delineation (field assessment) of hydrologic features within the Strauss Wind Energy Project Area (Project Area), in unincorporated Santa Barbara County. Features delineated were those potentially regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), by the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and the state Porter-Cologne Act, by the California Department of Fish and Wildlife (CDFW) under Sections 1600–1607 of the California Fish and Game Code, the California Coastal Commission (CCC) under the California Coastal Act, and by the County of Santa Barbara (County) per their Environmental Thresholds and Guidelines Manual (County of Santa Barbara 2015).

The wetland delineation and jurisdictional determination was completed through a literature review and field assessment to determine if features present within the Project Area meet the regulatory definition of federal or state waters, wetland habitat, streambed, lake, and riparian vegetation, and/or contain fish and wildlife resources. The literature review included the analysis of the previous wetland delineation completed by Sapphos (2008) and the field assessment included an evaluation of jurisdictional features identified by Sapphos as well as all other potential features in the Project Area. The features discussed in this report focus on those that will be impacted by the Project, as currently designed, to facilitate subsequent regulatory agency permitting and mitigation planning.

1.1 Project Location

The Project Area is located near the City of Lompoc in the unincorporated territory of Santa Barbara County, California (Appendix A – Figure 1). The Project Area is located on approximately 2,988 acres of rural, agriculturally zoned land within the ridges of the Santa Ynez Mountains, along San Miguelito Canyon, and the White Hills within the Tranquillon Mountain, Lompoc Hills, and Lompoc U.S. Geological Survey (USGS) 7.5-minute quadrangles. The Project Area is located within the southeastern section of the Lompoc, and north central section of the Punta De La Conception, Land Grant boundaries. The Project Area is bounded by Vandenberg Air Force Base (VAFB) on the south and west sides and private property on the north and east sides. The Project Area is accessed via San Miguelito Road, a public road that winds through the area and terminates at the VAFB property line at the northwest edge of the Project Area.

The Project Area is located within two major watersheds; the South Coast watershed in the western and far southeastern portions of the Project Area and Santa Ynez watershed in the

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eastern and far north-central portions of the Project Area, as well as along the entirety of the transmission line corridor. Each of the watersheds and their respective sub-watersheds are described below in relation to the Project Area in *Section 4*. The Project watersheds are displayed on Appendix A – Figure 2.

1.2 Wetland Delineation Survey Area

Detailed field assessments for this report were performed in spring 2018 within the potential hydrologic features identified on the Project Area to ensure that all jurisdictional wetlands and waters potentially subject to impacts were identified and mapped. The wetland delineation field surveys were conducted within the proposed grading area, laydown yard, substation, transmission line corridor, and the associated vehicle access corridor. The wetland delineation survey area included a 100-foot buffer of the Project components noted above, with the exception of the vehicle access corridor, which received an approximately 60-foot buffer. The wetland delineation survey area is displayed on Appendix A – Figure 3. All potential hydrologic features were investigated to determine their jurisdictional designation.

1.3 Major Hydrologic Features

The Project Area is situated mostly along ridgelines and steeply sloping terrain and the hydrologic features present are largely characteristic of the upper watershed, beginning as minor concavities in the upper elevations and developing into defined channels in the lower elevations. Portions of the Project occurring in the lower elevations include the transmission line alignment, which will traverse ridges, spurs, slopes, and canyon bottoms as it links the Project substation to existing electrical infrastructure in the City of Lompoc. The transmission line crosses over one named stream, San Miguelito Creek, at several points along the alignment. Ultimately, nearly all of the hydrologic features identified within the Project Area flow into named streams including Canada Honda, which discharges into the Pacific Ocean and San Miguelito Creek and Salispuedes Creek, which discharge into the Santa Ynez River.

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2 SUMMARY OF REGULATIONS

The following agencies regulate specified activities within streams, wetlands, and riparian areas throughout California: USACE, RWQCB, and CDFW. The County also regulates impacts to wetland and riparian habitats within the County. The USACE Regulatory Program regulates the discharge of dredge or fill material under Section 404 of the CWA. The RWQCB regulates dredge and fill activities within wetlands and non-wetland waters under Section 401 of the CWA and the state Porter-Cologne Act. CDFW regulates waters of the state under Sections 1600–1607 of the Fish and Game Code. CCC regulates wetlands under the Coastal Zone Management Act. The County regulates wetland and riparian habitats as described in their Environmental Thresholds and Guidelines Manual (County of Santa Barbara 2015).

2.1 U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into waters of the United States. The Code of Federal Regulations (33 CFR Part 328.3(a)) defines "waters of the United States" as:

> (1) 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;
>
> (2) All interstate waters including interstate wetlands;
>
> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:
>
> (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
>
> (ii) From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or
>
> (iii) Which are used or could be used for industrial purpose by industries in interstate commerce.
>
> (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
>
> (5) Tributaries of waters identified in paragraphs (a) (1)–(4) of this section;

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(6) The territorial seas; and

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)–(6) of this section.

In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM), which is defined at 33 CFR 328.3(e) as:

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

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." The discharge of dredge or fill material into waters of the United States, including wetlands, requires authorization from the USACE prior to temporary impacts.

The USACE regulates "discharge of dredged or fill material" into waters of the United States, which includes tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable waters, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 CFR. 328.3(a)), pursuant to provisions of Section 404 of the CWA. The USACE defines jurisdictional wetlands as areas supporting a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology, in accordance with the procedures established in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). However, the U.S. Supreme Court ruling in the *Solid Waste Agency of Northern Cook County vs. United States Army Corps of Engineers, No. 99-1178* (January 9, 2001) ("*SWANCC*"), held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. Because of this decision, some previously regulated depressional areas such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools that lack a hydrologic connection to other intra- or inter-state waters of the United States are no longer regulated by the USACE. Although no formal guidance was issued by USACE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice, USACE considers intrastate waters as waters of the United States where there is an appropriate connection to navigable water or other clear interstate commerce connection

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In 2006, the Supreme Court again issued an opinion as to what extent USACE had jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to waters of the United States, as well as wetlands adjacent to those tributaries (*Rapanos v. United States 2006*). USACE and the U.S. Environmental Protection Agency (EPA) issued guidance related to the *Rapanos* decision on June 5, 2007 (USACE and EPA 2007). The guidance identifies those waters over which the agencies (USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis, based on the reasoning of the *Rapanos* opinions. In summary, USACE will continue to assert jurisdiction over:

- Traditional navigable waters (TNWs) and their adjacent wetlands.
- Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally) and wetlands that directly abut such tributaries (e.g., not separated by uplands, berm, dike, or similar feature).

  Note: Relatively permanent waters do not include ephemeral tributaries, which flow only in response to precipitation, and intermittent streams, which do not typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months).
- Non-relatively permanent waters, if determined (on a fact-specific analysis) to have a significant nexus with a TNW, including non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary. Absent a significant nexus, jurisdiction is lacking.

A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW. Principal considerations when evaluating significant nexus include volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, plus hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands. Certain ephemeral waters in the arid west are distinguishable from the geographic features described previously where such ephemeral waters are tributaries and have a significant nexus to downstream TNWs. For example, these ephemeral tributaries may serve as a transitional area between the upland environment and the TNW. These ephemeral tributaries may provide habitat for wildlife and aquatic organisms in downstream TNWs and support nutrient cycling, sediment retention and transport, pollutant trapping and filtration, and improvement of water quality (USACE and EPA 2007). It should be noted that the USACE and EPA issued a proposed rule on July 12, 2018 entitled: Definition of “Waters of the United

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States" – Recodification of Preexisting Rule (83 FR 32227). The proposed rule is currently out for public comment and has not been implemented; however, it contains key changes in the interpretation of adjacency, significant nexus, and the types of features (e.g., ephemeral channels) that would be considered jurisdictional under the CWA as waters of the U.S.

2.2 Regional Water Quality Control Board

The State of California has concurrent jurisdiction with the federal government over Section 401 of the CWA, Water Quality Certification (WQC) for jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the state will exert independent jurisdiction via the Porter-Cologne Act.

2.2.1 Section 401 of the CWA

Section 401 of the CWA requires that:

> Any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.

Therefore, in California, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 WQC or waiver from the RWQCB.

Under Section 401 of the CWA, the RWQCB regulates at the state level, all activities are regulated at the federal level by the USACE.

2.2.2 Porter-Cologne Water Quality Control Act

Pursuant to the provisions of the state Porter-Cologne Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State" (California Water Code 13260(a)). The California Water Code defines "Waters of the state" as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050(e)). Under the Porter-Cologne Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state that are not regulated by USACE due to a lack of connectivity with a navigable water body.

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2.3 California Department of Fish and Wildlife

California Fish and Game Code Sections 1600–1616 mandate that "it is unlawful for any person to…substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity."

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction extends to riparian habitat and may include oak woodlands in canyon bottoms. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as under CDFW jurisdiction. The CDFW does not have jurisdiction over ocean or shoreline resources.

Water features such as vernal pools and other seasonal swales, where the defined bed and bank are absent and the feature is not contiguous with or adjacent to other jurisdictional features, are generally not asserted to fall within state jurisdiction. The state generally does not assert jurisdiction over human-made water bodies, unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

Under California Fish and Game Code Sections 1600–1616, the CDFW has authority to regulate work that will substantially divert or obstruct the natural flow, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake. The CDFW also has authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement (LSAA) and is applicable to all federal and nonfederal projects.

2.4 California Coastal Commission

Under the California Coastal Act (CCA), the CCC regulates impacts to wetlands in the "coastal zone" and requires a coastal development permit for almost all development within this zone. From three miles seaward the coastal zone generally extends approximately 1,000 yards inland. In less developed areas, it can extend up to 5 miles inland from the mean high tide line, but can also be considerably less than 1,000 yards inland in developed areas.

The CCA also protects designated sensitive coastal areas by providing additional review and approvals for proposed actions in these areas. Section 30121 of the CCA defines wetlands as

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"...lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, swamps, mudflats, and fens…" The CCA allows disking, filling, or dredging of wetlands for certain uses, such as restoration. The CCA also directs each city or county within the coastal zone to prepare a Local Coastal Program (LCP) for CCC certification (CCC 2017). The Santa Barbara Coastal Land Use Plan (LUP) (County of Santa Barbara 1982) was adopted in 1982 and serves as the LCP for the unincorporated portions of the County within the Coastal Zone.

In contrast to the USACE, which uses a three-parameter definition to delineate wetlands, the CCC essentially uses the Cowardin method of wetlands classification, which defines wetland boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

The CCC wetland definition is generally more encompassing than either the USACE or CDFG Code definition in most respects. However, Section 13577(b) of the Administrative Regulations suggest that, where conditions are not capable of supporting hydric soils or hydrophytic vegetation, hydrologic indicators of saturation or surface waters should be expressed on an annual basis ("at some time during each year") rather than under ordinary high water conditions as is the case under the federal regulatory standard.

2.5 County of Santa Barbara

In addition to the regulatory agencies identified above, wetlands and riparian habitats are regulated by the County of Santa Barbara (County) per their Environmental Thresholds and Guidelines Manual (County of Santa Barbara 2015). Wetlands and riparian habitats that fall within the Coastal Zone are also subject to the policies and provisions in the Santa Barbara Coastal LUP (County 1982).

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3 METHODS

3.1 Literature Review

The following data sources and project reports were utilized in the wetland delineation and jurisdictional determination effort:

- Areas Subject to the Jurisdiction of the U.S. Army Corps of Engineers and the California Department of Fish and Game at the Lompoc Wind Energy Project Area, County of Santa Barbara, California (Sapphos 2008a)
- Areas Subject to the Jurisdiction of the U.S. Army Corps of Engineers, the California Department of Fish and Game, and the County of Santa Barbara, Lompoc Wind Energy Project Area, County of Santa Barbara, California (Sapphos 2008b)
- Historical aerial photographs
- National Hydrography Dataset (USGS 2018)
- National Hydric Soils List (USDA-NRCS 2018a)
- National Wetlands Inventory Maps (USFWS 2018)
- National Wetland Plant List (Lichvar et al. 2016)
- Web Soil Survey (USDA-NRCS 2018b)

3.2 Field Assessment

The initial literature review focused on the wetland delineation previously completed by Sapphos Environmental, Inc. (2008a–b) for the past iteration of the Project. The Sapphos wetland delineation focused on the proposed laydown, staging, and substation areas in the southern central portion of the Project Area and concluded that three features were under the jurisdiction of the USACE, RWQCB, CDFW, as well as the County of Santa Barbara. However, the Sapphos wetland delineation did not include a delineation of waters of the U.S. and state throughout the remainder of the Project Area. The Dudek field assessment included a review and updated delineation of the previously mapped wetland features, along with a delineation of all potential wetlands and non-wetland waters of the U.S. and state, extents of streambed and banks and associated riparian vegetation, and features meeting the definition of Coastal Waters and wetlands and riparian habitat under the County guidelines.

Dudek biologists Randall McInvale, Callie Ford, Andrea Dransfield, and senior ecologist John Davis, IV performed a formal (routine) wetland delineation within the Project Area in April, May, and June 2018. The wetland delineation field survey schedule and environmental

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conditions are provided in Table 1. All areas within the wetland delineation survey area determined as being potentially subject to the jurisdiction of the USACE, RWQCB, CDFW, CCC, or the County were field-verified and mapped.

Table 1
Wetland Delineation Field Assessment Schedule

Date	Personnel	Time		Environmental Conditions
		Start	*End*	
4/25/2018	RM	0900	1730	Start – 55f, 1 mph winds, 100%cc (overcast) End – 60f, 4 mph winds, 25%cc
4/26/2018	RM	0710	1700	Start – 47f, 5 mph winds, 100%cc (dense fog) End – 63f, 2 mph winds, 10%cc
5/7/2018	RM	0900	1725	Start – 63f, 4 mph winds, 0%cc End – 61f, 7 mph winds, 20%cc
5/8/2018	RM	0845	1730	Start – 50f, 3 mph winds, 100%cc (dense fog) End – 60f, 15 mph winds, 10%cc
5/9/2018	RM	0900	1630	Start – 55f, 24 mph winds, 100%cc (dense fog) End – 55f, 17 mph winds, 15%cc
5/14/2018	RM/ AD	0845	1630	Start – 63f, 6 mph winds, 90%cc End – 59f, 3 mph winds, 0%cc
5/16/2018	RM	0745	1615	Start – 54f, 2 mph winds, 10%cc End – 67f, 3 mph winds, 0%cc
5/22/2018	RM/ CA	1030	1730	Start – 64f, 2 mph winds, 90%cc End – 61f, 2 mph winds, 10%cc
5/23/2018	RM/ CA	0740	1630	Start – 50f, 3 mph winds, 100%cc (dense fog) End – 67f, 4 mph winds, 25%cc
5/24/2018	RM/CA	0740	1400	Start – 54f, 1 mph winds, 100%cc (overcast) End – 68f, 4 mph winds, 30%cc
5/29/2018	RM/ CA	1150	1730	Start – 67f, 1 mph winds, 5%cc End – 63f, 3 mph winds, 10%cc
5/30/2018	RM/ CA	0700	1530	Start – 58f, 1 mph winds, 100%cc (dense fog/ drizzle) End – 63f, 7 mph winds, 100%cc
5/31/2018	RM	0730	1700	Start – 58f, 4 mph winds, 100%cc (overcast) End – 62f, 5 mph winds, 25%cc
6/1/2018	RM	0700	0900	Start – 50f, 2 mph winds, 10%cc End – 58f, 3 mph winds, 10%cc
6/5/2018	JD/RM	1150	1645	Start – 60f, 5 mph winds, 20%cc End – 56f, 7 mph winds, 80%cc

The wetland delineation was performed in accordance with the methods prescribed in the USACE's 1987 *Wetland Delineation Manual* (TR Y-87-1) (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b), *A Field Guide to the Identification of the Ordinary High Water*

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Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a), and the and the USACE/EPA *Rapanos* guidance (USACE and EPA 2007). For non-tidal waters of the United States, the USACE generally takes jurisdiction within rivers and streams to the "ordinary high water mark" (OHWM), as defined in *Section 2.1* above, where no adjacent wetlands are present. If adjacent wetlands are present, the jurisdiction extends to the limit of wetlands. The USACE and RWQCB jurisdictional determination consists of the field identification of jurisdictional wetlands using the three parameters described in the USACE manual: hydrophytic vegetation, hydric soils, and hydrology (Environmental Laboratory 1987). A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated jurisdiction.

Data collected during the fieldwork consisted of the wetland sampling points (wetland determination data forms), OHWM data stations, and the global positioning system (GPS) boundaries of wetland and stream channel features. Narrow stream channel features were measured using a transect tape at several locations to determine jurisdictional limits. The jurisdictional extents were collected in the field using GPS equipment and digitized in a Geographic Information System (GIS) using ArcGIS software.

3.2.1 Hydrophytic Vegetation

Each sample point was assessed for whether it met the criteria for hydrophytic vegetation (Table 2). A sampling point was considered positive for hydrophytic vegetation if it passed the basic dominance test (Indicator 1), meaning that more than 50% of the dominant species sampled were characterized as either obligate, facultative wetland, or facultative per the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016). However, seasonal changes in species composition, human land-use practices, drought, wildfires, and other natural disturbances can adversely affect the wetlands vegetation determination, based on the dominance test alone. If a station failed the dominance test but included positive indicators of hydric soils and hydrology, the vegetation parameter was reevaluated using the prevalence index (Indicator 2), which takes into account all plant species in the community, not just dominants. The standard plot sampling technique was typically utilized; however, plot size was modified to adapt to site conditions at individual sampling locations as indicated in the USACE Arid West supplement (USACE 2008b). All plant species observed during the field assessment were identified and recorded. If a plant could not be identified in the field, a sample was taken for later identification in the laboratory.

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Table 2
Hydrophytic Vegetation Indicator Categories

Indicator Status	Definition
OBL (Obligate Wetland Plants)	Almost always occur in wetlands. With few exceptions, these plants (herbaceous or woody) are found in standing ERDC/CRREL TN-12-1 4 water or seasonally saturated soils (14 or more consecutive days) near the surface.
FACW (Facultative Wetland Plants)	Usually occur in wetlands, but may occur in non-wetlands. These plants predominately occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally.
FAC (Facultative Plants)	Occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH, and elevation, and they have a wide tolerance of soil moisture conditions.
FACU (Facultative Upland Plants)	Usually occur in non-wetlands, but may occur in wetlands. These plants predominately occur on drier or more mesic sites in geomorphic settings where water rarely saturates the soils or floods the soil surface seasonally.
UPL (Upland Plants)	Almost never occur in wetlands. These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.
NI (No Indicator)	Not included on list of hydrophytic vegetation, does not occur in wetlands in the region specified.

Source: Lichvar et al. 2012

3.2.2 Hydric Soils

According to the National Technical Committee for Hydric Soils (NTCHS), hydric soils are those "that are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA-SCS 1994). Soil pits were prepared using a "sharp shooter" shovel to determine if hydric soils were present. The presence of hydric soils was determined through consultations with the 1987 Manual (USACE 1987) as well as *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils* (USDA-NRCS 2017) and the USACE (2008b). Munsell Soil Color Charts (Munsell 2009) were used to determine soil chroma and value. Where feasible, soil pits were prepared to depths ranging from 12 to 16 inches. Excavated soils were examined for evidence of hydric conditions, including low chroma values and redoximorphic features, vertical streaking, sulfidic odor, and high organic matter content in the upper horizon. Evidence of previous ponding or flooding was assessed along with the slope, slope shape, existing landform characteristics, soil material/composition, and hydrophytic vegetation to determine if hydric soils were present. Soils present within the Project Area are shown on Appendix A – Figures 4A through 4P.

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3.2.3 Hydrology

Per the guidelines prescribed in the USACE (2008b), wetland hydrology indicators are separated into four major groups: A, B, C, and D. Group A indicators are based on direct observations of surface flow, ponding, and soil saturation/groundwater. Group B indicators consist of evidence that the site has been or is currently subjected to ponding, including, but not limited to, water marks, drift deposits, and sediment deposits. Group C indicators include signs of previous or current saturation, including oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur, both of which are indicative of extended periods of soil saturation. Group D indicators consist of "vegetation and soil features that are indicative of current rather than historic wet conditions and include a shallow aquitard and results of the FAC-Neutral test." Each group is subdivided into primary and secondary categories based on their frequency and reliability to occur in the arid west region.

Hydrology indicators specific to non-wetland waters were also assessed based primarily on the presence of an OHWM and/ or defined bed and bank, following *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a). These indicators facilitate the delineation of the jurisdictional limits of non-wetland waters based on reliable and readily identifiable markers typically present in flowing stream systems, whether perennial, intermittent, or ephemeral. Additionally, connectivity of wetland and non-wetland waters with RPWs and TNWs was assessed based on current site conditions, topographic maps, NHD and NWI data, and aerial photographs to determine the jurisdictional determinations for each feature. Project Area topography is shown on Appendix A – Figures 5A and 5O.

3.3 Survey Limitations

The field assessment was completed during the 2017-2018 water year, which produced below average rainfall in the region, totaling 8.58 inches as of May 30, 2018. Rainfall in the 2016-2017 water year totaled 22.13 inches, which is well above average for the region (LVBHS 2018). This above average water year followed five consecutive years of drought in the region, which likely affected the vegetation communities and composition of species growing within the hydrologic features identified in the Project Area.

As noted above, the timing of the field assessment coincided with the growing season; however, as the field assessment progressed, shifts in vegetation cover and composition were noted and accounted for with follow-up visits to wetland delineation sampling points, as determined to be necessary. Livestock grazing was evaluated as a possible survey limitation; however, due to the relatively small number of cattle and low level of grazing, this land use practice was determined to not constitute a significant impairment to vegetation growth and development. Thus, grazing was not anticipated to alter the wetland delineation survey results.

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4 RESULTS

As noted in *Section 3.2*, the literature review found that the wetland delineation previously completed by Sapphos (2008) concluded that three features were under the jurisdiction of the USACE, RWQCB, CDFW, as well as the County of Santa Barbara in association with the proposed substation, laydown, and staging areas. The wetland delineation field assessment completed by Dudek re-assessed the previously mapped wetland features and, in addition, identified a total of 23 ephemeral channels, 4 intermittent streams, 2 adjacent wetlands, 2 isolated wetlands, as well as associated riparian habitats within the overall survey area. In addition, a total of 40 swale features were identified throughout the survey area. The hydrologic features subject to CWA jurisdiction were identified and mapped based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology and/ or the presence of an OHWM and connectivity to a TNW. The extent of the streambank and associated riparian vegetation of each feature was also delineated and mapped during the field assessment. The jurisdictional determination of these features is provided in *Section 5* below; details are provided on the Wetland Determination Data Forms and Ordinary High Water Mark Datasheets (Appendix B). Site photographs are provided in Appendix C.

The NWI (USFWS 2018) data includes designations for many of the wetland and non-wetland water features identified during the field assessment. Each of the NWI features were assessed in the field to determine the presence or absence of wetland indicators including hydrophytic vegetation, hydric soils, and wetland hydrology and/ or non-wetland waters indicators (i.e., OHWM) and connectivity to a TNW. In most cases, NWI features were found to support the presence of indicators for wetland or non-wetland waters of the U.S. and state; however, few NWI features did not support any indicators, and therefore, were not determined to be jurisdictional to the USACE, RWQCB, CDFW, and/ or the County.

Other potential jurisdictional features identified during the field assessment that were not included in NWI data were also evaluated for the presence or absence of wetland and non-wetland water indicators. Within each of these potential wetland and non-wetland water features, Dudek assessed hydrology, vegetation, and soils at 62 sampling points to determine their boundaries and jurisdictional extents. Wetland Determination Data Forms and Ordinary High Water Mark Datasheets are provided in Appendix B.

The Project Area is located within two major watersheds; the South Coast watershed in the western and far southeastern portions of the Project Area and Santa Ynez watershed in the eastern and far north-central portions of the Project Area, as well as along the entirety of the transmission line corridor. Results of the wetland delineation presented below are separated by major watershed due to characteristic differences in the hydrologic features between each watershed.

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4.1 South Coast Watershed

Within the South Coast watershed, the Project Area falls into two separate sub-watersheds; Canada Honda Creek-Frontal Santa Barbara Channel and Jalama Creek.

The Canada Honda Creek-Frontal Santa Barbara Channel sub-watershed drains the majority of the western portion of the Project Area. The north-, west-, and south-facing slopes within the Project Area support a hydrologic connection to Canada Honda Creek through a series of swales, ephemeral channels, and intermittent streams across the hillslopes. Canada Honda Creek, which is located entirely outside if the Project Area, ultimately flows into the Pacific Ocean approximately 6.7 miles west of the Project Area on Vandenberg Air Force Base.

The Jalama Creek sub-watershed drains a relatively small area in the southeastern portion of the Project Area. Within this sub-watershed, the south- and east-facing slopes in the Project Area support one swale, which continues downslope and out of the Project Area further to the southeast, eventually connecting to Jalama Creek. Jalama Creek ultimately flows into the Pacific Ocean 5.6 miles south of the Project Area at Jalama Beach County Park.

A portion of the Project Area falls into the Coastal Zone within the South Coast watershed. Accordingly, coastal wetlands, non-wetland waters, and riparian habitat are included in the delineation.

4.1.1 Hydrophytic Vegetation

Indicative hydrophytic vegetation observed within the potential wetland features in the South Coast watershed are listed in Table 3 below along with their associated wetland indicator status. Wetland indicator status was determined by referencing the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016). Note that the field assessment was completed during the typical growing season as evidenced by the presence of blooms on both annual and perennial plants, allowing for identification to species.

Table 3
List of Hydrophytic Plant Species Observed at Sample Points and Their Indicator Status

Scientific Name	Common Name	Indicator Status[1]
Ambrosia psilostachya	cuman ragweed	FACU
Bromus hordeaceus	soft brome	FACU
Conium maculatum	poison hemlock	FACW
Cotula coronopifolia	brass buttons	OBL
Equisetum telmateia	giant horsetail	FACW
Festuca perennis	Italian ryegrass	FAC
Helminthotheca echioides	bristly oxtongue	FACU

Table 3
List of Hydrophytic Plant Species Observed at Sample Points and Their Indicator Status

Scientific Name	Common Name	Indicator Status[1]
Hordeum murinum	mouse barley	FACU
Juncus bufonius	toad rush	FACW
Juncus patens	spreading rush	FACW
Lysimachia arvensis	scarlet pimpernel	FAC
Medicago polymorpha	burclover	FACU
Mimulus guttatus	seep monkeyflower	OBL
Morella californica	California wax myrtle	FACW
Plantago coronopis	buckhorn plantain	FAC
Polygonum aviculare	prostrate knotweed	FAC
Polypogon monspeliensis	annual rabbitsfoot grass	FACW
Rubus ursinus	California blackberry	FAC
Rumex crispus	curly dock	FAC
Salix lasiolepis	arroyo willow	FACW
Urtica dioica	stinging nettle	FAC
Verbena lasiostachys	western vervain	FAC

Note:
[1] Source: Lichvar et al. 2016

Plant species and composition varied among the different features and locations mapped during the field assessment. Hydrophytic vegetation was found to be present in monotypic stands as well as in mixed associations with upland species in ephemeral channel, intermittent stream, and wetland features; however, swale features mapped within the South Coast watershed generally lacked a dominance of hydrophytic vegetation, with few isolated exceptions. The wetland features mapped within the watershed each supported a dominance of hydrophytic vegetation, including arroyo willow (*Salix lasiolepis* – FACW), western rush (*Juncus patens* – FACW), poison hemlock (*Conium maculatum* – FACW), and western vervain (*Verbena lasiostachys* – FAC), at the time of the field assessment. The ephemeral channels and intermittent streams also generally supported hydrophytic (riparian) species in the canopy, typically dominated by arroyo willow, along with a mixed understory of hydrophytic species (e.g., stinging nettle (*Urtica dioica* – FAC)) and upland adapted species (e.g., cape ivy (*Hedera helix* – FACU) and blue elderberry (*Sambucus nigra* ssp.*caerulea* – FACU)). Swale features mapped within the watershed were largely dominated by upland species including blessed milkthistle (*Silybum marianum* – UPL), ripgut brome (*Bromus diandrus* – UPL), coyotebrush (*Baccharis pilularis* – UPL) and poison oak (*Toxicodendron diversilobum* – FACU); however, a subset of these swales also supported some hydrophytic vegetation, primarily arroyo willow, California blackberry (*Rubus ursinus* – FAC), and poison hemlock (FACW), which was mapped accordingly.

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Slope and aspect appears to significantly influence the vegetation composition within the South Coast watershed. The features mapped on the south- and west-facing slopes were generally characterized as narrow swales dominated entirely by upland vegetation and ephemeral channels with narrow riparian corridors associated with the channels. One exception is the intermittent stream mapped on the west-facing slope, though this feature is partially spring fed and retains surface water for a period outside of the rainy season, including during the field assessment. Those features mapped on the north-facing slopes were characterized as swales, narrow ephemeral channels, or intermittent streams based on the OHWM/ bed and bank, though the riparian corridors were typically much more extensive and extended into some of the swale features which lacked indicators of hydric soils, wetland hydrology, or an OHWM. The more extensive riparian corridors associated with the intermittent stream features can be partially attributed to springs that were encountered during the field assessment, which supported surface water in these features and presumably a higher water table within the area immediately surrounding the features.

4.1.2 Soils

Soils were examined within each of the potential wetland features identified in the survey area via excavation of soil pits. Soils were typically not examined in the swale features due to the lack of clearly defined bed and bank indicators, dry conditions, and a lack of hydrophytic vegetation. Soils were examined, when possible, within the ephemeral channel and intermittent stream features which supported hydrophytic vegetation. In several instances, a soil pit could not be dug in ephemeral channels or intermittent streams due to the presence of bedrock. Hydric soil indicators identified within the various wetland features included hydrogen sulfide (A4), loamy gleyed matrix (F2), depleted matrix (F3), redox dark surface (F6), and sandy redox (S5).

Based on a review of the NRCS Web Soil Survey (USDA-NRCS 2018a), a total of fifteen soil types were found to be present within the South Coast watershed portion of the survey area. The soil types, as well as their hydric status are presented in Table 4. Full summaries of these soil types are provided in Appendix D.

Table 4
Soil Type and Hydric Status Within the South Coast Watershed

Soil Type	Hydric Status[1]
Gaviota Sandy Loam, 9 to 30 percent slopes	Not hydric
Gaviota Sandy Loam, 30 to 75 percent slopes	Not hydric
Gaviota-Rock Outcrop Complex, 50 to 75 percent slopes, eroded	Not hydric
Santa Lucia Shaly Clay Loam, 30 to 50 percent slopes, eroded	Not hydric
Santa Lucia Shaly Loam, 50 to 75 percent slopes	Not hydric
Lopez-Santa Lucia Complex, 30 to 50 percent slopes, eroded	Not hydric
Tierra-San Andreas Complex, 15 to 30 percent slopes, severely eroded	Not hydric

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Table 4
Soil Type and Hydric Status Within the South Coast Watershed

Soil Type	Hydric Status[1]
San Andreas-Tierra Complex, 9 to 15 percent slopes, eroded	Not hydric
Diablo Clay, 15 to 30 percent slopes, eroded	Hydric
Diablo Clay, 30 to 50 percent slopes, eroded	Hydric
Los Osos Clay Loam, 15 to 30 percent slopes, eroded	Not hydric
Los Osos Clay Loam, 30 to 50 percent slopes, eroded	Not hydric
Los Osos-Maymen Complex, 50 to 75 percent slopes	Not hydric
Nacimiento Silty Clay Loam, 30 to 50 percent slopes, eroded	Hydric
Nacimiento-Landslide Complex, 30 to 75 percent slopes	Not hydric

Note:
[1] Source: USDA-NRCS 2018b

Of the fifteen soil types encountered during the field assessment, three are listed as hydric on the NRCS Hydric Soil List (USDA-NRCS 2018b); Diablo Clay 15 to 30 percent slopes, Diablo Clay 30 to 50 percent slopes, and Nacimiento Silty Clay Loam 30 to 50 percent slopes. It is important to emphasize that the hydric soils lists were designed primarily to generate a list of *potentially* hydric soils from the National Soil Information System (NASIS) database. They can be useful in making preliminary wetland determinations but in no way should replace field truthing. Field indicators must be used for all on-site determinations of hydric soils and those encountered during the field assessment are identified above. Complete soil descriptions can be found in Appendix C.

4.1.3 Hydrology

As the majority of the Project is to occur in the upper elevations of the overall site, on or just below ridgelines, the hydrologic features encountered within the Project Area during the field assessment are largely contained within the upper watershed and consist of first and second order tributaries. These upper watershed features vary greatly in size and formation, from discontinuous swales to intermittent streams, which directly influences the presence of hydrologic indicators including, but not limited to, an OHWM. However, each feature mapped during the field assessment and presented herein retains a hydrologic connection to downslope waters within the overall watershed as described above.

Ephemeral channels and intermittent streams supporting clear OHWM indicators as well as features supporting evidence of wetland hydrology were identified at various locations throughout the Project Area. Evidence of an OHWM and defined bed and bank was identified in a total of 14 mapped ephemeral channels and four intermittent streams within the South Coast watershed. These features were designated as ephemeral or intermittent

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based on the presence or absence of surface flow during the field assessment. Each of the intermittent streams supported surface flow during the field assessment and individual seeps were found to be associated with these features. It is not known whether these seeps provide a year-round water supply to the intermittent streams. Those areas supporting wetland hydrology, both associated with ephemeral channel and intermittent stream features as well as those isolated from these features, were identified and mapped following completion of USACE wetland delineation data forms, which included three wetland features and one additional isolated wetland feature. Wetland hydrology indicators observed during the field assessment included surface water (A1), a high water table (A2), saturation (A3), and hydrogen sulfide odor (C1). Riverine hydrology indicators observed during the field assessment included sediment deposits (B2), drift deposits (B3), and drainage patterns (B10).

A total of 18 swale features were also identified and mapped within the South Coast watershed portion of the Project Area during the field assessment. These features were generally located in the uppermost portion of the watershed and lacked clear indicators of hydrology. Swales, in the context of the Project Area, were defined based on the lack of an OHWM or defined bed and bank and were typically dominated by upland species within their confines. These features were, however, located in topographical concavities on hillsides and primarily convey rainfall runoff downslope. Swales were the most commonly encountered feature within the survey area during the field assessment, the majority of which continue downslope into ephemeral channels either inside or outside of the survey area and are presumed to be hydrologically connected to Canada Honda based on an evaluation of the local topography and on a visual assessment.

4.2 Santa Ynez Watershed

Within the Santa Ynez watershed, the Project Area falls into two separate sub-watersheds; Santa Lucia Canyon-Santa Ynez River and San Miguelito Creek-Santa Ynez River.

The Santa Lucia Canyon-Santa Ynez River sub-watershed drains a very small area in the northwestern portion of the survey area. Within this sub-watershed, the north-facing slopes in the Project Area support one swale, which continues downslope and out of the Project Area further to the north, eventually connecting to Santa Lucia Canyon, which discharges into the Santa Ynez River approximately 6.5 miles north of the Project Area through a series of natural channels and man-made drainage features. The Santa Ynez River ultimately flows into the Pacific Ocean at Surf Beach, approximately 6.7 miles west of the confluence with Santa Lucia Canyon.

The San Miguelito Creek-Santa Ynez River sub-watershed drains the majority of the eastern portion of the Project Area as well as the entirety of the transmission line corridor. Within this sub-watershed, the north-, south-, east-, and west-facing slopes in the Project Area support a

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hydrologic connection to San Miguelito Creek through a network of swales and ephemeral channels across the hillslopes. Within the Project Area, San Miguelito Creek begins in the southern limit as a wide swale, narrowing as the canyon steepens to the north to a densely forested intermittent stream. San Miguelito Creek eventually connects to the Santa Ynez River approximately 3.5 miles north of the Project Area via man-made drainage features. Salispuedes Creek traverses the Project Area in the northeastern portion of the transmission line corridor and connects to the Santa Ynez River just outside of the Project limits. The Santa Ynez River ultimately flows into the Pacific Ocean at Surf Beach, approximately 8.7 miles west of the confluence with San Miguelito Creek.

4.2.1 Vegetation

Hydrophytic vegetation identified within the wetland delineation sampling points are listed in Table 1, in Section 4.1.1, along with their associated wetland indicator status. The hydrophytic species identified within the Santa Ynez watershed were largely consistent with those identified in the South Coast watershed, particularly the dominant species.

As was observed in the South Coast watershed, the plant species identified within the various hydrologic features included a mix of hydrophytic and upland species. The wetland features mapped within the watershed each supported a dominance of hydrophytic vegetation, including buckhorn plantain (*Plantago coronopis* – FAC), tomcat clover (*Trifolium wildenovii* – FACW), and seaside barley (*Hordeum marinum* – FAC) at the time of the field assessment. Within the upper elevations of the Santa Ynez watershed, ephemeral channel features were found to support primarily upland adapted species including coyotebrush (UPL), California sagebrush (UPL), and poison oak (FACU). Similarly, the swale features identified within the watershed were dominated entirely by upland species including meadow barley (*Hordeum murinum* – FACU), ripgut brome (UPL), wild oat (*Avena sp.* – UPL), coyotebrush (UPL), and California sagebrush (UPL). Isolated patches of western rush (FACW) was observed sporadically during the field assessment; however, these or other hydrophytic species were not found to be dominant. Swale features mapped within the Project Area generally lacked hydrophytic species and were typically dominated largely by upland adapted species including annual grasses, forbs, and perennial shrubs. This was the case throughout the Santa Ynez watershed.

Hydrophytic vegetation identified within the Santa Ynez watershed was less extensive when compared to the areas mapped within the South Coast watershed. Factors including slope, aspect, and water sources (i.e., springs) are presumed to have a significant effect on the extent of hydrophytic vegetation, which was largely limited to the lower portions of the ephemeral channel features and was confined within, or immediately adjacent to, the mapped extent of the OHWM and/or wetland boundaries. The one exception within the Santa Ynez watershed is San Miguelito

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Creek, which contained surface water during the field assessment and supports a relatively expansive riparian corridor. However, note that San Miguelito Creek is a third-order stream and represents the main hydrologic feature within the watershed, receiving inputs from first and second order tributaries upslope.

The mapped wetland feature within the proposed laydown yard was assessed for wetland indicators at the beginning of the field assessment in late April 2018. At that time, the feature was found to support hydric soils and wetland hydrology though the vegetation was not dominated by hydrophytic species. However, by early June 2018, the vegetation had shifted somewhat with new recruits of buckhorn plantain (FAC) covering large portions of the wetland feature. This change in vegetation cover was found to trigger a change of the designation to hydrophytic vegetation dominated and prompted a determination of this area as a jurisdictional wetland. Other areas supporting hydric soils and wetland hydrology but not hydrophytic vegetation were re-evaluated later in the gorwing season (June) for changes in dominance that would trigger a change in the jurisdictional determination. No other areas were found to support a significant change in hydrophytic species cover.

4.2.2 Soils

Soils were examined within each of the potential wetland features identified in the survey area via excavation of soil pits. Soils were typically not examined in the swale features due to the lack of clearly defined bed and bank indicators, dry conditions, and a lack of hydrophytic vegetation. Soils were examined, when possible, within the ephemeral channel and intermittent stream features which supported hydrophytic vegetation. In several instances, a soil pit could not be dug in ephemeral channels or intermittent streams due to the presence of bedrock. Hydric soil indicators identified within the various wetland features included hydrogen sulfide (A4), loamy gleyed matrix (F2), depleted matrix (F3), redox dark surface (F6), and sandy redox (S5).

Based on a review of the NRCS Web Soil Survey (USDA-NRCS 2018a), a total of thirty-five soil types were found to be present within the within the Santa Ynez watershed portion of the survey area. The soil types, as well as their hydric status are presented in Table 5. Full summaries of these soil types are provided in Appendix C.

Table 5
Soil Type and Hydric Status Within the Santa Ynez Watershed

Soil Type	Hydric Status[1]
Gaviota Sandy Loam, 9 to 30 percent slopes	Not hydric
Gaviota Sandy Loam, 30 to 75 percent slopes	Not hydric
Gaviota-Rock Outcrop Complex, 50 to 75 percent slopes, eroded	Not hydric
Santa Lucia Shaly Clay Loam, 9 to 15 percent slopes, eroded	Not hydric
Santa Lucia Shaly Clay Loam, 30 to 50 percent slopes, eroded	Not hydric

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Table 5
Soil Type and Hydric Status Within the Santa Ynez Watershed

Soil Type	Hydric Status[1]
Santa Lucia Shaly Clay Loam, 50 to 75 percent slopes	Not hydric
Santa Lucia Shaly Loam, 50 to 75 percent slopes	Not hydric
Lopez Shaly Clay Loam, 15 to 75 percent slopes	Not hydric
Lopez-Santa Lucia Complex, 9 to 30 percent slopes, eroded	Not hydric
Lopez-Santa Lucia Complex, 30 to 50 percent slopes, eroded	Not hydric
Lopez-Rock Outcrop Complex, 50 to 75 percent slopes	Not hydric
Lopez-Rock Outcrop Complex, 75 to 100 percent slopes	Not hydric
Tierra Sandy Loam, 2 to 9 percent slopes	Not hydric
Tierra Loam, 9 to 15 percent slopes	Not hydric
Tierra Loam, 5 to 30 percent slopes, severely eroded	Not hydric
Tierra Clay Loam, 15 to 45 percent slopes	Not hydric
Tierra-San Andreas Complex, 15 to 30 percent slopes, severely eroded	Not hydric
Ballard Gravelly Fine Sandy Loam, 9 to 15 percent slopes	Not hydric
Botella Silty Clay Loam, 0 to 2 percent slopes	Not hydric
Botella Silty Clay Loam, 2 to 9 percent slopes	Not hydric
Botella Clay Loam, 0 to 2 percent slopes, eroded	Not hydric
Botella Clay Loam, 2 to 9 percent slopes, eroded	Not hydric
Botella Clay Loam, 2 to 15 percent slopes, eroded	Not hydric
Botella Shaly Clay Loam, 2 to 9 percent slopes	Not hydric
Diablo Clay, 15 to 30 percent slopes, eroded	Hydric
Linne Clay Loam, 45 to 75 percent slopes	Not hydric
Los Osos Clay Loam, 15 to 30 percent slopes, eroded	Not Hydric
Los Osos Clay Loam, 30 to 50 percent slopes, eroded	Not Hydric
Gazos Clay Loam, 15 to 30 percent slopes	Not hydric
Gazos Clay Loam, 45 to 75 percent slopes	Not hydric
Mocho Loam	Not hydric
Gullied Land	Hydric
[Mine] Pits and Dumps	Not hydric
Sedimentary Rock Land	Not hydric
Terrace Escarpments, Loamy	Not hydric

Notes:
[1] Source: USDA-NRCS 2018b

Of the thirty-five soil types encountered during the field assessment, two are listed as hydric on the NRCS Hydric Soil List (USDA-NRCS 2018b); Diablo Clay 15 to 30 percent slopes and Gullied Land. As noted in Section 4.1.2, the Hydric Soil List can be useful in making preliminary wetland determinations but in no way should replace field truthing. Field indicators must be used for all on-site determinations of hydric soils and those encountered during the field assessment are identified above. Complete soil descriptions can be found in Appendix C.

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4.2.3 Hydrology

As the majority of the Project is to occur in the upper elevations of the overall site, on or just below ridgelines, the hydrologic features encountered within the Project Area during the field assessment are largely contained within the upper watershed and consist of first and second order tributaries. San Miguelito Creek is the main exception as this feature is a third order stream that contained surface water during the field assessment. Salispuedes Creek is also present within the survey area; however, this hydrologic feature is limited to the far northeastern portion of the survey area and is not anticipated to be impacted by the Project. These upper watershed features vary greatly in size and formation, from discontinuous swales to ephemeral channels, which directly influences the presence of hydrologic indicators including, but not limited to, an OHWM. However, each feature mapped during the field assessment and presented herein retains a hydrologic connection to downslope waters within the overall watershed as described above.

Ephemeral channels supporting clear OHWM indicators as well as features supporting evidence of wetland hydrology were identified at various locations throughout the Project Area. Evidence of an OHWM and defined bed and bank was identified in a total of three mapped ephemeral channels and one perennial stream (San Miguelito Creek). Those areas supporting wetland hydrology, both associated with ephemeral channel and perennial stream features as well as those isolated from these features, were identified and mapped following completion of USACE wetland delineation data forms. One wetland feature was identified and mapped in the uppermost portion of the San Miguelito Creek watershed, which was separated into three-parameter and two-parameter (County) wetlands based on the indicators observed. In contrast to the features identified in the South Coast watershed, no springs were identified within the Santa Ynez watershed and the only surface flow/ ponding was observed in San Miguelito Creek. Wetland hydrology indicators observed during the field assessment included oxidized rhizospheres along living roots (C3). Riverine hydrology indicators observed during the field assessment included sediment deposits (B2), drift deposits (B3), and drainage patterns (B10).

A total of 12 swale features were also identified and mapped within the Santa Ynez watershed portion of the Project Area during the field assessment. These features were generally located in the uppermost portion of the watershed and lacked clear indicators of hydrology. Swales, in the context of the Project Area, were defined based on the lack of an OHWM or defined bed and bank and, within the Santa Ynez watershed, were dominated entirely by upland species within their confines. These features were, however, located in topographical concavities on hillsides and primarily convey rainfall runoff downslope. Swales were the most commonly encountered feature within the survey area during the field

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assessment, the majority of which continue downslope into ephemeral channels either inside or outside of the survey area and are presumed to be hydrologically connected to San Miguelito Creek or Salispuedes Creek based on an evaluation of the local topography and on a visual assessment.

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5 JURISDICTIONAL DETERMINATION

As detailed below, USACE jurisdiction includes the ephemeral channels, intermittent streams, the single perennial stream, and adjacent wetland areas within both the South Coast and Santa Ynez Watersheds. These features, themselves non-navigable named and unnamed tributaries and adjacent wetland areas support a hydrologic connection to downstream RPWs and/ or TNWs. The RWQCB jurisdiction includes all areas jurisdictional to the USACE as well as isolated wetland areas hydrologically disconnected from the named and unnamed non-navigable tributaries and downstream RPWs and TNWs. The CDFW jurisdiction includes all areas under the jurisdiction of the USACE and RWQCB along with the extent of the top of bank and/ or outer limit of riparian vegetation associated with each feature. The County jurisdiction includes all areas subject to the jurisdiction of CDFW as well as any two-parameter wetlands. The CCC jurisdiction is limited to features within the Coastal Zone and includes all areas subject to the jurisdiction of the other regulatory agencies along with one-parameter wetlands.

Regulatory agency jurisdiction over the wetlands and water features (i.e., other waters of the U.S.) identified within the survey area varies slightly based on the indicators observed. However, connectivity to downstream waters is largely consistent across all features, and therefore, all features identified as supporting positive indicators for USACE wetlands, an OHWM, and defined bed and bank were determined to be jurisdictional to each regulatory agency. The only exceptions are two small isolated wetland areas that are discontinuous within waters of the U.S. and are not considered jurisdictional to the USACE. Additionally, areas supporting associated riparian habitat were determined to be jurisdictional to CDFW and the County. And, as noted above, areas supporting two of the three wetland parameters were determined to be jurisdictional to the County. The Coastal Zone traverses the southern portion of the survey area and coastal waters jurisdictional to the CCC are present in a small subset of the overall areas identified.

Within the South Coast watershed, the identified ephemeral channels, intermittent streams, and adjacent wetland features, while they do not meet the definition of a RPW, support readily identifiable OHWM and/ or wetland indicators, and are hydrologically connected to Canada Honda, an RPW. In addition, these non-navigable tributaries contribute to the hydrologic and biotic function of Canada Honda, which itself is located entirely outside if the Project Area ultimately flows into the Pacific Ocean (TNW) approximately 6.7 miles west of the Project Area on Vandenberg Air Force Base. Based on these factors, the features identified above are considered jurisdictional to the USACE, RWQCB, CDFW, County, and the CCC where they occur within the Coastal Zone. As detailed in *Section 4.1*, the swale features identified within the South Coast watershed do not support indicators of hydrology (i.e., an OHWM or bed and bank) though based on topography they are hydrologically connected to ephemeral channels and/ or intermittent streams further downslope. Swale features investigated for wetland indicators were

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found to not meet the three-parameter definition for USACE jurisdictional wetlands or the two-parameter definition for County wetlands. Based on these results, the swale features themselves are determined not to be jurisdictional to the USACE, RWQCB, CDFW, CCC, and the County; however, some of these features do support hydrophytic vegetation which is considered jurisdictional to CDFW and the County as riparian habitat.

Within the Santa Ynez watershed, the ephemeral channels and adjacent wetland features, while they do not meet the definition of a RPW, support readily identifiable OHWM and/ or wetland indicators, and are hydrologically connected to the single perennial stream within the survey area, San Miguelito Creek, an RPW. As with the features identified in the South Coast watershed, the wetlands and non-navigable tributaries identified in the survey area contribute to the hydrologic and biotic function of San Miguelito Creek and ultimately to the Santa Ynez River, which converges with San Miguelito Creek approximately 3.5 miles north of the Project Area. Based on these factors, the features identified above are considered jurisdictional to the USACE, RWQCB, CDFW, County, and the CCC where they occur within the Coastal Zone. As detailed in *Section 4.2*, the swale features identified within the Santa Ynez watershed do not support indicators of hydrology (i.e., an OHWM or bed and bank) though based on topography they are hydrologically connected to ephemeral channels and/ or perennial streams (San Miguelito Creek) further downslope. Swale features investigated for wetland indicators were found to not meet the three-parameter definition for USACE jurisdictional wetlands or the two-parameter definition for County wetlands. Based on these results, the swale features themselves are determined not to be jurisdictional to the USACE, RWQCB, CDFW, CCC, and the County. Within the Santa Ynez watershed, the swale features did not support hydrophytic vegetation, and therefore, are not determined to constitute riparian habitat.

As the hydrologic features identified above are presumed to be subject to the jurisdiction of the USACE, the Project is anticipated to submit a request for a Preliminary Jurisdictional Determination (PJD). The PJD form is provided in Appendix E. Impacts to hydrologic features subject to the jurisdiction of the USACE, RWQCB, CDFW, CCC, and the County in association with the Project are summarized in Table 6 below. Each of the features are displayed on Appendix A – Figure 5A through 5O.

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Table 6
Summary of Impact Acreage to Jurisdictional Resources

Agency Jurisdiction	Feature Type	Feature Class	South Coast Watershed Impact (Acres/ Square Feet)	Santa Ynez Watershed Impact (Acres/ Square Feet)
USACE/ RWQCB/ CDFW/ County	Ephemeral Channel	Non-Wetland Waters of the U.S./ State	0.0533	0.0744
USACE/ RWQCB/ CDFW/ County	Intermittent Stream	Non-Wetland Waters of the U.S./ State	0.0153	--
USACE/ RWQCB/ CDFW/ County	Perennial Stream	Non-Wetland Waters of the U.S./ State	--	0.1906
USACE/ RWQCB/ CDFW/ County	Wetland	Waters of the U.S./ State	0.0415	0.0689
RWQCB/ CDFW/ County	Isolated Wetland	Waters of the State	--	--
CDFW/ County	Top of Bank or Edge of Riparian Vegetation (furthest extent)	Riparian Habitat	1.3214	2.7776
County	Two Parameter Wetland	County Wetland	--	0.1895
California Coastal Commission	Wetland and Riparian	Coastal Waters	--	0.1005
Total Impact Acreage				
Impacts to USACE/ RWQCB/ CDFW/ County Non-Wetland Waters of the U.S.			0.3336	
Impacts to USACE/ RWQCB/ CDFW/ County Wetland Waters of the U.S			0.1104	
Impacts to RWQCB/ CDFW/ County Waters of the State			--	
Impacts to CDFW/ County Top of Bank or Edge of Riparian Vegetation			4.096	
Impacts to County Two-Parameter Wetlands			0.1895	
Impacts to California Coastal Commission Wetland and Riparian			0.1005	

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6 REFERENCES CITED

33 CFR 328. "Definition of Waters of the United States." USACE regulation.

83 FR 32227. Definition of "Waters of the United States" – Recodification of Preexisting Rule. USACE and EPA regulation.

County of Santa Barbara. 1982. Coastal Land Use Plan. County of Santa Barbara Planning and Development. Adopted January 1982.

County of Santa Barbara. 2015 (Originally 2008 and updated in 2015). *Environmental Thresholds and Guidelines Manual. County of Santa Barbara Planning and Development*.

Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. (Cowardin et al.). 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C. December.

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

Lichvar, R. W., N.C. Melvin, M.L. Butterwick, and W.N. Kirchner. 2012. *National Wetland Plant List Indicator Rating Definitions.* July 2012.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. "State of California 2016 Wetland Plant List. The National Wetland Plant List: 2016 Wetland Ratings." *Phytoneuron 2016*-30:1-17.

LVBHS (Lompoc Valley Botanic and Horticultural Society). 2018. Rainfall Totals. Accessed June 2018. http://www.lvbhs.org/rainfall.html

Munsell (Munsell Soil-Color Charts). 2009. *Munsell Soil Color Charts.* Year 2009 Revised Edition. Grand Rapids, Michigan.

Sapphos Environmental Inc. 2008a. Areas Subject to the Jurisdiction of the U.S. Army Corps of Engineers and the California Department of Fish and Game at the Lompoc Wind Energy Project Area, County of Santa Barbara, California. February 11.

Sapphos Environmental Inc. 2008b. Areas Subject to the Jurisdiction of the U.S. Army Corps of Engineers, the California Department of Fish and Game, and the County of Santa Barbara, Lompoc Wind Energy Project Area, County of Santa Barbara, California. June 16.

SWANCC (Solid Waste Association of Northern Cook Counties) v. United States Corps of Engineers, 531 U.S. 159. 2001.

DRAFT

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

USACE (U.S. Army Corps of Engineers). 2008a. *A Field Guide to the Identification of the Ordinary High Water Mark (OWHM) in the Aird West Region of the Western United States.* A Delineation Manual. Robert W. Lichvar and Shawn M. McColley. ERDCCRREL TR-08-12. Hanover, NH: U.S. Army Corps of Engineers Research and Development Center.

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

USDA-NRCS. 2017. *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils.* Version 8.1. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

USDA-NRCS. 2018a. *Web Soil Survey*. National Cooperative Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Accessed June 2018.

USDA-NRCS (United States Department of Agriculture-Natural Resources Conservation Service). 2018b. State Soil Data Access (SDA) Hydric Soils List. Accessed June 2018. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html

USDA-SCS (U.S. Department of Agriculture-Soil Conservation Service). 1994. "Changes in Hydric Soils of the United States." *Federal Register* 59(133): 35680–35681, July 13.

USFWS (U.S. Fish and Wildlife Service). 2018 National Wetlands Inventory website. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/. Accessed June 2018.

USGS (U.S. Geological Survey). 2018. National Hydrography Geodatabase: The National Map viewer. http://viewer.nationalmap.gov/viewer/nhd.html?p=nhd. Accessed June 2018.

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APPENDIX A

Figures

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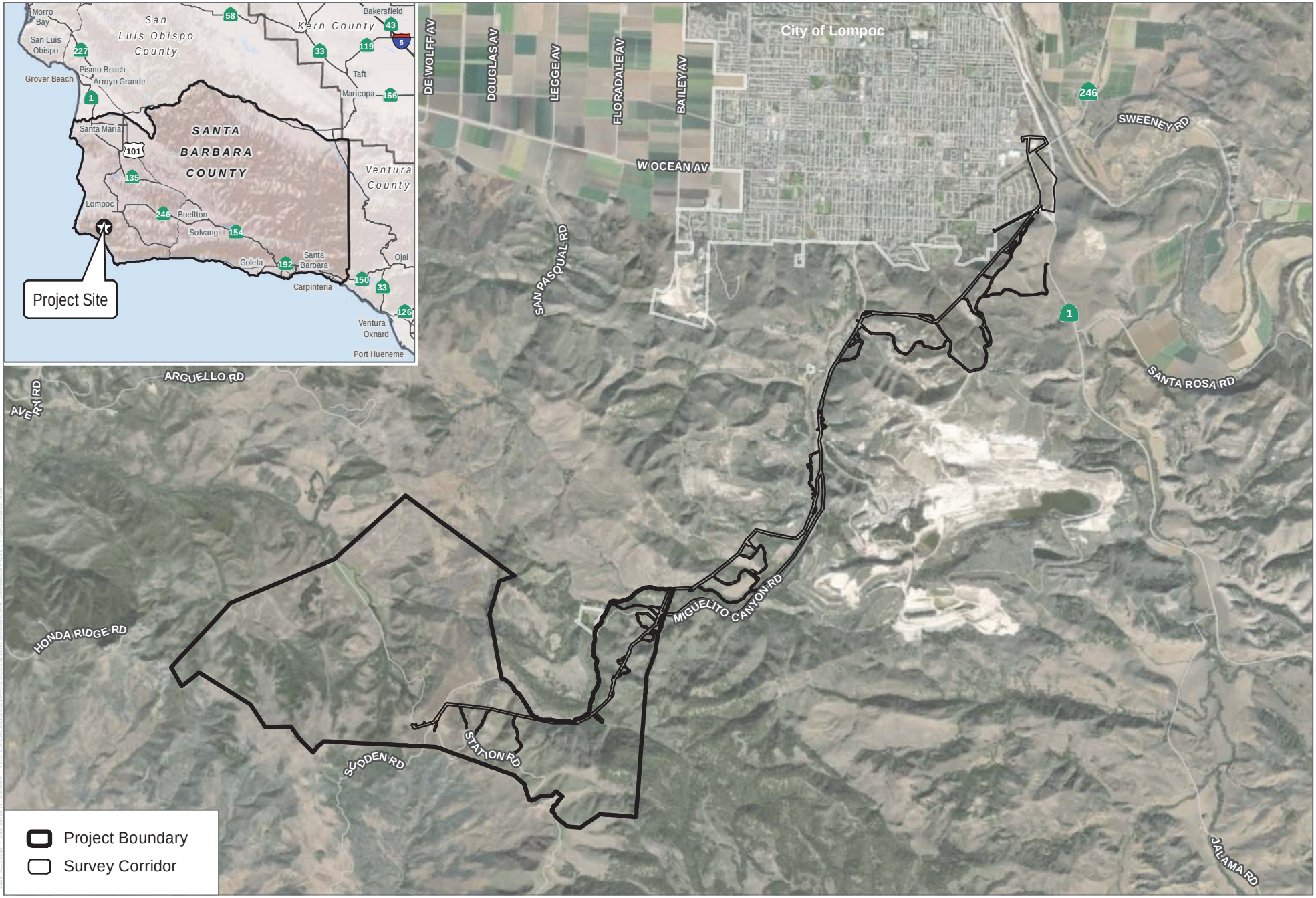


SOURCE: DigitalGlobe 2016

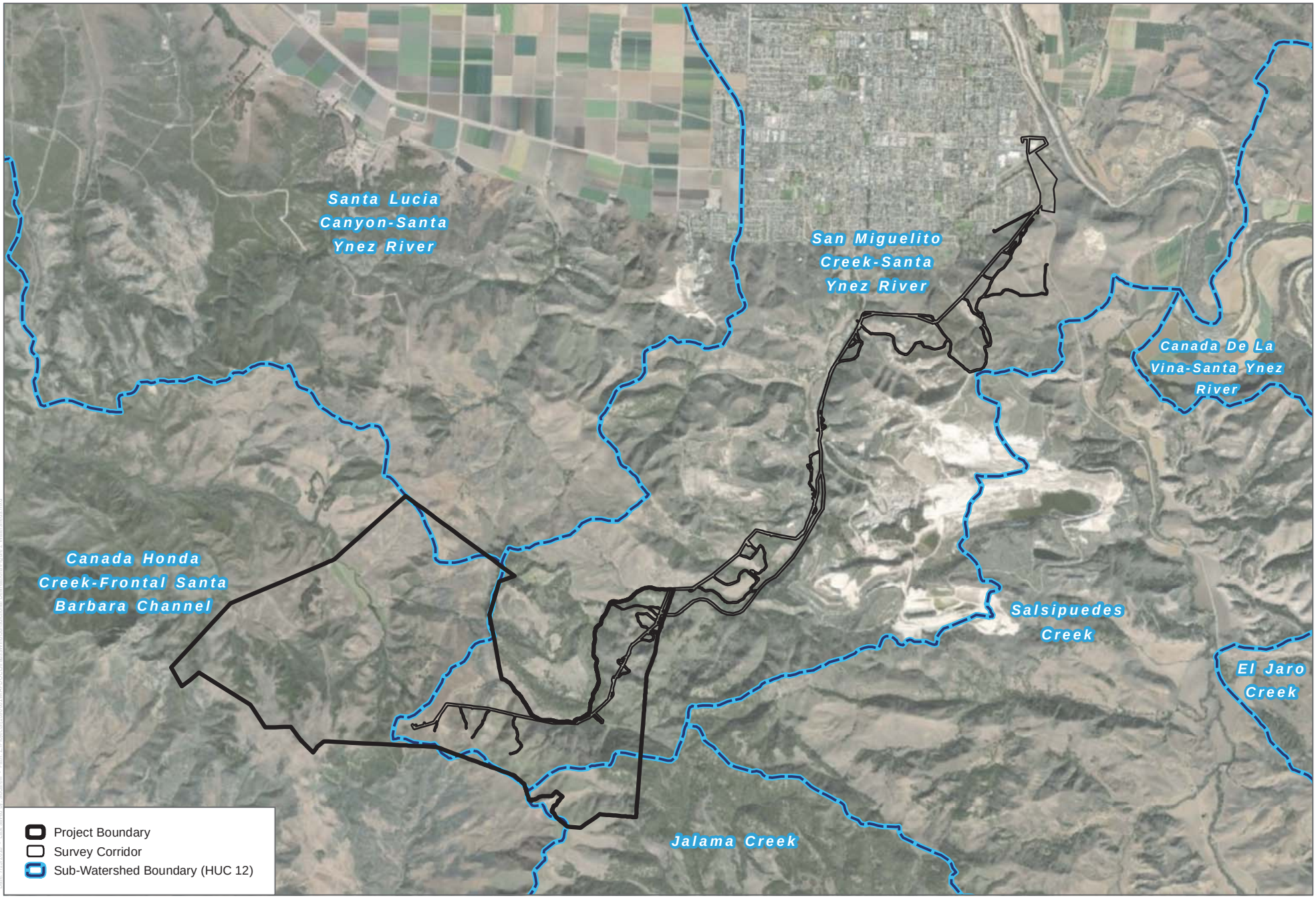
DUDEK

0 0.5 1 Miles

FIGURE 1

Project Location

Strauss Wind Energy Project



SOURCE: DigitalGlobe 2016

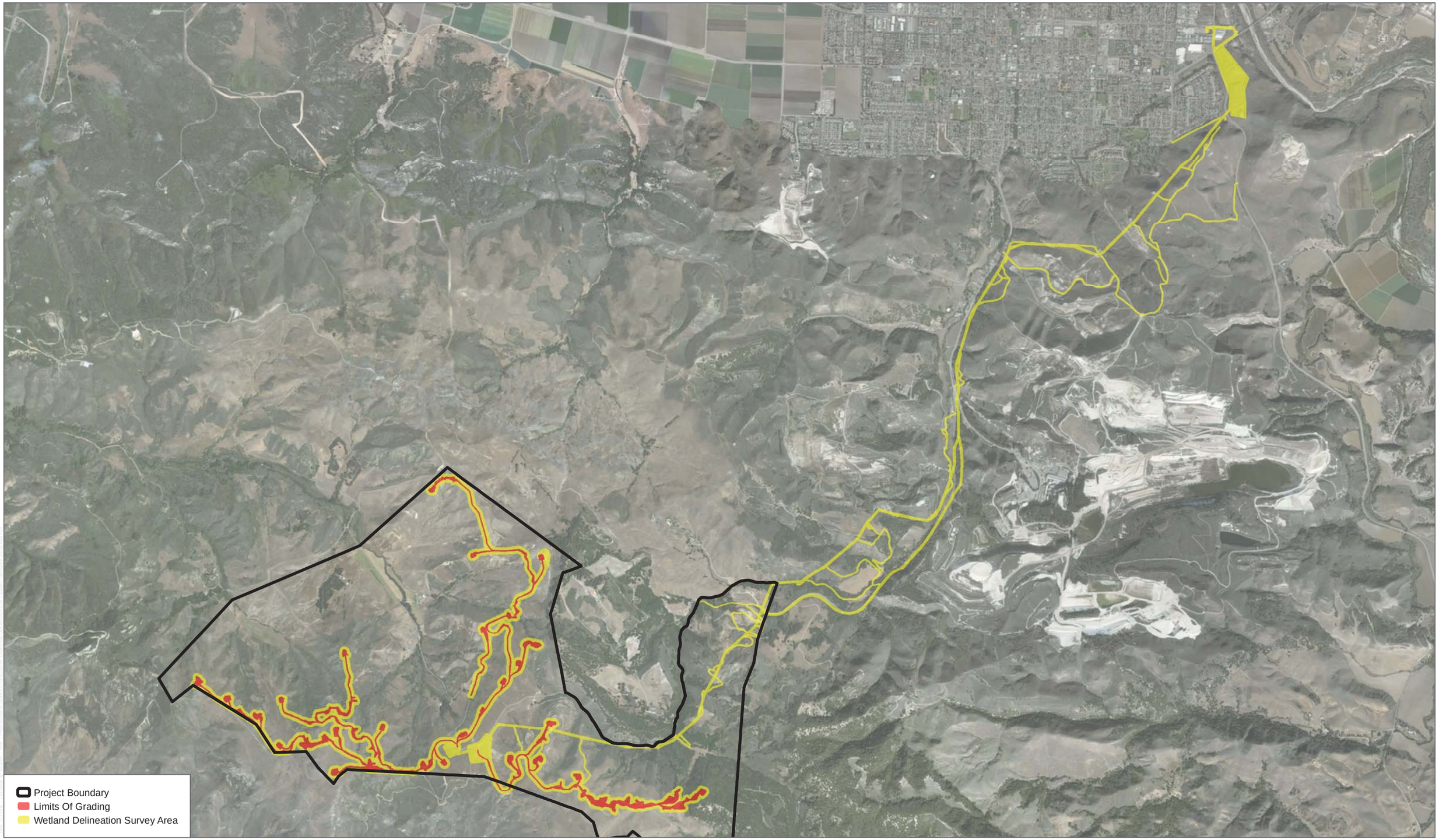
DUDEK

0 0.5 1 Miles

FIGURE 2

Watersheds

Strauss Wind Energy Project



SOURCE: DigitalGlobe 2016

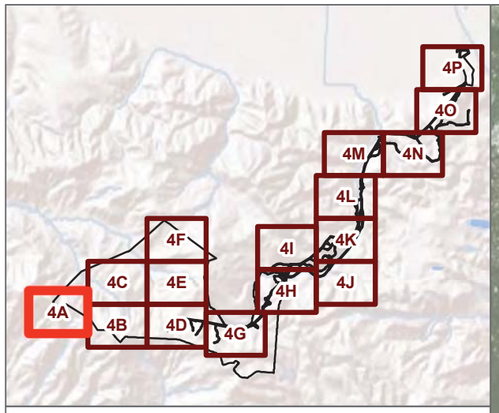
DUDEK

0 1,500 3,000 Feet

FIGURE 3

Wetland Delineation Survey Area

Strauss Wind Energy Project

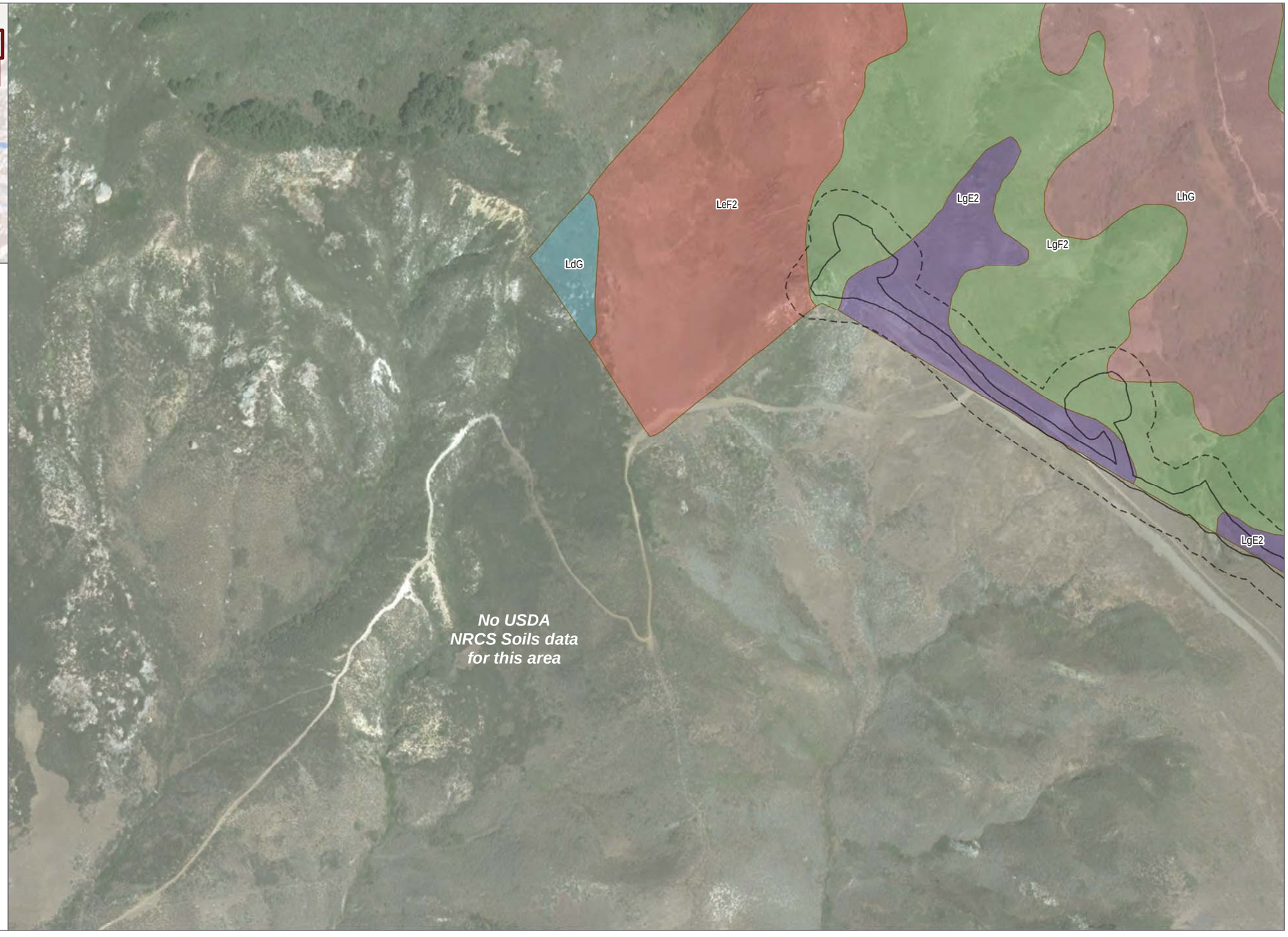


Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LeF2 - LOPEZ-SANTA LUCIA COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- LgE2 - LOS OSOS CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- LgF2 - LOS OSOS CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- LhG - LOS OSOS-MAYMEN COMPLEX, 50 TO 75 PERCENT SLOPES



SOURCE: DigitalGlobe 2016; USDA 2018

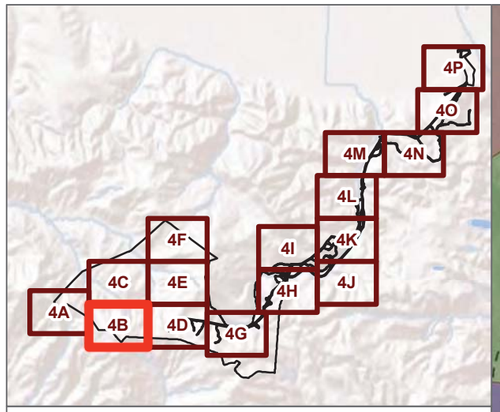
DUDEK

0 200 400 Feet

FIGURE 4A

Soils

Strauss Wind Energy Project



Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- DaF2 - DIABLO CLAY, 30 TO 50 PERCENT SLOPES, ERODED
- GaG - GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES
- GbG - GAVIOTA-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LgE2 - LOS OSOS CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- LgF2 - LOS OSOS CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- LhG - LOS OSOS-MAYMEN COMPLEX, 50 TO 75 PERCENT SLOPES
- SaE2 - SAN ANDREAS-TIERRA COMPLEX, 15 TO 30 PERCENT SLOPES, ERODED
- SaF2 - SAN ANDREAS-TIERRA COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- ScG - SANTA LUCIA SHALY LOAM, 50 TO 75 PERCENT SLOPES

SOURCE: DigitalGlobe 2016; USDA 2018

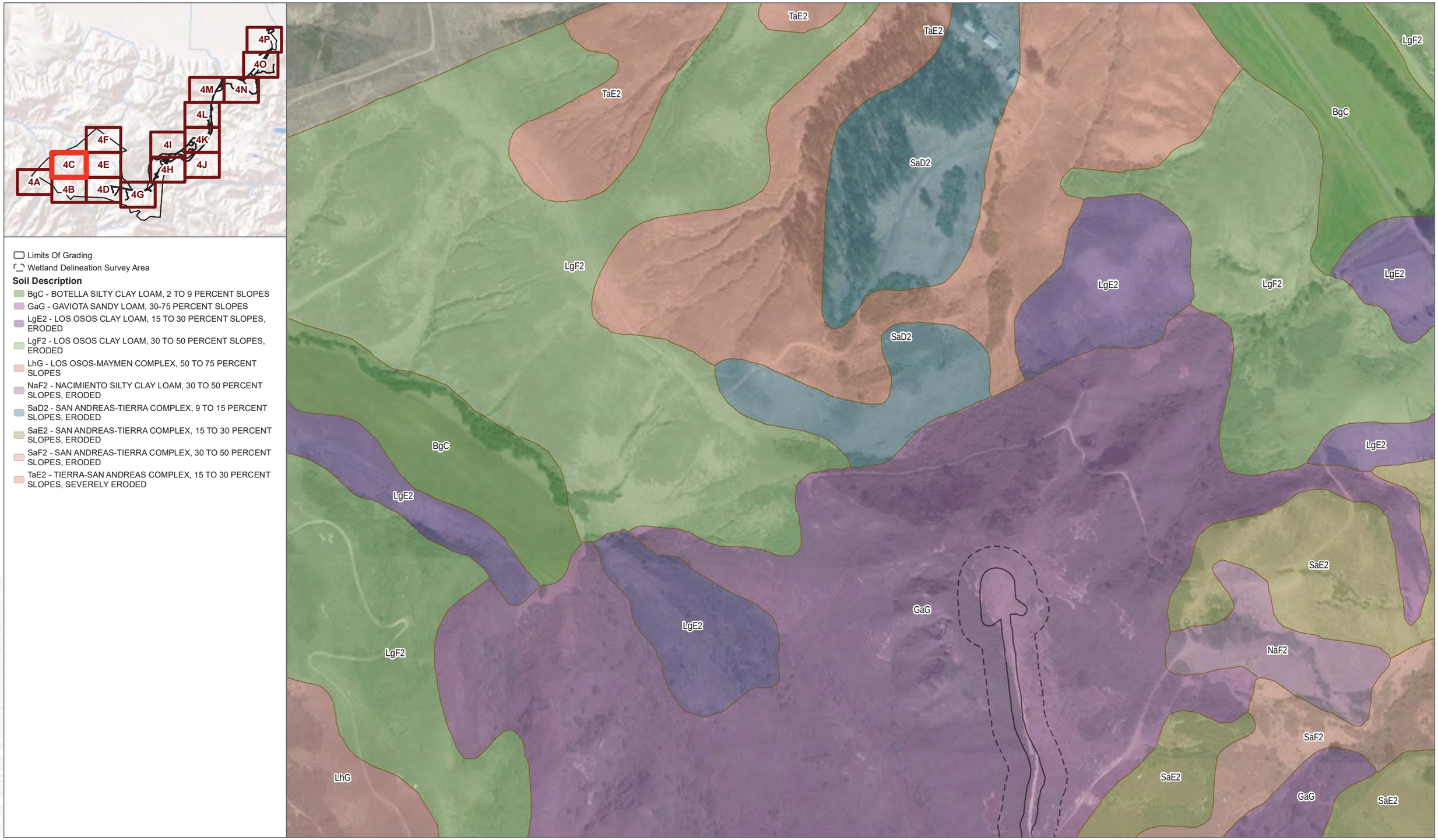
DUDEK

0 200 400 Feet

FIGURE 4B

Soils

Strauss Wind Energy Project



SOURCE: DigitalGlobe 2016; USDA 2018

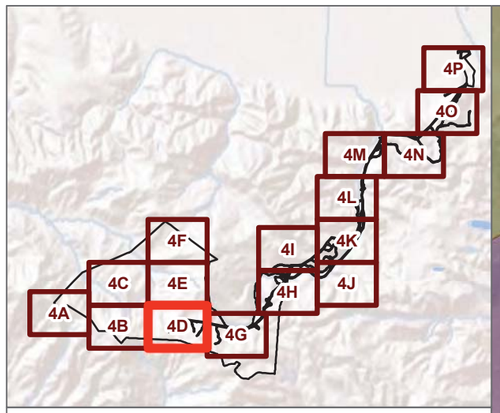
DUDEK

0 200 400 Feet

FIGURE 4C

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area

Soil Description

- BgC - BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES
- DaF2 - DIABLO CLAY, 30 TO 50 PERCENT SLOPES, ERODED
- GaE - GAVIOTA SANDY LOAM, 9 TO 30 PERCENT SLOPES
- GaG - GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES
- GbG - GAVIOTA-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LeF2 - LOPEZ-SANTA LUCIA COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- PA - PITS AND DUMPS
- SaD2 - SAN ANDREAS-TIERRA COMPLEX, 9 TO 15 PERCENT SLOPES, ERODED
- SaE2 - SAN ANDREAS-TIERRA COMPLEX, 15 TO 30 PERCENT SLOPES, ERODED
- SaF2 - SAN ANDREAS-TIERRA COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- ScG - SANTA LUCIA SHALY LOAM, 50 TO 75 PERCENT SLOPES
- TaE2 - TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES, SEVERELY ERODED

SOURCE: DigitalGlobe 2016; USDA 2018

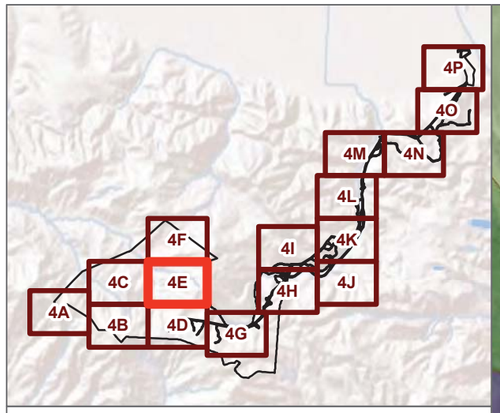
DUDEK

0 200 400 Feet

FIGURE 4D

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area

Soil Description

- BgC - BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES
- GaE - GAVIOTA SANDY LOAM, 9 TO 30 PERCENT SLOPES
- GaG - GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES
- GbG - GAVIOTA-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LgE2 - LOS OSOS CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- LgF2 - LOS OSOS CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- SaD2 - SAN ANDREAS-TIERRA COMPLEX, 9 TO 15 PERCENT SLOPES, ERODED
- SaE2 - SAN ANDREAS-TIERRA COMPLEX, 15 TO 30 PERCENT SLOPES, ERODED
- SaF2 - SAN ANDREAS-TIERRA COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- TaE2 - TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES, SEVERELY ERODED

SOURCE: DigitalGlobe 2016; USDA 2018

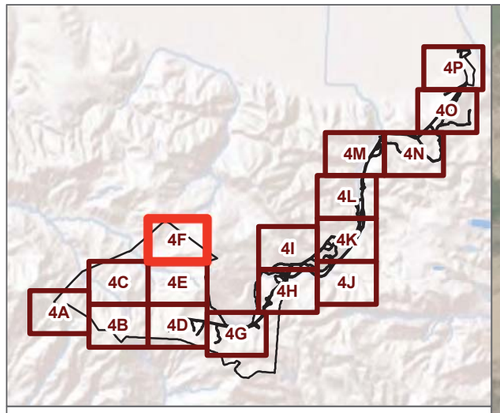
DUDEK

0 200 400 Feet

FIGURE 4E

Soils

Strauss Wind Energy Project



Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- DaE2 - DIABLO CLAY, 15 TO 30 PERCENT SLOPES, ERODED
- GaG - GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES
- GbG - GAVIOTA-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LgE2 - LOS OSOS CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- LgF2 - LOS OSOS CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- LhG - LOS OSOS-MAYMEN COMPLEX, 50 TO 75 PERCENT SLOPES
- MgF2 - MONTARA STONY CLAY, 15 TO 50 PERCENT SLOPES, ERODED
- NaF2 - NACIMIENTO SILTY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- NbG - NACIMIENTO-LANDSLIDE COMPLEX, 30 TO 75 PERCENT SLOPES
- ScE2 - SANTA LUCIA SHALY CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED

SOURCE: DigitalGlobe 2016; USDA 2018

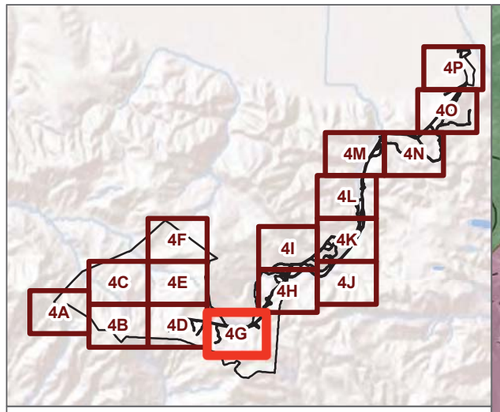
DUDEK

0 200 400 Feet

FIGURE 4F

Soils

Strauss Wind Energy Project



Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- BhC - BOTELLA SHALY CLAY LOAM, 2 TO 9 PERCENT SLOPES
- CkE2 - CROW HILL SILTY CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LeF2 - LOPEZ-SANTA LUCIA COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- PA - PITS AND DUMPS
- ScD2 - SANTA LUCIA SHALY CLAY LOAM, 9 TO 15 PERCENT SLOPES, ERODED
- ScG - SANTA LUCIA SHALY LOAM, 50 TO 75 PERCENT SLOPES

SOURCE: DigitalGlobe 2016; USDA 2018

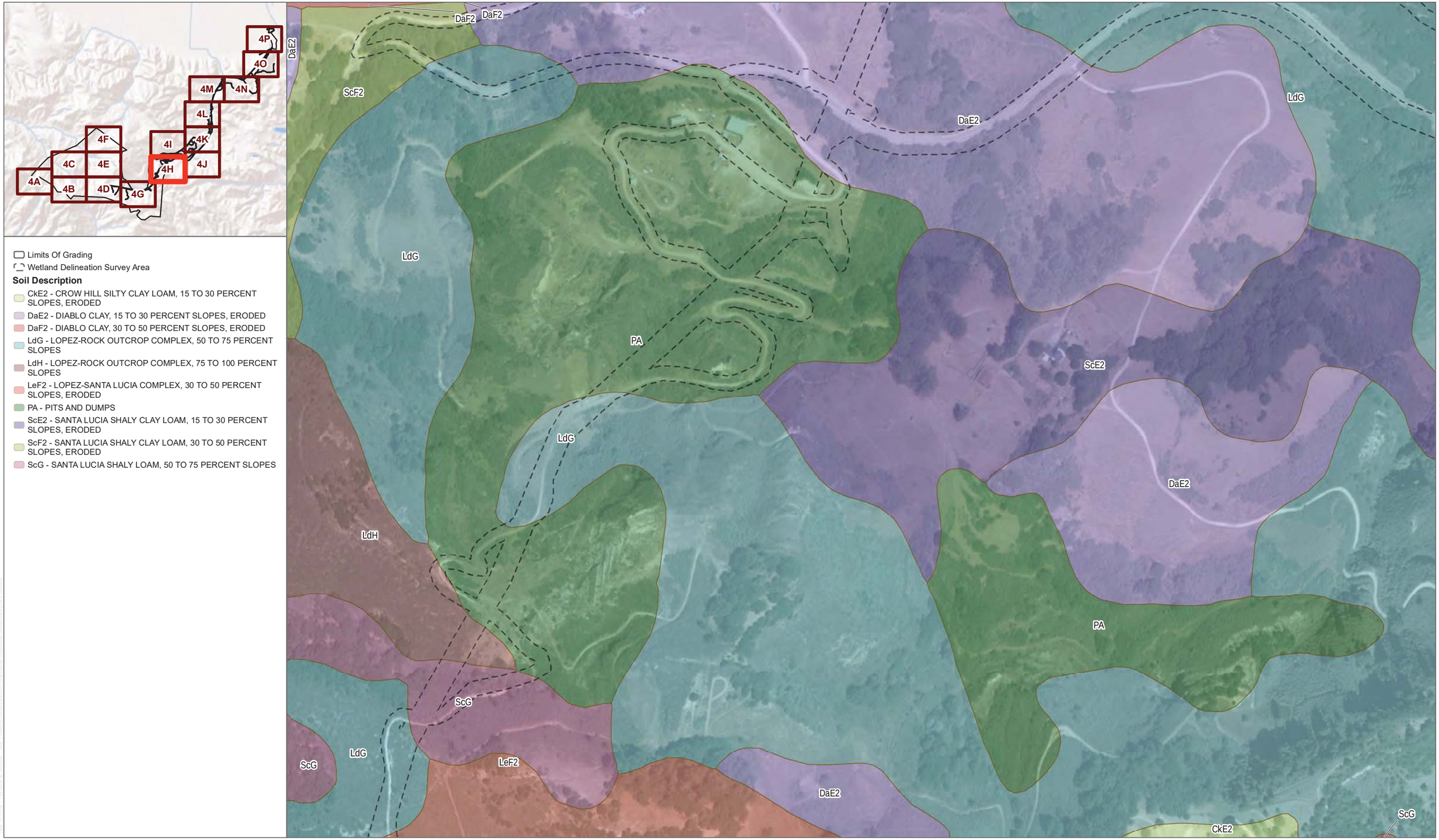
DUDEK

0 200 400 Feet

FIGURE 4G

Soils

Strauss Wind Energy Project



SOURCE: DigitalGlobe 2016; USDA 2018

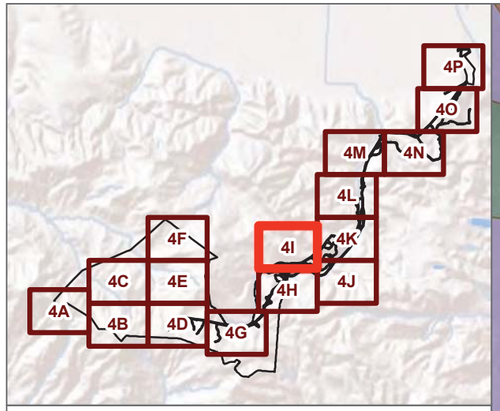
DUDEK

0 200 400 Feet

FIGURE 4H

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area

Soil Description

- AE - ARGIXEROLLS AND XERERTS, LANDSLIDES
- CdG - CAPITAN-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- DaC - DIABLO CLAY, 2 TO 9 PERCENT SLOPES
- DaE2 - DIABLO CLAY, 15 TO 30 PERCENT SLOPES, ERODED
- DaF2 - DIABLO CLAY, 30 TO 50 PERCENT SLOPES, ERODED
- GaE - GAVIOTA SANDY LOAM, 9 TO 30 PERCENT SLOPES
- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LdH - LOPEZ-ROCK OUTCROP COMPLEX, 75 TO 100 PERCENT SLOPES
- LeE2 - LOPEZ-SANTA LUCIA COMPLEX, 9 TO 30 PERCENT SLOPES, ERODED
- PA - PITS AND DUMPS
- ScE2 - SANTA LUCIA SHALY CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- ScG - SANTA LUCIA SHALY LOAM, 50 TO 75 PERCENT SLOPES

SOURCE: DigitalGlobe 2016; USDA 2018

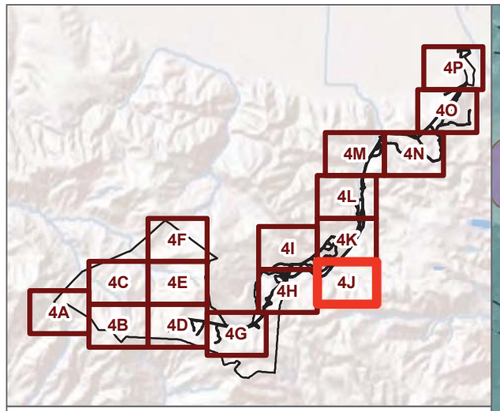
DUDEK

0 200 400 Feet

FIGURE 4I

Soils

Strauss Wind Energy Project



Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- BgA - BOTELLA SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES
- CkD2 - CROW HILL SILTY CLAY LOAM, 9 TO 15 PERCENT SLOPES, ERODED
- CkF - CROW HILL SILTY CLAY LOAM, 30 TO 50 PERCENT SLOPES
- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LdH - LOPEZ-ROCK OUTCROP COMPLEX, 75 TO 100 PERCENT SLOPES
- ScE2 - SANTA LUCIA SHALY CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED

SOURCE: DigitalGlobe 2016; USDA 2018

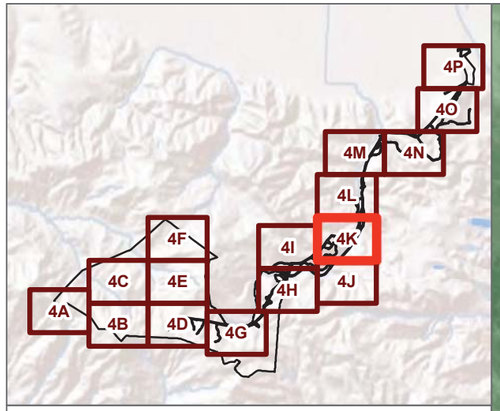
DUDEK

0 200 400 Feet

FIGURE 4J

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area

Soil Description

- BgA - BOTELLA SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES
- CkD2 - CROW HILL SILTY CLAY LOAM, 9 TO 15 PERCENT SLOPES, ERODED
- CkE2 - CROW HILL SILTY CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- CkF - CROW HILL SILTY CLAY LOAM, 30 TO 50 PERCENT SLOPES
- LdG - LOPEZ-ROCK OUTCROP COMPLEX, 50 TO 75 PERCENT SLOPES
- LdH - LOPEZ-ROCK OUTCROP COMPLEX, 75 TO 100 PERCENT SLOPES
- LeE2 - LOPEZ-SANTA LUCIA COMPLEX, 9 TO 30 PERCENT SLOPES, ERODED
- PA - PITS AND DUMPS
- ScE2 - SANTA LUCIA SHALY CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- ScG - SANTA LUCIA SHALY LOAM, 50 TO 75 PERCENT SLOPES

SOURCE: DigitalGlobe 2016; USDA 2018

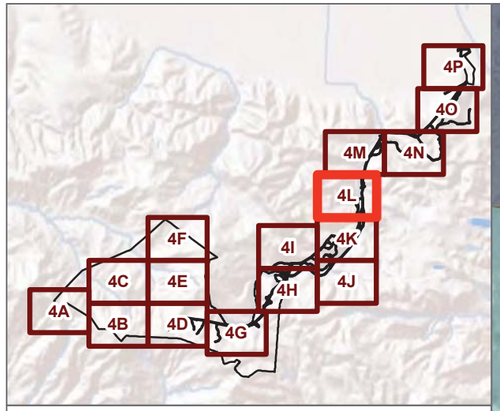
DUDEK

0 200 400 Feet

FIGURE 4K

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area

Soil Description

- BgA - BOTELLA SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES
- BgC - BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES
- BtA2 - Botella clay loam, 0 to 2 percent slopes, eroded
- BtC - Botella clay loam, 2 to 9 percent slopes
- CkG - CROW HILL SILTY CLAY LOAM, 50 TO 75 PERCENT SLOPES
- CwG - Crow Hill loam, 45 to 75 percent slopes
- GsF - Gazos clay loam, 30 to 45 percent slopes
- GuE - Gullied land
- LdH - LOPEZ-ROCK OUTCROP COMPLEX, 75 TO 100 PERCENT SLOPES
- PA - PITS AND DUMPS
- ScF2 - SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- ScG - SANTA LUCIA SHALY LOAM, 50 TO 75 PERCENT SLOPES
- SmF - Santa Lucia shaly clay loam, 30 to 45 percent slopes
- SmG - Santa Lucia shaly clay loam, 45 to 75 percent slopes
- SpG - Sedimentary rock land

SOURCE: DigitalGlobe 2016; USDA 2018

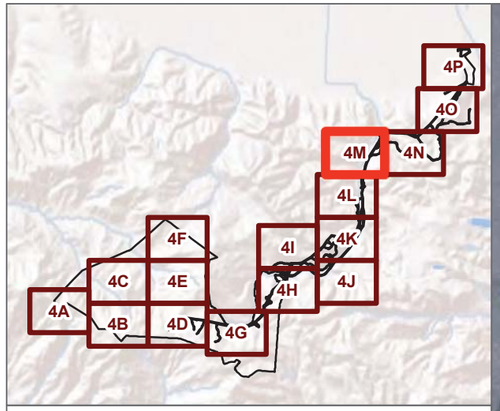
DUDEK

0 200 400 Feet

FIGURE 4L

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area

Soil Description

- BtA2 - Botella clay loam, 0 to 2 percent slopes, eroded
- BtD2 - Botella clay loam, 2 to 15 percent slopes, eroded
- CwG - Crow Hill loam, 45 to 75 percent slopes
- EdC2 - Elder sandy loam, 2 to 9 percent slopes, eroded
- GmE - Gaviota sandy loam, 15 to 30 percent slopes
- GsF - Gazos clay loam, 30 to 45 percent slopes
- GsG - Gazos clay loam, 45 to 75 percent slopes
- GuE - Gullied land
- SmF - Santa Lucia shaly clay loam, 30 to 45 percent slopes
- SmG - Santa Lucia shaly clay loam, 45 to 75 percent slopes
- SpG - Sedimentary rock land

SOURCE: DigitalGlobe 2016; USDA 2018

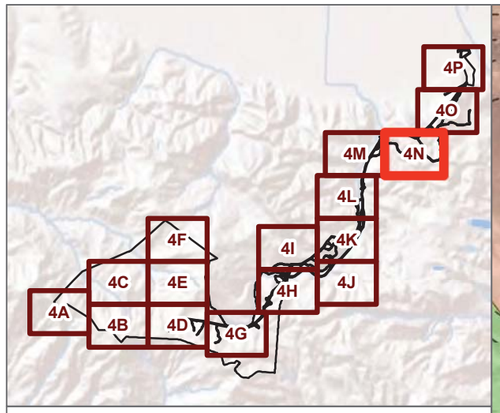
DUDEK

0 200 400 Feet

FIGURE 4M

Soils

Strauss Wind Energy Project



Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- BtD2 - Botella clay loam, 2 to 15 percent slopes, eroded
- GmG - Gaviota sandy loam, 30 to 75 percent slopes
- GsF - Gazos clay loam, 30 to 45 percent slopes
- GsG - Gazos clay loam, 45 to 75 percent slopes
- LmG - Lopez shaly clay loam, 15 to 75 percent slopes
- MpG - Mine pits and dumps
- SmG - Santa Lucia shaly clay loam, 45 to 75 percent slopes
- SpG - Sedimentary rock land

SOURCE: DigitalGlobe 2016; USDA 2018

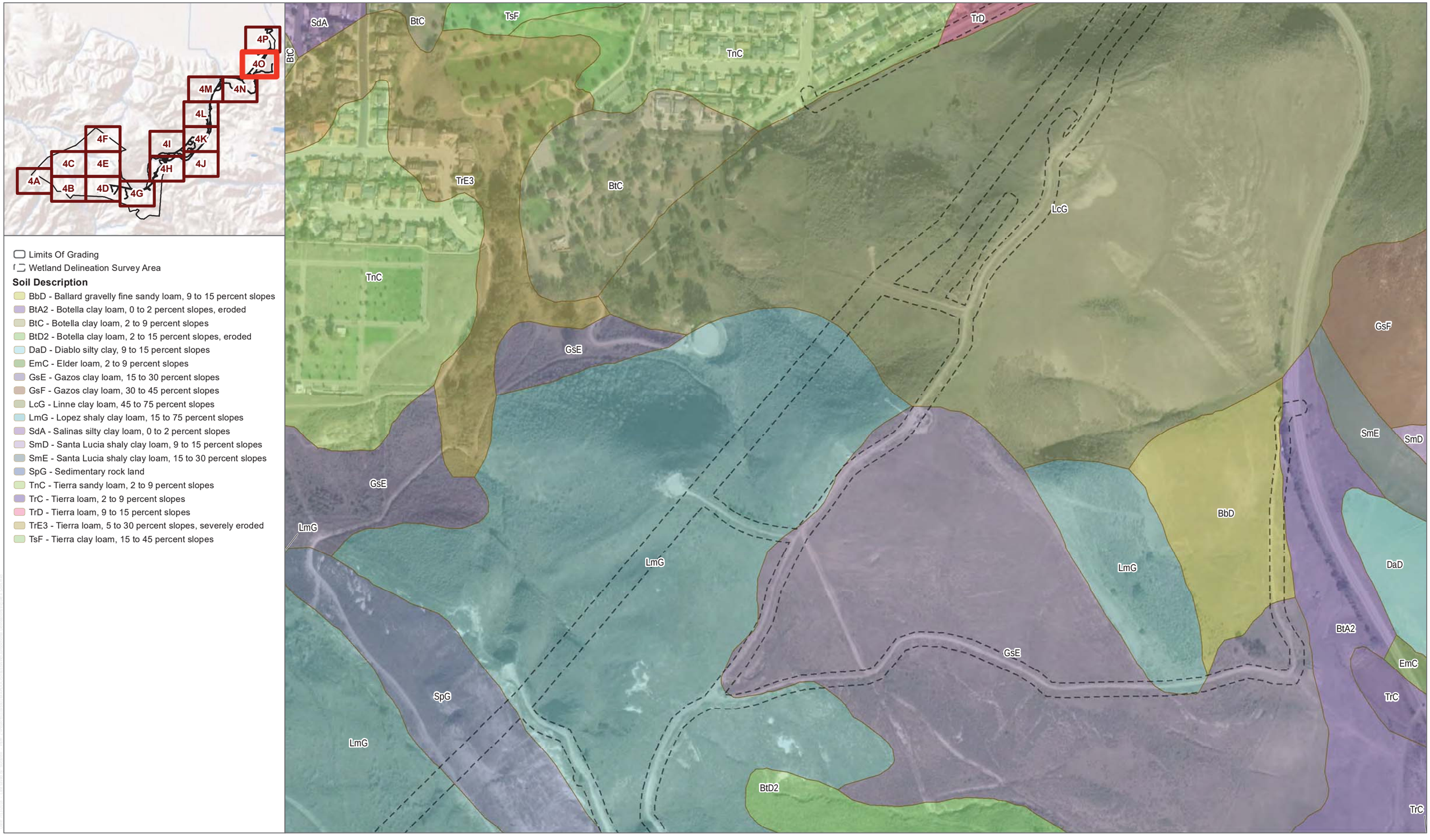
DUDEK

0 200 400 Feet

FIGURE 4N

Soils

Strauss Wind Energy Project



SOURCE: DigitalGlobe 2016; USDA 2018

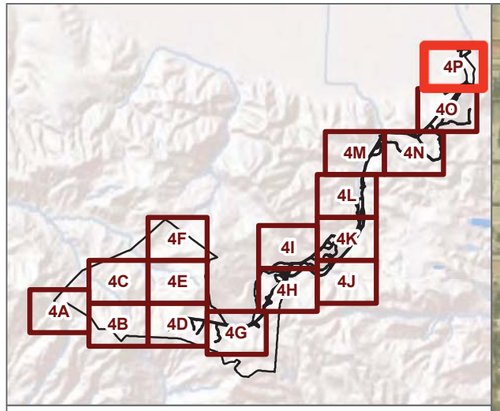
DUDEK

0 200 400 Feet

FIGURE 4O

Soils

Strauss Wind Energy Project



Limits Of Grading

Wetland Delineation Survey Area

Soil Description

- BtC - Botella clay loam, 2 to 9 percent slopes
- LcG - Linne clay loam, 45 to 75 percent slopes
- MnA - Metz loamy sand, 0 to 2 percent slopes
- Mr - Mocho sandy loam, overflow
- Mv - Mocho loam
- Mx - Mocho silty clay loam
- Rs - Riverwash
- SpG - Sedimentary rock land
- TdF - Terrace escarpments, loamy
- TnC - Tierra sandy loam, 2 to 9 percent slopes
- TrC - Tierra loam, 2 to 9 percent slopes
- TrD - Tierra loam, 9 to 15 percent slopes
- TrE3 - Tierra loam, 5 to 30 percent slopes, severely eroded
- TsF - Tierra clay loam, 15 to 45 percent slopes
- W - Water

SOURCE: DigitalGlobe 2016; USDA 2018

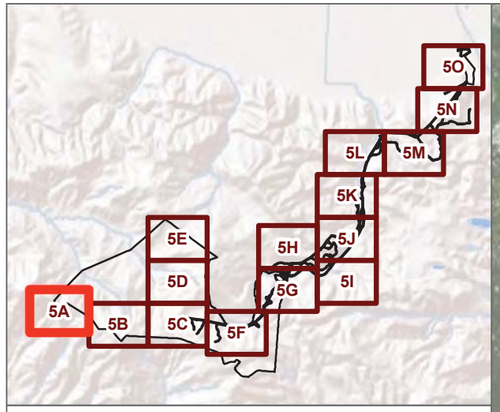
DUDEK

0 200 400 Feet

FIGURE 4P

Soils

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area
- Data Station
- Coastal Zone
- Swales

Jurisdictional Delineation

- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County
- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County/CCC
- Wetland (Three-parameter) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

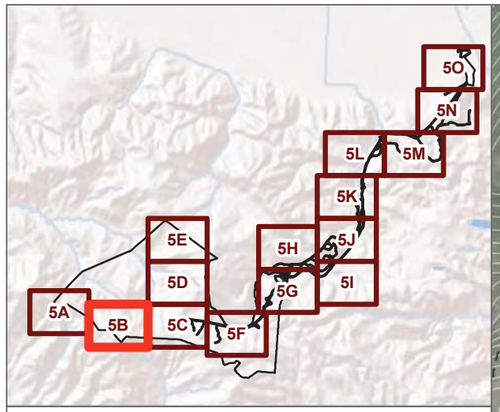
DUDEK

0 200 400 Feet

FIGURE 5A

Wetland Delineation and Jurisdictional Determination

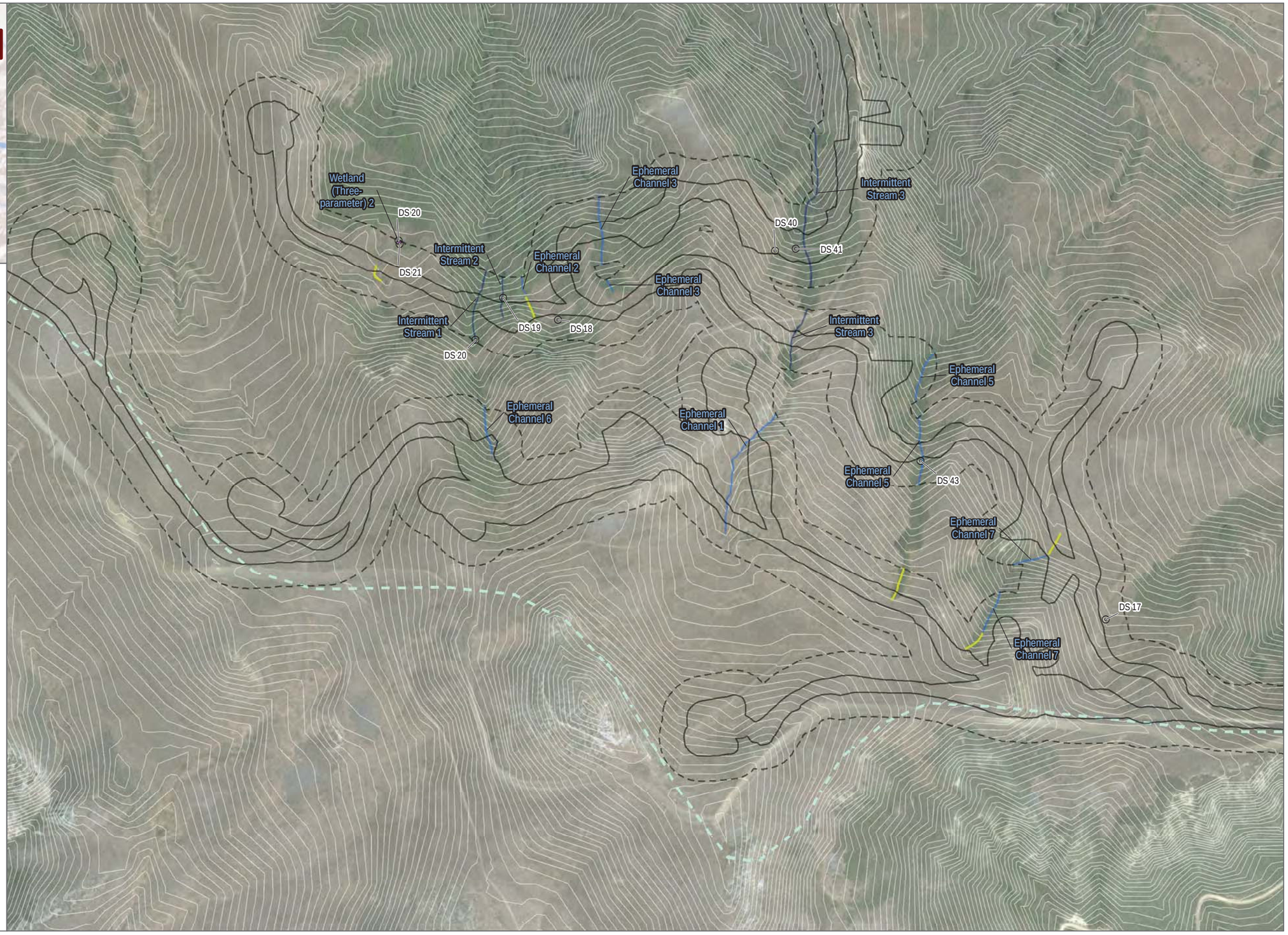
Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey
- Data Station
- Coastal Zone
- Swales

Jurisdictional Delineation

- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County
- Intermittent Stream (other waters of the US & state) USACE/RWQCB/CDFW/County
- Wetland (Three-parameter) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

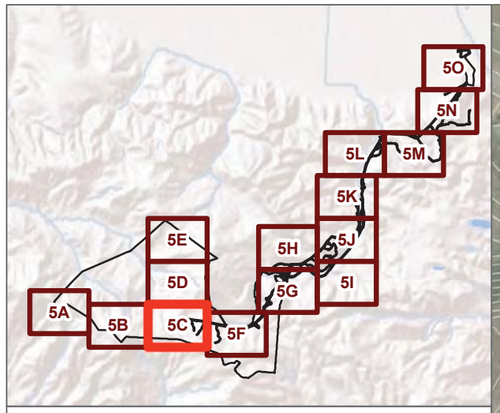
DUDEK

0 200 400 Feet

FIGURE 5B

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area
- Data Station
- Coastal Zone
- Swales

Jurisdictional Delineation

- Ephemeral Channel (Top of Eroded Bank) CDFW
- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County
- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County/CCC
- Wetland (Three-parameter) USACE/RWQCB/CDFW/County
- Wetland (Two-parameter) County

SOURCE: DigitalGlobe 2016

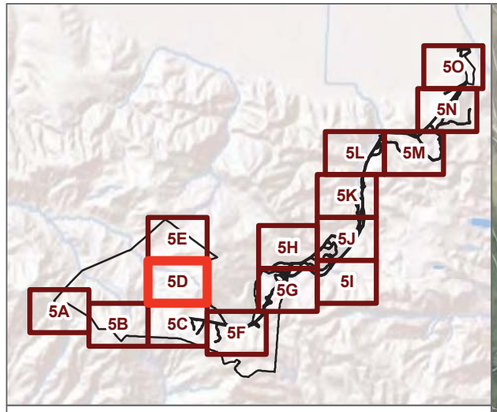
DUDEK

0 200 400 Feet

FIGURE 5C

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area
- Data Station
- Swales

Jurisdictional Delineation

- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County
- Intermittent Stream (other waters of the US & state) USACE/RWQCB/CDFW/County
- Wetland (Three-parameter) USACE/RWQCB/CDFW/County

SOURCE: DigitalGlobe 2016

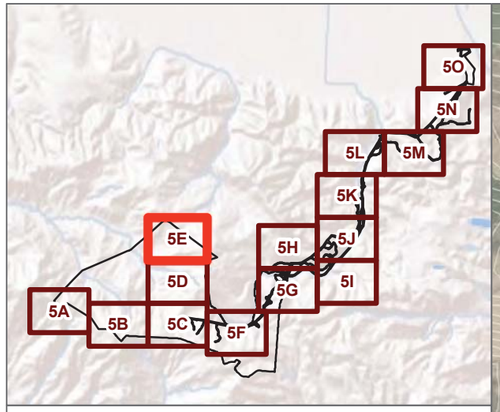
DUDEK

0 200 400 Feet

FIGURE 5D

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area
- Data Station
- Swales

Jurisdictional Delineation

- Ephemeral Channel (Top of Eroded Bank) CDFW
- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County

SOURCE: DigitalGlobe 2016

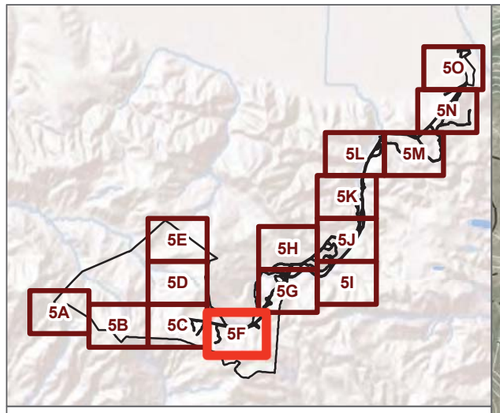
DUDEK

0 200 400 Feet

FIGURE 5E

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



- Limits Of Grading
- Wetland Delineation Survey Area
- Coastal Zone
- Swales

Jurisdictional Delineation

- Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County

Ephemeral Channel 18

SOURCE: DigitalGlobe 2016

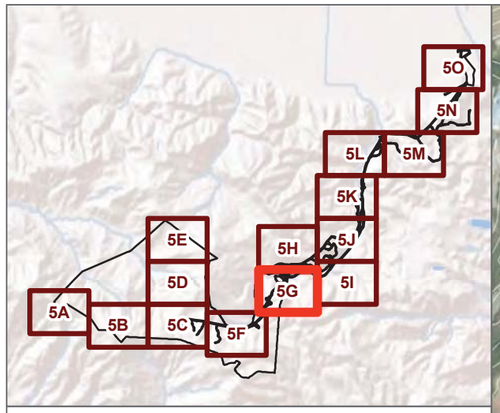
DUDEK

0 200 400 Feet

FIGURE 5F

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey

Data Station

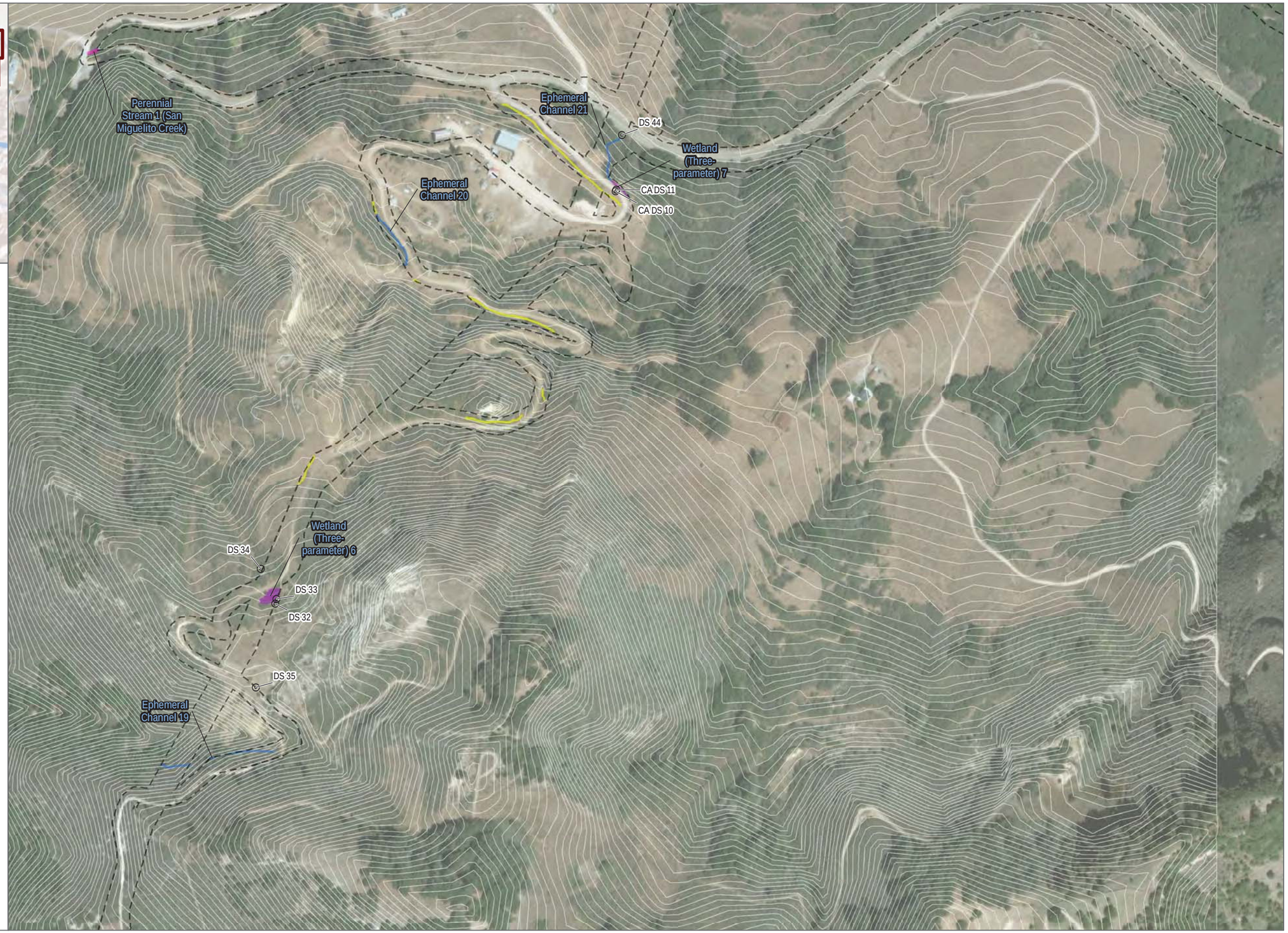
Swales

Jurisdictional Delineation

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County

Perennial Stream (other waters of the US & state) USACE/RWQCB/CDFW/County

Wetland (Three-parameter) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

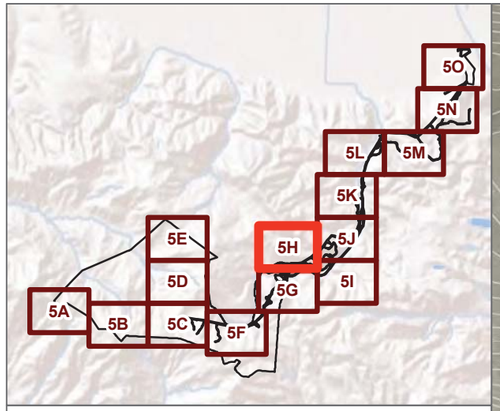
DUDEK

0 200 400 Feet

FIGURE 5G

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey Area

Jurisdictional Delineation

Perennial Stream (other waters of the US & state) USACE/RWQCB/CDFW/County

Perennial Stream 1 (San Miguelito Creek)

Perennial Stream 1 (San Miguelito Creek)

Perennial Stream 1 (San Miguelito Creek)

SOURCE: DigitalGlobe 2016

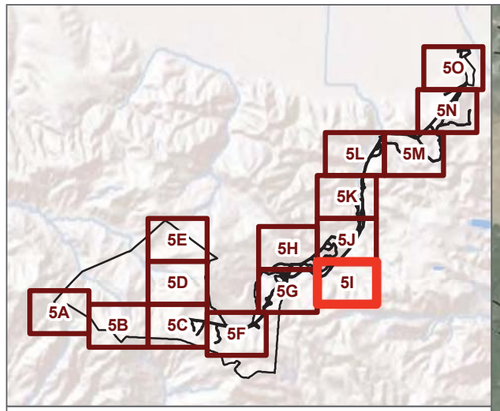
DUDEK

0 200 400 Feet

FIGURE 5H

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey Area

Swales

Jurisdictional Delineation

Perennial Stream (other waters of the US & state) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

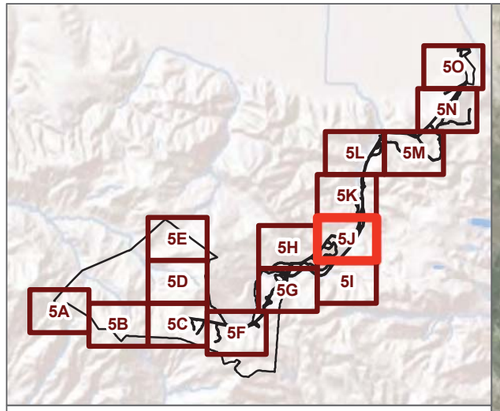
DUDEK

0 200 400 Feet

FIGURE 5I

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey Area

Data Station

Swales

Jurisdictional Delineation

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County

Perennial Stream (other waters of the US & state) USACE/RWQCB/CDFW/County

SOURCE: DigitalGlobe 2016

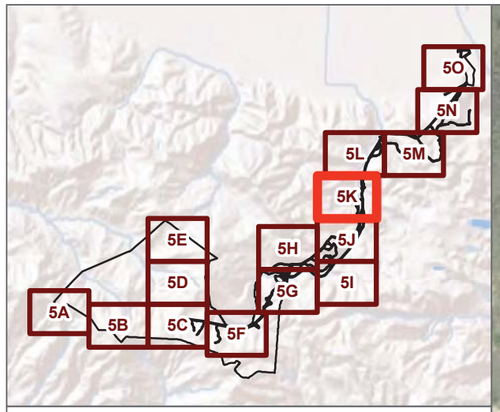
DUDEK

0 200 400 Feet

FIGURE 5J

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey

Data Station

Swales

Jurisdictional Delineation

Ephemeral Channel (Top of Eroded Bank) CDFW

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

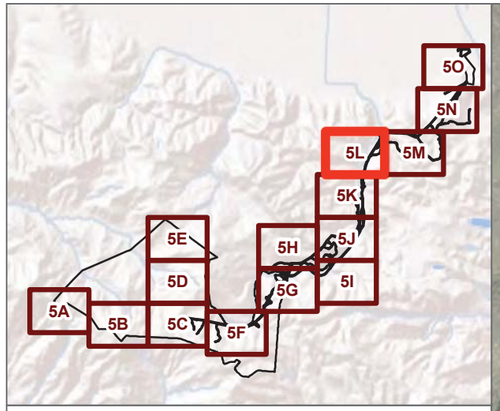
DUDEK

0 200 400 Feet

FIGURE 5K

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey Area

Data Station

Swales

Jurisdictional Delineation

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

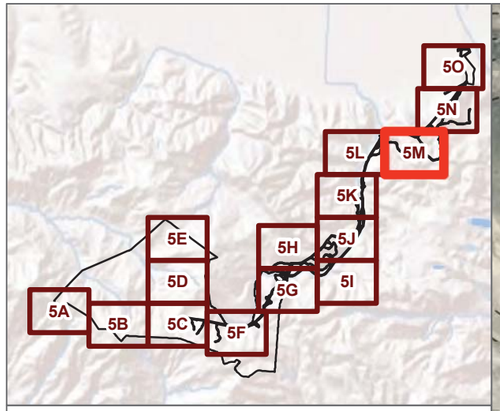
DUDEK

0 200 400 Feet

FIGURE 5L

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey Area

Swales

Jurisdictional Delineation

Ephemeral Channel (Top of Eroded Bank) CDFW

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County



SOURCE: DigitalGlobe 2016

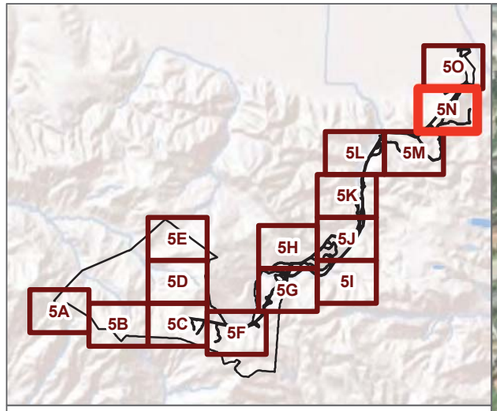
DUDEK

0 200 400 Feet

FIGURE 5M

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey

Swales

Jurisdictional Delineation

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County

Ephemeral Channel 29

SOURCE: DigitalGlobe 2016

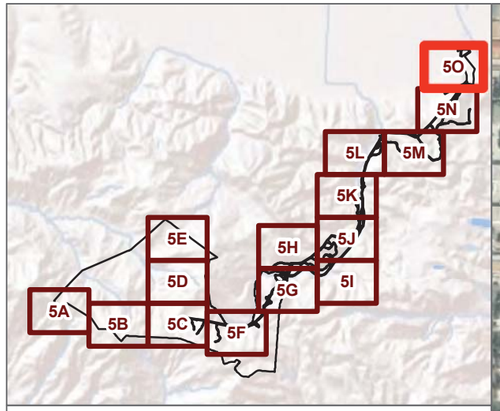
DUDEK

0 200 400 Feet

FIGURE 5N

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project



Wetland Delineation Survey Area

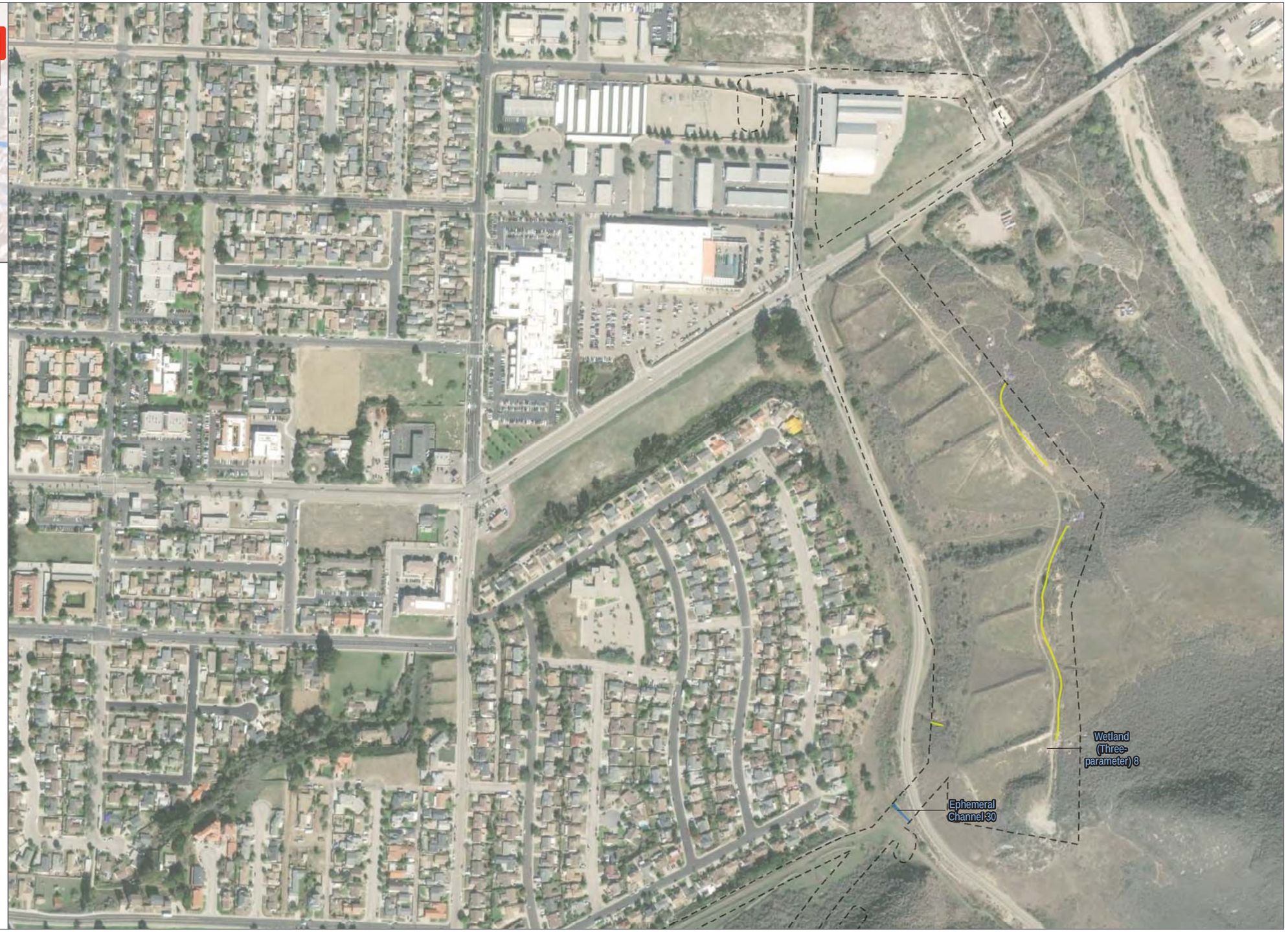
Swales

Jurisdictional Delineation

Ephemeral Channel (Top of Eroded Bank) CDFW

Ephemeral Channel (other waters of the US & state) USACE/RWQCB/CDFW/County

Wetland (Three-parameter - isolated) RWQCB



SOURCE: DigitalGlobe 2016

DUDEK

0 200 400 Feet

FIGURE 5O

Wetland Delineation and Jurisdictional Determination

Strauss Wind Energy Project

APPENDIX B

Wetland Determination Data Forms

DRAFT

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc/SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS1

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 15

Subregion (LRR): C - Mediterranean California | Lat: 34.5770167883943 | Long: -120.543583252957 | Datum:

Soil Map Unit Name: | 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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	10	Yes	Not Listed
2. *Hazardia squarrosa*	2	No	Not Listed
3. *Mimulus aurantiacus*	1	No	Not Listed
4.			
5.			
Total Cover:	13 %		
Herb Stratum			
1. *Juncus patens*	5	Yes	FACW
2. *Bromus hordeaceus*	10	Yes	FACU
3. *Helminthotheca echiodes*	2	No	FAC
4. *Sidalcea malviflora*	2	No	FACW
5. *Plantago lanceolata*	1	No	FAC
6. *Hordeum marinum*	1	No	FAC
7. *Sisyrinchium bellum*	1	No	FACW
8.			
Total Cover:	22 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	8	x 2 =	16
FAC species	4	x 3 =	12
FACU species	10	x 4 =	40
UPL species	13	x 5 =	65
Column Totals:	35 (A)		133 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: CADS1

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[3]	Remarks
0-8	10YR 3/1	95	10YR 5/8	5	RM	RC	Clay	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Soil very hard.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS2

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Drainage | Local relief (concave, convex, none): Concave | Slope (%): 5

Subregion (LRR): C - Mediterranean California | Lat: 34.5777559505784 | Long: -120.543854530487 | Datum:

Soil Map Unit Name: LOS OSOS CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED | 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 ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Salix lasiolepis*	30	Yes	FACW
2. *Artemisia californica*	2	No	Not Listed
3. *Baccharis pilularis*	5	Yes	Not Listed
4.			
5.			
Total Cover:	37 %		
Herb Stratum			
1. *Juncus patens*	5	Yes	FACW
2. *Bromus hordaeceus*	1	No	FACU
3. *Bromus diandrus*	1	No	Not Listed
4. *Hordeum marinum*	1	No	FAC
5. *Gnaphalium californicum*	1	No	Not Listed
6.			
7.			
8.			
Total Cover:	9 %		
Woody Vine Stratum			
1. *Rubus ursinus*	30	Yes	FAC
2.			
Total Cover:	30 %		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	35	x 2 =	70
FAC species	31	x 3 =	93
FACU species	1	x 4 =	4
UPL species	9	x 5 =	45
Column Totals:	76 (A)		212 (B)

Prevalence Index = B/A = 2.79

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

SOIL

Sampling Point: CADS2

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[3]	Remarks
0-16	10 YR 4/2	95	7.5 YR 4/6	5	C	M	Clay	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS3

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): None | Slope (%): 45

Subregion (LRR): C - Mediterranean California | Lat: 34.5777559505784 | Long: -120.543854530487 | Datum:

Soil Map Unit Name: LOS OSOS CLAY LOAM, 30 TO 50 PERCENT SLOPES, ERODED | 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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	35	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	35 %		
Herb Stratum			
1. *Bromus hordaeceus*	25	Yes	FACU
2. *Bromus diandrus*	5	No	Not Listed
3. *Sisyrinchium bellum*	5	No	FACW
4. *Helminthotheca echioides*	15	Yes	FAC
5. *Juncus patens*	5	No	FACW
6. *Fragaria vesca*	15	Yes	UPL
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1. *Rubus ursinus*	30	Yes	FAC
2.			
Total Cover:	30 %		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	45	x 3 =	135
FACU species	25	x 4 =	100
UPL species	55	x 5 =	275
Column Totals:	135 (A)		530 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: CADS3

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[3]	Remarks
0-8	10 YR 3/1	98	7.5 YR 4/6	2	C	M	Loamy clay	
8-16	10 YR 3/1	100					Loamy clay	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompos/ SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS4

Investigator(s): Callie Amoaku | Section, Township, Range:

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

Subregion (LRR): C - Mediterranean California | Lat: 34.5744816778699 | Long: -120.519419505692 | Datum:

Soil Map Unit Name: TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES | 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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Swale and depression w/ hydrophytic veg growing both inside and "banks" of swale/depression.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	50	Yes	FACW
2.			
3.			
4.			
Total Cover:	50 %		
Sapling/Shrub Stratum			
1. *Ribes malvaceum*	10	Yes	Not Listed
2. *Toxicodendron diversilobum*	1	No	FACU
3.			
4.			
5.			
Total Cover:	11 %		
Herb Stratum			
1. *Conium maculatums*	75	Yes	FACW
2. *Urtica dioica*	5	No	FAC
3. *Hordeum murinum*	5	No	FACU
4. *Bromus diandrus*	5	No	FAC
5. *Cynara cardunculus*	1	No	Not Listed
6.			
7.			
8.			
Total Cover:	91 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	125	x 2 =	250
FAC species	10	x 3 =	30
FACU species	6	x 4 =	24
UPL species	11	x 5 =	55
Column Totals:	152 (A)		359 (B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: CADS4

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[3]	Remarks
0-16	10 YR 2/1	100	none				loamy sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: This area is more swale-like. No discernible hydrology indicators.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS5

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Top of slope | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: | Long: | Datum:

Soil Map Unit Name: | 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 ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	20	Yes	FACW
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1. *Ribes malvaceum*	5	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Bromus hordaeceus*	<1	No	FACU
2. *Hordeum murinum*	50	Yes	FACU
3. *Festuca perennis (Lolium perenne)*	30	Yes	FAC
4. *Bromus diandrus*	10	No	Not Listed
5. *Malacothamnus parishii*	30	Yes	Not Listed
6. *Erodium cicutarium*	20	No	Not Listed
7. *Conium maculatum*	5	No	FACW
8.			
Total Cover:	145 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	25	x 2 =	50
FAC species	30	x 3 =	90
FACU species	50	x 4 =	200
UPL species	65	x 5 =	325
Column Totals:	170 (A)		665 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: CADS5

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[3]	Remarks
0-6	10 YR 2/1	100					Loamy sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS6

Investigator(s): Callie Amoaku | Section, Township, Range:

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

Subregion (LRR): C - Mediterranean California | Lat: 34.574007669403 | Long: -120.518713262066 | Datum:

Soil Map Unit Name: TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES | 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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eucalyptus camaldulensis*	50	Yes	FAC
2.			
3.			
4.			
Total Cover:	50 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Conium maculatum*	50	Yes	FACW
2. *Bromus hordeaceus*	10	No	FACU
3. *Juncus patens*	<1	No	FACW
4. *Urtica dioica*	<1	No	FAC
5.			
6.			
7.			
8.			
Total Cover:	60 %		
Woody Vine Stratum			
1. *Rubus ursinus*	1	Yes	FAC
2.			
Total Cover:	1 %		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	50	x 2 =	100
FAC species	51	x 3 =	153
FACU species	10	x 4 =	40
UPL species		x 5 =	0
Column Totals:	111 (A)		293 (B)

Prevalence Index = B/A = 2.64

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: CADS6

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[3]	Remarks
0-2	N/A	100					Leaf litter	
2-9	10 YR 2/1	95	7.5 YR 5/8	5	C	M	Sandy loam	
9-12	10 YR 4/3	80	7.5 YR 5/8	20	C	M	Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Redox conc. present in layers 8"+ remnants of oxidized roots in 9"+ layers but not along living roots.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS7

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: | Long: | Datum:

Soil Map Unit Name: | 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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eucalyptus camaldulensis*	30	Yes	FAC
2.			
3.			
4.			
Total Cover:	30 %		
Sapling/Shrub Stratum			
1. *Ribes malvaceum*	2	Yes	Not Listed
2. *Baccharis pilularis*	<1	No	Not Listed
3.			
4.			
5.			
Total Cover:	2 %		
Herb Stratum			
1. *Juncus patens*	20	Yes	FACW
2. *Festuca perennis (Lolium perenne)*	<1	No	FAC
3. *Atriplex prostrata*	20	Yes	FACW
4. *Polypodium californicum*	<1	No	Not Listed
5. *Hordeum marinum*	<1	No	FAC
6. *Anagallis arvensis*	5	No	Not Listed
7.			
8.			
Total Cover:	45 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	40	x 2 =	80
FAC species	30	x 3 =	90
FACU species		x 4 =	0
UPL species	7	x 5 =	35
Column Totals:	77 (A)		205 (B)

Prevalence Index = B/A = 2.66

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: CADS7

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[3]	Remarks
0-4	10 YR 2/1	97	5 YR 4/6	3	C	PL	Sandy loam	
4-12	10 YR 3/1	30					Loamy sand	
4-12	10 YR 2/1	65	5 YR 4/6	5	C	M	Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS8

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Top of slope | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34.5741735280095 | Long: -120.51865103951 | Datum:

Soil Map Unit Name: TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES | 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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	2	Yes	FACW
2. *Eucalyptus camaldulensis*	2	Yes	FAC
3.			
4.			
Total Cover:	4 %		
Sapling/Shrub Stratum			
1. *Ribes malvaceum*	2	Yes	Not Listed
2. *Baccharis pilularis*	2	Yes	Not Listed
3.			
4.			
5.			
Total Cover:	4 %		
Herb Stratum			
1. *Bromus diandrus*	10	Yes	Not Listed
2. *Cynara cardunculus*	10	Yes	Not Listed
3. *Hordeum murinum*	5	No	FACU
4. *Festuca perennis (Lolium perenne)*	5	No	FAC
5. *Bromus hordeaceus*	5	No	FAC
6. *Atriplex prostrata*	10	Yes	FACW
7.			
8.			
Total Cover:	45 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	12	x 2 =	24
FAC species	12	x 3 =	36
FACU species	5	x 4 =	20
UPL species	24	x 5 =	120
Column Totals:	53 (A)		200 (B)

Prevalence Index = B/A = 3.77

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: CADS8

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[3]	Remarks
0-16	10 YR 3/1	100					Loamy sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS9

Investigator(s): Callie Amoaku | Section, Township, Range:

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

Subregion (LRR): C - Mediterranean California | Lat: 34.5741889500366 | Long: -120.518524906093 | Datum:

Soil Map Unit Name: TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES | 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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	20	Yes	FACW
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Juncus patens*	5	No	FACW
2. *Conium maculatum*	5	No	FACW
3. *Hordeum murinum*	25	Yes	FACU
4. *Bromus diandrus*	10	No	Not Listed
5. *Bromus hordeaceus*	10	No	FACU
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	30	x 2 =	60
FAC species		x 3 =	0
FACU species	35	x 4 =	140
UPL species	10	x 5 =	50
Column Totals:	75 (A)		250 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: CADS9

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[3]	Remarks
0-3	10 YR 2/1	100					Sandy loam	
3-6	10 YR 2/1	98	7.5 YR 5/8	2	C	PL	Sandy loam	
6-8	10 YR 2/1	95	7.5 YR 5/8	5	C	M	Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: CADS10

Investigator(s): Callie Amoaku | Section, Township, Range:

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

Subregion (LRR): C - Mediterranean California | Lat: 34.5741889500366 | Long: -120.518524906093 | Datum:

Soil Map Unit Name: DIABLO CLAY, 15 TO 30 PERCENT SLOPES, ERODED | 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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	20	Yes	FACW
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1. *Rhamnus californica*	10	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Trifolium willdenowii*	30	Yes	FACW
2. *Juncus bufonius*	15	No	FACW
3. *Polypogon monspeliensis*	15	No	FACW
4. *Plantago coronopus*	<1	No	FAC
5. *Agrostis stolonifera*	15	No	FACW
6. *Melilotus indica*	5	No	FACU
7. *Nasturtium officinale*	10	No	OBL
8. *Veronica anagallis-aquatica*	<1	No	OBL
Total Cover:	90 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	120 (A)		270 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: CADS10

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[3]	Remarks
0-3	10 YR 3/2	45	7.5 YR 4/6	5	C	PL	Sandy loam	Oxidized rhizospheres
3-10	5 Y 4/1	85	7.5 YR 4/6	5	C	PL	Sand	Oxidized rhizospheres
3-10	5 Y 2.5/1	10					Sand	
10-16	5 Y 4/1	50	7.5 YR 4/6	25	C	M	Sand	
10-16	5 Y 4/2	20	5 YR 4/6	5	C	M	Sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Large sand particles common throughout sample.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1"

Water Table Present? Yes ◉ No ○ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/24/18

Applicant/Owner: | State: CA | Sampling Point: CADS11

Investigator(s): Callie Amoaku and Randall McIvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Roadside | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34.5874338449061 | Long: -120.485282467578 | Datum:

Soil Map Unit Name: DIABLO CLAY, 15 TO 30 PERCENT SLOPES, ERODED | 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 ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	20	Yes	FACW
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1. *Rhamnus californica*	10	Yes	Not Listed
2. *Baccharis pilularis*	5	Yes	Not Listed
3. *Artemisia californica*	5	Yes	Not Listed
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1. *Bromus madritensis*	40	Yes	UPL
2. *Gnaphalium leucocephalum*	1	No	Not Listed
3. *Melilotus indica*	10	No	FACU
4. *Polypogon monspeliensis*	1	No	FACW
5. *Plantago coronopus*	10	No	FACW
6. *Bromus hordeaceus*	2	No	FACU
7. *Festuca perennis (Lolium perenee)*	3	No	FAC
8.			
Total Cover:	67 %		
Woody Vine Stratum			
1. *Toxicodendron diversilobum*	5	Yes	FAC
2.			
Total Cover:	5 %		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	31	x 2 =	62
FAC species	8	x 3 =	24
FACU species	12	x 4 =	48
UPL species	61	x 5 =	305
Column Totals:	112 (A)		439 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: CADS11

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[3]	Remarks
0-5	2.5 Y 3/2	90	7.5 YR 4/6	1	C	M	Sandy loam	
0-5	2/5 Y 2.5/1	9					Sandy loam	
5-12	5 Y 4/2	60	7.5 YR 4/6	5	C	M	Sandy loam	
5-12	5 Y 4/3	25	7.5 YR 4/8	10	C	M	Sandy loam	
12-16	2.5 Y 4/3	85	5 YR 5/6	10	C	M	Sandy loam	
12-16	2.5 Y 5/2	5						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: No oxidized rhiz. on living roots.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/30/18

Applicant/Owner: | State: CA | Sampling Point: CADS12

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Drainage | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34.5920191464754 | Long: -120.471874273003 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus agrifolia*	5	Yes	Not Listed
2.			
3.			
4.			
Total Cover:	5 %		
Sapling/Shrub Stratum			
1. *Sambucus nigra*	15	Yes	FACU
2.			
3.			
4.			
5.			
Total Cover:	15 %		
Herb Stratum			
1. *Hordeum murinum*	5	No	FACU
2. *Cynara cardunculus*	15	Yes	Not Listed
3. *Cirsium vulgare*	1	No	FACU
4. *Bromus madritensis*	35	Yes	UPL
5. *Avena barbata*	15	Yes	Not Listed
6. *Urtica dioica*	3	No	FAC
7.			
8.			
Total Cover:	74 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	3	x 3 =	9
FACU species	21	x 4 =	84
UPL species	70	x 5 =	350
Column Totals:	94 (A)		443 (B)

Prevalence Index = B/A = 4.71

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: CADS12

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[3]	Remarks
0-16	7.5 Y 3/2	100					Loamy Sand	Rocky

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No oxidized rhiz. on living roots.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Lompoc / SB | Sampling Date: 5/30/18

Applicant/Owner: | State: CA | Sampling Point: CADS13

Investigator(s): Callie Amoaku | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): None | Slope (%): 25

Subregion (LRR): C - Mediterranean California | Lat: 34.5919984408597 | Long: -120.543844099426 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES | NWI classification:

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

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

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

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus agrifolia*	5	Yes	Not Listed
2.			
3.			
4.			
Total Cover:	5 %		
Sapling/Shrub Stratum			
1. *Sambucus nigra*	5	Yes	FACU
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Bromus diandrus*	60	Yes	Not Listed
2. *Hordeum murinum*	10	Yes	FACU
3. *Brassica nigra*	1	No	Not Listed
4. *Cynara cardunculus*	5	No	Not Listed
5. *Cirsium vulgare*	1	No	FACU
6. *Avena barbata*	10	No	Not Listed
7.			
8.			
Total Cover:	87 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	16	x 4 =	64
UPL species	81	x 5 =	405
Column Totals:	97 (A)		469 (B)

Prevalence Index = B/A = 4.84

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: CADS13

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[3]	Remarks
0-16	10 YR 2/1	100					Loamy Sand	Rocky

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/25/18

Applicant/Owner: | State: CA | Sampling Point: DS1

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.57465083 | Long: -120.5162858 | Datum:

Soil Map Unit Name: Botella Silty Clay loam 2-9% | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sampling point is on the edge of a previously mapped wetland. Located the sampling point in < topograph low point.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Capsella bursa-pastoris*	10	No	FACU
2. *Erodium moschatum*	30	Yes	Not Listed
3. *Hordeum murinum*	40	Yes	FACU
4. *Bromus diandrus*	10	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	90 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	50	x 4 =	200
UPL species	40	x 5 =	200
Column Totals:	90 (A)		400 (B)

Prevalence Index = B/A = 4.44

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Site appears to be grazed, likely altering the vegetation composition. Some individual FAC/FACU species in the vicinity but in small, isolated patches.

SOIL

Sampling Point: DS1

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[3]	Remarks
0-4	10 YR 3/1	100	N/A				Sandy Loem	
4-15	10 YR 3/1	93		7	C	PL	Sandy Loem	
15-20	10 YR 2/1	100					Sandy Loem	nearly black

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 present in the 4-15" layer approx 3% of the profile contains oxidized rhizopheres.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind City/County: Santa Barbara Sampling Date: 4/25/18

Applicant/Owner: State: CA Sampling Point: DS2

Investigator(s): R. McInvale Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): ~3

Subregion (LRR): C - Mediterranean California Lat: 34.573888 Long: 120.51683 Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sampling point is w/ in a previously mapped wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Schismus barbatus*	40	Yes	Not Listed
2. *Erodium cucatarium*	5	No	Not Listed
3. *Erodium botrys*	15	No	FACU
4. *Festuca myruros*	25	Yes	FACU
5. *Hordeam murinum*	2	No	FACU
6. *Bromus diandrus*	10	No	Not Listed
7. *Bromus catharticus*	1	No	Not Listed
8. *Anagalis arvensis*	3	No	FAC
Total Cover:	101 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	3	x 3 =	9
FACU species	42	x 4 =	168
UPL species	56	x 5 =	280
Column Totals:	101 (A)		457 (B)

Prevalence Index = B/A = 4.52

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed

SOIL

Sampling Point: DS2

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[3]	Remarks
0-3	10 YR 2/2	100	N/A				Sandy Loam	Abundant plant roots
3-11	10 YR 3/2	85	5 YR 4/6	15	C	PL	Loamy Sand	Redox common in layer
11-16	7.5 YR 3/1	100	N/A				Loamy Sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 present in 3-11" layer

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/25/18

Applicant/Owner: | State: CA | Sampling Point: DS3

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): Slightly Concave | Slope (%): ~3

Subregion (LRR): C - Mediterranean California | Lat: 34.573817 | Long: 120.516783 | Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% | NWI classification: N/A

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 ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point within a previously mapped wetland point collected at the topographed equivalent of the cross road (ie. where ponding could potentially go up to)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus drundrus*	30	Yes	Not Listed
2. *Erodium cicutarium*	10	No	Not Listed
3. *Hedyprous cretuce*	5	No	Not Listed
4. *Erodium botrys*	15	No	FACU
5. *Festica myurus*	25	Yes	FACU
6. *Bromus hordeaceus*	15	No	FACU
7. *Brassica Nigra*	5	No	Not Listed
8.			
Total Cover:	105%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	55	x 4 =	220
UPL species	50	x 5 =	250
Column Totals:	105 (A)		470 (B)

Prevalence Index = B/A = 4.48

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Grazed

SOIL

Sampling Point: DS3

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[3]	Remarks
0 - 20	10 YR 3/2	100	N/A				Sandy Loem	Abundant roots in upper 3"

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Uniform soil profile. No sign of redox or other hydro soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/25/18

Applicant/Owner: | State: CA | Sampling Point: DS4

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): Slightly Concave | Slope (%): ~3

Subregion (LRR): C - Mediterranean California | Lat: 34.573856 | Long: 120.516814 | Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sampling point is w/ in a previously mapped wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Carduus pycnocephalus*	10	No	Not Listed
2. *Bromus drundrus*	30	Yes	Not Listed
3. *Brassica nigra*	15	No	Not Listed
4. *Erodium cicutarium*	15	No	Not Listed
5. *Hordeum murinum*	5	No	FACU
6. *Schismus barbatus*	25	Yes	Not Listed
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	5	x 4 =	20
UPL species	95	x 5 =	475
Column Totals:	100 (A)		495 (B)

Prevalence Index = B/A = 4.95

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed

SOIL

Sampling Point: DS4

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[3]	Remarks
0 - 6.5	10 YR 3/2	100	N/A				Sandy Loam	Abundant roots in upper 3"
6.5 - 8	10 YR 3/2	98	7.5 YR 4/6	2	C	PL	Sandy Loam	
8 - 21	10 YR 3/2	100					Sandy Loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks: Redox in the 6.5 - 8" layer is present w/ in linings some root channels.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Redox in 6.5 - 8" layer is present in some root channels; however, does not appear to meet the 2% threshold.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/28/18

Applicant/Owner: | State: CA | Sampling Point: DS5

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): flat | Slope (%): ~0

Subregion (LRR): C - Mediterranean California | Lat: 34.574558 | Long: 120.516221 | Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sampling point is on a slight rise in the load topography b/t 2 low spots that appear to receive some concentrated flow through diverts / road runoff.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murinum*	60	Yes	FACU
2. *Erodium moschotum*	30	Yes	Not Listed
3. *Schismus bartatus*	15	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	105%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	60	x 4 =	240
UPL species	45	x 5 =	225
Column Totals:	105 (A)		465 (B)

Prevalence Index = B/A = 4.43

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed so many seed heads are missing. Difficult to accurately estimate grass spurs.

SOIL

Sampling Point: DS5

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[3]	Remarks
0 - 5	10 YR 3/1	100	N/A				Sandy Loam	
5-13	10 YR 3/1	95	5 YR 4/6	5	C	M	Sandy Loam	Redox in matrix as well
13-22	10 YR 2/1	100	N/A				Santa Loam	Very dark, nearly black

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Most of the redox is in the matrix and pore linings. A very small amount along living roots.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: As noted above, only a very small amount of redox present along living roots. Determined to be less than 2% and does not meet C3.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/25/18

Applicant/Owner: | State: CA | Sampling Point: DS6

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): Slightly Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.574454 | Long: 120.516172 | Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% | NWI classification: N/A

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 ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point is in a topographic low spot downstream of a culvert outlet.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Capsella bursa-pastoris*	10	No	FACU
2. *Polygonum aviculare*	5	No	FACU
3. *Erodium moschetum*	30	Yes	Not Listed
4. *Hordeum murinum*	35	Yes	FACU
5. *Schismus barbatus*	20	Yes	Not Listed
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	50	x 4 =	200
UPL species	50	x 5 =	250
Column Totals:	100 (A)		450 (B)

Prevalence Index = B/A = 4.50

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Grazed. Grass species difficult to estimate.

SOIL

Sampling Point: DS6

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[3]	Remarks
0 - 2.5	10 YR 4/3	100	N/A				Loemy Sand	
2.5 - 13	10 YR 3/1	96	5 YR 4/6	4	C	PL	Sandy Loem	
13-19	10 YR 3/1	100	N/A					

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Redox in the 2.5 - 13" layer is present in pore linings, including in old root channels; however, there was no identifiable redox along living roots.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind City/County: Santa Barbara County Sampling Date: 4/25/18

Applicant/Owner: State: CA Sampling Point: DS7

Investigator(s): R. McInvale Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Slightly Concave Slope (%): ~3

Subregion (LRR): C - Mediterranean California Lat: Long: Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?**	**Yes (●) No ( )**
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks: Sampling point is within a low spot downstream of a calvert outlet. Elevation rises slightly immediately NE (downstream)
6/5/18 update - found to support hydrophytic vegetation after veg cover shifts.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Rumex crispus*	7	No	FACU
2. *Capsella bursa pastoris*	5	No	FACU
3. *Plantago coronopus*	40	Yes	FAC
4. *Hordeum murinum*	40	Yes	FAC
5. *Cotula coronopifolia*	3	No	OBL
6. *Polygonum aruense*	10	No	FACU
7. *Erodium moschatam*	5	No	Not Listed
8. *Hordium marinum*	10	No	FACU
Total Cover:	120%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species		x 2 =	0
FAC species	80	x 3 =	240
FACU species	32	x 4 =	128
UPL species	5	x 5 =	25
Column Totals:	120 (A)		396 (B)

Prevalence Index = B/A = 3.30

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Grazed pasture.

6/5/18 update - Plantago coronopus has come up aling with polypogon monspliensis. Plantago covers approximately 40%. Schisms dropped out of the vegetation composition. Re-calculating dominant results in >50% FAC species dominance. Passes dominance test.

SOIL

Sampling Point: DS7

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[3]	Remarks
0 - 1.5	10 YR 3/2	100	N/A				Sandy Loam	
1.5-10	10 YR 2/2	90	5 YR 4/6	10	C	PL	Sandy Loam	Redox also in the matrix
10-18	10 YR 2/2	80	5 YR 4/4	20	C	M	Sandy Loam	
18-21	10 YR 2/1	100	N/A				Sandy Loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 present in the 1.5-10" layer, mostly in the first 3" of the layer. Clearly identified in the layer - stained living roots and oxidized channel sides.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/26/18

Applicant/Owner: | State: CA | Sampling Point: DS8

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Ephmeral Chanel | Local relief (concave, convex, none): Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.57341 | Long: 120.515281 | Datum:

Soil Map Unit Name: Tierra - San Andreas Complex 15 - 30% severely eroded | NWI classification: R4SBA

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sampling point is in Eph 1 feature - an apparent channel that receives water from road runoff primarily.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Lysimachia arvensis*	7	No	FAC
2. *Medicago polymorpha*	2	No	FACU
3. *Erodium botrys*	5	No	FACU
4. *Bromus diandrus*	40	Yes	Not Listed
5. *Bromus hordeaceeus*	21	Yes	FACU
6. *Hordeum murinum*	15	No	FACU
7. *Rumex crispus*	5	No	Not Listed
8. *Hedypnois cretica*	2	No	Not Listed
Total Cover:	97 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	7	x 3 =	21
FACU species	43	x 4 =	172
UPL species	47	x 5 =	235
Column Totals:	97 (A)		428 (B)

Prevalence Index = B/A = 4.41

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed.

SOIL

Sampling Point: DS8

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[3]	Remarks
0 - 3	10 YR 3/2	98	7.5 YR 5/8	2	C	M	Sand	Abundant roots
3-12	10 YR 3/2	70	5 YR 4/4	10	C	M	Sand	Some roots, not as abundant
	10 YR 2/1	20					Sandy Loam	
12-18	10 YR 3/2	85	7.5 YR 5/8	15	C	M	Sandy Loam	Redox also in pore linings

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 present in the 3-12" and 12-18" layers. The area is utilized by cattle so other indicators (e.g. B6) may not be apparent. Oxidized rhizospheres and staining on living roots clearly present.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/26/18

Applicant/Owner: | State: CA | Sampling Point: DS9

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace above ephemeral chl | Local relief (concave, convex, none): Flat | Slope (%): ~0

Subregion (LRR): C - Mediterranean California | Lat: 34.573406 | Long: 120.515339 | Datum:

Soil Map Unit Name: Tierra - San Andres Complex 30% severely eroded | NWI classification: R4SBA

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	17	No	FACU
2. *Avena barbata*	15	No	Not Listed
3. *Stipa pulchra*	5	No	Not Listed
4. *Erodium botrys*	30	Yes	FACU
5. *Platago coronopus*	5	No	FAC
6. *Bromus diandrus*	20	Yes	Not Listed
7.			
8.			
Total Cover:	92 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 8 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	47	x 4 =	188
UPL species	40	x 5 =	200
Column Totals:	92 (A)		403 (B)

Prevalence Index = B/A = 4.38

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed

SOIL

Sampling Point: DS9

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[3]	Remarks
0-8	10 YR 3/1	100	N/A				Sandy Loem	
8-13	10 YR 3/1	99	5 YR 4/6	1	C	PL	Sandy Loem	
13-20	10 YR 3/1	100	N/A				Sandy Loem	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Not enough redox to meet hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 4/26/18

Applicant/Owner: | State: CA | Sampling Point: DS10

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Ephmeral Chanel | Local relief (concave, convex, none): Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.574266 | Long: 120.515666 | Datum:

Soil Map Unit Name: TIERRA-SAN ANDREAS COMPLEX, 15 TO 30 PERCENT SLOPES | NWI classification: R4SBA

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murium*	70	Yes	FACU
2. *Erodium moschatum*	15	No	Not Listed
3. *Capsella bursa-pastoris*	5	No	FACU
4. *Brassica nigra*	2	No	Not Listed
5. *Medicago polymorpha*	5	No	FACU
6. *Polygonum aviculare*	3	No	FAC
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	3	x 3 =	9
FACU species	80	x 4 =	320
UPL species	17	x 5 =	85
Column Totals:	100 (A)		414 (B)

Prevalence Index = B/A = 4.14

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture.

SOIL

Sampling Point: DS10

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[3]	Remarks
0-2.5	10 YR 3/2	100	N/A				Loamy sand	
3-12.5	10 YR 4/2	80	5 YR 4/6	10	C	PL	Loamy sand	Redox also present in matrix
	10 YR 3/2	10						
12.5-19	7.5 YR 3/1	95	5 YR 4/6	5	C	PL	Sandy loem	Redox also present in matrix

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Examined living roots very closely and only a very small amount showed evidence of oxidized rhizosheres in the profile. Determined not to meet C3 or any other hydrology indicator.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/7/18

Applicant/Owner: | State: CA | Sampling Point: DS11

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): ~2

Subregion (LRR): C - Mediterranean California | Lat: 34.592166 | Long: 120.512139 | Datum:

Soil Map Unit Name: Los Osos Clay Loam 30 to 50% slopes - eroded | NWI classification: PSSA

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Determined to be a non-wetland water.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	50	Yes	FACW
2.			
3.			
4.			
Total Cover:	50 %		
Sapling/Shrub Stratum			
1. *Artemisia californica*	10	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Bromus diandrus*	30	Yes	Not Listed
2. *Hordeum murinum*	40	Yes	FACU
3. *Avena barbata*	20	No	Not Listed
4. *Festuca perennis*	15	No	FAC
5.			
6.			
7.			
8.			
Total Cover:	105 %		
Woody Vine Stratum			
1. *Toxicodendron diversilobum*	5	Yes	FACU
2.			
Total Cover:	5 %		

% Bare Ground in Herb Stratum 0 % | % 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	50	x 2 =	100
FAC species	15	x 3 =	45
FACU species	45	x 4 =	180
UPL species	60	x 5 =	300
Column Totals:	170 (A)		625 (B)

Prevalence Index = B/A = 3.68

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DS11

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[3]	Remarks
0-2	10 YR 3/2	100	N/A				Coarse gravelyclay	Organic natural and small gravel
2-7	10 YR 4/2	100	N/A				Coarse gravelyclay	Very gravely

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Parent material/ rock refusal

Depth (inches): 7

Hydric Soil Present? Yes ○ No ◉

Remarks: Very rocky/ gravelly could not extract a sample. Examined in-site. 2-7" layer has some reddish colors but after close inspection it appears to be from the gravelly parent material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Riverine indicators present w/in defined OHWM.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/7/18

Applicant/Owner: | State: CA | Sampling Point: DS12

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): ~2

Subregion (LRR): C - Mediterranean California | Lat: 34.589123 | Long: -20.511899 | Datum:

Soil Map Unit Name: SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES | NWI classification: N/A

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: Tophographical low point in the hillslope. Just upslope of a dryland formed field. Evaluated due to presumed potential for hydric soil conditions.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murinum*	90	Yes	FACU
2. *Avena barbata*	5	No	Not Listed
3. *Bromus diandrus*	5	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	90	x 4 =	360
UPL species	10	x 5 =	50
Column Totals:	100 (A)		410 (B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Grazed pasture.

SOIL

Sampling Point: DS12

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[3]	Remarks
0-17	10 YR 3/1	100	N/A				Sandy loam	Very gravelly

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Very gravelly soil. Examined in-situ since a complete sample could not be extracted.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/7/18

Applicant/Owner: | State: CA | Sampling Point: DS13

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Flat to gently sloped | Slope (%): ~2

Subregion (LRR): C - Mediterranean California | Lat: 34.588797 | Long: 120.511963 | Datum:

Soil Map Unit Name: SANTA LUCIA SHALY CLAY LOAM, 30 TO 50 PERCENT SLOPES | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Base of hillslope immediately down slope of a swale. No features present within the survey area.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	10	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Trifolium willdenovii*	5	No	FACU
2. *Acmispon strigosus*	15	No	Not Listed
3. *Bromus hordeaceus*	10	No	FACU
4. *Erodium moschatum*	10	No	Not Listed
5. *Hedypnois cretica*	25	Yes	Not Listed
6. *Bromus diandrus*	40	Yes	Not Listed
7. *Hordeum brachyantherum*	5	No	FACU
8. *Festuca perennia*	5	No	FAC
Total Cover:	115 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	20	x 4 =	80
UPL species	100	x 5 =	500
Column Totals:	125 (A)		595 (B)

Prevalence Index = B/A = 4.76

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture.

SOIL

Sampling Point: DS13

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[3]	Remarks
0-1	10 YR 3/2	100	N/A				Loamy sand	Abundant roots
1-13	10 YR 3/2	85	5 YR 4/6	5	C	M	Sandy loam	Abundant small gravel
	10 YR 2/1	10						
13-19	7.5 YR 3/1	95	5 YR 4/4	5	C	M		

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Redox present mostly in the matrix & pore linings. Soft masks present (iron). Redox also present on coasted sand grains.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No living roots w/ clear oxidization (concentrations or depletions) to meet C3. No other indicators present.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/8/18

Applicant/Owner: | State: CA | Sampling Point: DS14

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.587231 | Long: 120.513297 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification: PSS/FOC

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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Point taken at a relatively flat/open portion of the waterway. Surface water present immediately adjacent w/in the apparent OHWM. Cattle tracks throughout channel have destroyed some OHWM indicators.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	2	No	FACU
2. *Notholithocarpus densiflorus*	3	No	Not Listed
3.			
4.			
Total Cover:	5 %		
Sapling/Shrub Stratum			
1. *Ribes speciosum*	5	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Bromus diandrus*	15	No	Not Listed
2. *Equisetum telmateia*	40	Yes	FACW
3. *Mimulus guttatus*	10	No	OBL
4. *Juncus patens*	5	No	FACW
5. *Nasturtium officinale*	2	No	OBL
6. *Melilotus indica*	1	No	FACU
7. *Urtica dioica*	10	No	FAC
8. *Rumex crispus*	5	No	FAC
Total Cover:	88 %		
Woody Vine Stratum			
1. *Rubus ursinus*	10	Yes	FAC
2. *Toxicodendron diversilobum*	3	No	FACU
Total Cover:	13 %		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	45	x 2 =	90
FAC species	25	x 3 =	75
FACU species	6	x 4 =	24
UPL species	23	x 5 =	115
Column Totals:	111 (A)		316 (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Cattle grazed.

SOIL

Sampling Point: DS14

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[3]	Remarks
0-.75	2.5 YR 6/3	100	N/A				Sand	Loose sand - fine texture
.75-5	10 YR 3/2	70	5 YR 4/6	5	C	M	Loamy sand	Abundant rocks, angular. Abund
	5 Y 4/1	20					Loamy sand	Leaf litter in profile
5-8	5 Y 4/1	80	5 YR 4/6	20	C	M	Loamy sand	Abundant leaf litter embedded
8-12	5 Y 4/1	60	2.5 YR 3/6	40	C	M	Sandy loam	Leaf litter still present
12-16	10 YR 3/1	90	5 Y 4/6	5	C	M	Sandy loam	Abundant gravel/rocks
	10 YR 4/3	5						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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)
- [x] 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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes (•) No ( )

Remarks: Redox also present mostly in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes (•) No ( ) Depth (inches): <1

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: Downstream of the DS, there is a log/ debris ham after which the channel drops 8'. In the downstream reach the channel is less disturbed the water has a deep orange hue to it.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/8/18

Applicant/Owner: | State: CA | Sampling Point: DS15

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): ~5

Subregion (LRR): C - Mediterranean California | Lat: 34.587231 | Long: 120.513297 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Paired sampling point with DS14 on hillslope immediately adjacent to DS14.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Notholithocarpus densiflorus*	25	Yes	Not Listed
2. *Salix lasiolepis*	3	No	FACW
3.			
4.			
Total Cover:	28 %		
Sapling/Shrub Stratum			
1. *Sambucus nigra subsp. caerulea*	10	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Urtica dioica*	5	No	FAC
2. *Bromus diandrus*	20	Yes	Not Listed
3. *Equisetum telmateia*	5	No	FACU
4. *Mimulus guttatus*	3	No	OBL
5. *Scrophularia californica*	3	No	FAC
6. *Stachys bullata*	10	Yes	Not Listed
7.			
8.			
Total Cover:	46 %		
Woody Vine Stratum			
1. *Toxicodendron diversilobum*	10	Yes	FACU
2. *Rubus ursinus*	3	No	FAC
Total Cover:	13 %		

% Bare Ground in Herb Stratum 54 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	3	x 2 =	6
FAC species	11	x 3 =	33
FACU species	15	x 4 =	60
UPL species	65	x 5 =	325
Column Totals:	97 (A)		427 (B)

Prevalence Index = B/A = 4.40

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture

SOIL

Sampling Point: DS15

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[3]	Remarks
0-21	10 YR 3/2	100	N/A				Sandy loam	Leaf litter on a surface. Rocks

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No hydric soil indicators identified.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/8/18

Applicant/Owner: | State: CA | Sampling Point: DS16

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Concave | Slope (%): ~3

Subregion (LRR): C - Mediterranean California | Lat: 34.581979 | Long: 120.516730 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Point collected is a topographical low point downstream of a swale (#20). The area is grazed but appeared to possibly support wet conditions based on topography.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murinum*	63	Yes	FACU
2. *Silybum marianum*	10	No	Not Listed
3. *Conium maculatum*	15	No	FACW
4. *Urtica urens*	5	No	Not Listed
5. *Erodium moschatum*	5	No	Not Listed
6. *Malva parviflora*	2	No	Not Listed
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	15	x 2 =	30
FAC species		x 3 =	0
FACU species	63	x 4 =	252
UPL species	22	x 5 =	110
Column Totals:	100 (A)		392 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture

SOIL

Sampling Point: DS16

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[3]	Remarks
0-5	10 YR 3/2	100	N/A				Loamy sand	
5-18	10 YR 3/2	90	5 YR 4/6	10	C	M	Loamy sand	Redox also in pore linings

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Examined closely for C3; however, no apparent oxidation along living roots. No other wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/8/18

Applicant/Owner: | State: CA | Sampling Point: DS17

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): ~10

Subregion (LRR): C - Mediterranean California | Lat: 34.573363 | Long: 120.527714 | Datum:

Soil Map Unit Name: DIABLO CLAY, 30 TO 50 PERCENT SLOPES, ERODED | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Point collected is a portion of the hillside with several disjunct topographical low points. Selected the point lower on the slope in a location that appeared to be relatively moist. Cattle grazing has disturbed the surface somewhat.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pillaris*	3	No	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	3 %		
Herb Stratum			
1. *Medicago polymorpha*	10	No	FACU
2. *Rumex acetosella*	7	No	FACU
3. *Silene gallica*	3	No	Not Listed
4. *Sisymbrium irio*	5	No	Not Listed
5. *Bromus hordeaceus*	50	Yes	FACU
6. *Silybum marianum*	10	No	Not Listed
7. *Bromus diandrus*	5	No	Not Listed
8. *Hordeum murinum*	15	No	FACU
Total Cover:	105 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	82	x 4 =	328
UPL species	26	x 5 =	130
Column Totals:	108 (A)		458 (B)

Prevalence Index = B/A = 4.24

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture

SOIL

Sampling Point: DS17

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[3]	Remarks
0-4	10 YR 2/1	100	N/A				Sandy clay loam	
4-12	10 YR 2/1	85	2.5 YR 3/6	15	C	M	Sandy clay loam	Rocky
12-19	10 YR 2/1	100	N/A					

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Darker clay loam dominant soil. Clear redox identified. Soil is very rocky, small to medium gravel- angular.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Examined closely for oxidized rhizospheres (C3) but no signs were identified. No other wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/14/18

Applicant/Owner: | State: CA | Sampling Point: DS18

Investigator(s): R. McInvale & A. Dransfield | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Slightly Concave | Slope (%): ~2

Subregion (LRR): C - Mediterranean California | Lat: 34.576562 | Long: 120.535224 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Slope with no defined channel but with hydrophytic species. Dug soil pit to determine underlying processes.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepsis*	35	Yes	FACW
2.			
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1. *Ribes speciosum*	10	Yes	Not Listed
2. *Sambucus nigra cuerulea*	3	No	FACU
3. *Salix lasiolepsis*	15	Yes	FACW
4.			
5.			
Total Cover:	28 %		
Herb Stratum			
1. *Conium maculatum*	80	Yes	FACW
2. *Urtica dioca*	3	No	FAC
3. *Brassica nigra*	15	No	Not Listed
4. *Silybum marianum*	3	No	Not Listed
5. *Marubium vulgare*	5	No	FACU
6.			
7.			
8.			
Total Cover:	106%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	130	x 2 =	260
FAC species	3	x 3 =	9
FACU species	8	x 4 =	32
UPL species	28	x 5 =	140
Column Totals:	169 (A)		441 (B)

Prevalence Index = B/A = 2.61

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Some level of grazing in the area.

SOIL

Sampling Point: DS18

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[3]	Remarks
0-19	10 YR 3/1	100	N/A				Silty clay loem	Very gravely

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features identified in the sample. No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/14/18

Applicant/Owner: | State: CA | Sampling Point: DS19

Investigator(s): R. McInvale & A. Dransfield | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): ~5

Subregion (LRR): C - Mediterranean California | Lat: 34.57679424 | Long: -120.5359764 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification:

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Hillslope dominated by willows. Slope seep immediately adjacent to the sample point. No defined channel or swales immediately adjacent. Could not dig a pit within the slope due to bedrock. Dug pit as close as possible.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepsis*	35	Yes	FACW
2.			
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1. *Sambucus nigra ssp. caerulea*	10	Yes	FACU
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Juncus putens*	10	Yes	FACW
2. *Conium maculatum*	10	Yes	FACW
3. *Hedera helix*	20	Yes	FACU
4. *Brassica nigra*	5	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	45 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 55 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	55	x 2 =	110
FAC species		x 3 =	0
FACU species	30	x 4 =	120
UPL species	5	x 5 =	25
Column Totals:	90 (A)		255 (B)

Prevalence Index = B/A = 2.83

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Minimal to no grazing around the sampling point.

SOIL

Sampling Point: DS19

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[3]	Remarks
0-3	10 YR 4/3	80					Loamy sand	
	10 YR 3/2	10					Loamy sand	
	10 YR 5/3	10					Loamy sand	
3-9	7.5 YR 3/1	100					Sandy loam	
9-18	7.5 YR 3/1	90					Sandy loam	
	10 YR 5/3	9	5 YR 4/6	1	C	M	Sand inclusion	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Minor redox features identification in the lower portion of the sample. Percentages not sufficient to meet hydric soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Narrow channel feature immediately adjacent but no indicators present at the sample point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/14/18

Applicant/Owner: | State: CA | Sampling Point: DS20

Investigator(s): R. McInvale & A. Dransfield | Section, Township, Range:

Landform (hillslope, terrace, etc.): Topographed low point | Local relief (concave, convex, none): Concave | Slope (%): ~0

Subregion (LRR): C - Mediterranean California | Lat: 34.576313 | Long: 120.536333 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Low point in the hillslope. Concentration of conium maculatum and some urtica dioica and presumed to have potential for wetland indicators.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	10	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Conium maculatum*	30	Yes	FACW
2. *Verbena lasiostachys*	60	Yes	FAC
3. *Brassica nigra*	5	No	Not Listed
4. *Silybum merianum*	5	No	Not Listed
5. *Urtica dioica*	3	No	FACW
6. *Carduus pycnocephalus*	5	No	Not Listed
7.			
8.			
Total Cover:	108 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	33	x 2 =	66
FAC species	60	x 3 =	180
FACU species		x 4 =	0
UPL species	25	x 5 =	125
Column Totals:	118 (A)		371 (B)

Prevalence Index = B/A = 3.14

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DS20

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[3]	Remarks
0-5	10 YR 2/1	100					Loamy sand	
5-17	10 YR 2/1	95	5 YR 4/6	5	C	M	Loamy sand	Redox present in pore lining

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Sample point located at a low point in the hillside and potentially receives runoff water. Rise in elevation likely limits water that could flow from this area downslope. Cattle tracks under vegetation so difficult to distinguish other indicators. Sediment deposits on old conium maculatum remnants possibly due to cattle.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/14/18

Applicant/Owner: | State: CA | Sampling Point: DS21

Investigator(s): R. McInvale & A. Dransfield | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex | Slope (%): 6

Subregion (LRR): C - Mediterranean California | Lat: 34.577402 | Long: 120.537410 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Paired station w/ DS20.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	15	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	15 %		
Herb Stratum			
1. *Silybum marianum*	3	No	Not Listed
2. *Cardus pycnocepralus*	5	No	Not Listed
3. *Brassica nigra*	2	No	Not Listed
4. *Verbena casiostachys*	1	No	FAC
5. *Bromus diandrus*	5	No	Not Listed
6. *Conium maculatum*	10	Yes	FACW
7. *Festuca myuros*	3	No	FACU
8.			
Total Cover:	29 %		
Woody Vine Stratum			
1. *Rubus ursinus*	35	Yes	FAC
2.			
Total Cover:	35 %		

% Bare Ground in Herb Stratum 71 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	36	x 3 =	108
FACU species	3	x 4 =	12
UPL species	30	x 5 =	150
Column Totals:	79 (A)		290 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DS21

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[3]	Remarks
0-5	10 YR 3/1	100	N/A				Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features identified.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/16/18

Applicant/Owner: | State: CA | Sampling Point: DS22

Investigator(s): R. McInvale & A. Dransfield | Section, Township, Range:

Landform (hillslope, terrace, etc.): Ephermeral waterway bottom | Local relief (concave, convex, none): Concave | Slope (%): ~3

Subregion (LRR): C - Mediterranean California | Lat: 34.5774029 | Long: 120.537410 | Datum:

Soil Map Unit Name: GAVIOTA SANDY LOAM, 30-75 PERCENT SLOPES | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sample point is in the bottom of an epheral waterway. Dense vegetative growth limits visibility.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	15	Yes	FACW
2. *Sambucus nigra subsp. caerulea*	5	Yes	FACU
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1. *Sambucus nigra subsp. caerulea*	10	Yes	FACU
2. *Nicotiana glauca*	2	No	FAC
3. *Acer negundo*	10	Yes	FACW
4.			
5.			
Total Cover:	22 %		
Herb Stratum			
1. *Conium maculatum*	65	Yes	FACW
2. *Urtica dioica*	5	No	FAC
3. *Brassica rapa*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
Total Cover:	72 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 28 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	90	x 2 =	180
FAC species	7	x 3 =	21
FACU species	17	x 4 =	68
UPL species		x 5 =	0
Column Totals:	114 (A)		269 (B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DS22

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[3]	Remarks
0-14	10 YR 3/1	100	N/A				Sandy loem	See below

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is very loose and could not extract a complete sample. Examined in-situ. Abundant organic material (stem fragments) mixed throughout the profile. Small to med. gravel and cobble also in the profile. No sign of redox or other indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Appears that feature flows into the mapped culvert, which extends under the RR tracks.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/16/18

Applicant/Owner: | State: CA | Sampling Point: DS23

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Ephermeral drained bottom | Local relief (concave, convex, none): Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.621380 | Long: 120.458886 | Datum:

Soil Map Unit Name: Botella clay loam, 2 to 15 percent slopes, eroded | NWI classification: R4SBA

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sample point is immediately adjacent to OHWM.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sambucus nigra ssp. caerulea*	5	Yes	FACU
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Urtica dioica*	94	Yes	FAC
2. *Conium maculatum*	1	No	FACW
3. *Brassica nigra*	5	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	1	x 2 =	2
FAC species	94	x 3 =	282
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	105 (A)		329 (B)

Prevalence Index = B/A = 3.13

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DS23

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[3]	Remarks
0-6	10 YR 3/2	100					Sandy loam	High percentage of gravel
6-11	10 YR 3/2	90					Loamy sand	Large sand particles (2 mm +/-)
	10 YR 3/1	10					Loam	a large part of the profile
11-18	10 YR 3/1	20					Loam	
	10 YR 3/2	70					Loamy sand	
	10 YR 5/3	10					Fine sandy loam	Appears to be diatomaceous ea

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is very loose with abundant small gravel and organic material. Couldn't extract a complete sample. Examined in-situ. Some layering but inconsistent within sample. Begins too deep for A5. No other indicators identified.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Riverine indicators present within the OHWM.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/16/18

Applicant/Owner: | State: CA | Sampling Point: DS24

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Base of hillslope | Local relief (concave, convex, none): Flat | Slope (%): ~0

Subregion (LRR): C - Mediterranean California | Lat: 34.621380 | Long: 120.458886 | Datum:

Soil Map Unit Name: Botella clay loam 0 to 2% slopes - eroded | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sample poin selected due to the dominance of FAC/FACW species in a slight depression in the local topography. No defined channel in the slope above. The RR tracks just downslope may impede water runoff.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Sambucus nigra ssp. caerulea*	3	Yes	FACU
2. *Ribes speciosum*	1	No	Not Listed
3. *Baccharis pilularis*	3	Yes	Not Listed
4.			
5.			
Total Cover:	7 %		
Herb Stratum			
1. *Conium maculatum*	90	Yes	FACW
2. *Urtica dioica*	3	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	93 %		
Woody Vine Stratum			
1. *Toxicodendron diversilobum*	2	No	FACU
2.			
Total Cover:	2 %		

% Bare Ground in Herb Stratum 7 % | % 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	90	x 2 =	180
FAC species	3	x 3 =	9
FACU species	5	x 4 =	20
UPL species	4	x 5 =	20
Column Totals:	102 (A)		229 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DS24

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[3]	Remarks
0-7	10 YR 2/2	100					Sandy loem	Very gravelly/loose gravel mate
7-17	10 YR 2/2	100					Sandy loem	Still gravelly/loose but the press

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is very loose and could not extract a complete sample. Examined in-situ. No redox features identified.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara County | Sampling Date: 5/22/18

Applicant/Owner: | State: CA | Sampling Point: DS25

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): Slightly concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.573655 | Long: 120.517111 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. N/A			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum brachyantherum*	10	No	FACW
2. *Hordeum murinum*	30	Yes	FACU
3. *Erodium botrys*	20	Yes	Not Listed
4. *Festuca perennis*	15	No	FAC
5. *Bromus diandrus*	5	No	Not Listed
6. *Bromus hordeaceus*	10	No	FACU
7. *Silene gallica*	2	No	Not Listed
8. *Lysimachia arvensis*	3	No	FAC
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	18	x 3 =	54
FACU species	40	x 4 =	160
UPL species	27	x 5 =	135
Column Totals:	95 (A)		369 (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture.

SOIL

Sampling Point: DS25

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[3]	Remarks
0-33.55	10 YR 2/2	100	N/A				Sandy loam	Abundant roots and organic mat
3.5-13	10 YR 2/2	100	5 YR 5/8	10	C	M	Sandy loam	Roots frequent in upper portion
13-16	10YR 3/2	85	5 YR 4/6	5	C	M	Sandy loam	
	10 YR 2/1	10						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 present in the 3.5-13" layer. Meets the 2% requirement. Swale upslope directs flow into the potential wetland area.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/22/18

Applicant/Owner: | State: CA | Sampling Point: DS26

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Convex | Slope (%): ~3

Subregion (LRR): C - Mediterranean California | Lat: 34.575263 | Long: 120.515735 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: N/A

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 ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point taken on slight slope above a low point in the topography (DS25). Elevations ~1 foot highter than DS25.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Erodium botrys*	50	Yes	Not Listed
2. *Bromus hordeaceus*	25	Yes	FACU
3. *Silene gallica*	5	No	Not Listed
4. *Bromus diandrus*	10	No	Not Listed
5. *Avena barbata*	5	No	Not Listed
6. *Lysimachia arvensis*	10	No	FAC
7. *Hordeum murinum*	5	No	FACU
8. *Festuca perennis*	2	No	FAC
Total Cover:	112%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	12	x 3 =	36
FACU species	30	x 4 =	120
UPL species	70	x 5 =	350
Column Totals:	112 (A)		506 (B)

Prevalence Index = B/A = 4.52

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Grazed pasture.

SOIL

Sampling Point: DS26

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[3]	Remarks
0-4	10 YR 3/2	100						Abundant roots
4-15	10 YR 3/2	97	5 YR 4/6	3	C	M		Roots common down to 11"
15-18	10 YR 2/2	100						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Redox percent is below the threshold for F6 based on chroma.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Examined living roots closely & no sign of oxidation necessary to meet C3 indicator. No other indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/22/18

Applicant/Owner: | State: CA | Sampling Point: DS27

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Convex | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.575263 | Long: 120.515735 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: R4SBA

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 ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: See 6/5/18 update in vegetation remarks.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum*	35	Yes	FAC
2. *Hordeum murinum*	20	Yes	FACU
3. *Festuca perennis*	20	Yes	FAC
4. *Plantago coronopus*	35	Yes	FAC
5. *Bromus hordeaceus*	10	Yes	FACU
6.			
7.			
8.			
Total Cover:	120%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	90	x 3 =	270
FACU species	30	x 4 =	120
UPL species		x 5 =	0
Column Totals:	120 (A)		390 (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Grazed pasture.

6/5/18 update - Plantago coronopus increasing in cover w/ reduction in bromus hordeacus. Plantago cor. is now a dominant species, making for a lot of 3 FAC species as dominants. Meeting the dom. test parameters.

SOIL

Sampling Point: DS27

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[3]	Remarks
0 - 1.5	7.5 YR 3/2	100					Loamy sand	Abundant roots
1.5 - 9	10 YR 3/2	75	7.5 YR 4/6	10	C	M	Sandy loam	Fe present as soft masses as well
	10 YR 2/2	15						
9-12	10 YR 2/1	60	7.5 YR 4/6	5			Sandy loam	
	10 YR 3/1	35						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compaction

Depth (inches): 9

Hydric Soil Present? Yes ◉ No ○

Remarks: Loose, sandy deposits just under herbaceous cover. This years vegetative growth covering the deposits. Unclear if sediment deposits or a result of cattle trampling. 9-12" layer could not be extracted due to compaction. Examined in-situ.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 present w/in the 1.5 - 9" layer. >2% of the layer.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/22/18

Applicant/Owner: | State: CA | Sampling Point: DS28

Investigator(s): R. McInvale and C. Ford | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Convex | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.575263 | Long: 120.515735 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: N/A

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 ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murinum*	40	Yes	FACU
2. *Bromus hordeaceus*	25	Yes	FACU
3. *Hordeum marinum*	20	No	FAC
4. *Erodium cicutarium*	10	No	NI
5. *Plantago coronopus*	5	No	FAC
6. *Brassica nigra*	2	No	Not Listed
7. *Festuca microstachys*	10	No	Not Listed
8.			
Total Cover:	112 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	25	x 3 =	75
FACU species	65	x 4 =	260
UPL species	22	x 5 =	110
Column Totals:	112 (A)		445 (B)

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Grazed

SOIL

Sampling Point: DS28

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[3]	Remarks
0 - 2	10 YR 3/2	100	N/A				Sandy loam	
2-14	10 YR 3/2	95	5 YR 4/6	2	C	M	Loamy sand	
			5 YR 5/8	3	C	M	Loamy sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Compact upper 6" then becomes less compact deeper in the profile. Redox also present along pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Redox present in the pore linings but not along living roots. No wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/22/18

Applicant/Owner: | State: CA | Sampling Point: DS29

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Convex | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.57526303 | Long: -120.5157352 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sampling point is in a previously mapped wetland; however, the point is located in a narrow swale with slightly steeper slope. Determined to not support wetland hydrology.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Festuca myuros*	20	Yes	FACU
2. *Erodium botrys*	20	Yes	Not Listed
3. *Festuca perennis*	5	No	FAC
4. *Silene galica*	8	No	Not Listed
5. *Plantago coronopus*	10	No	FAC
6. *Rumex acetosella*	3	No	FACU
7. *Hedypnois cretica*	5	No	Not Listed
8. *Broms hordeaceus*	14	No	FACU
Total Cover:	85 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	15	x 3 =	45
FACU species	37	x 4 =	148
UPL species	33	x 5 =	165
Column Totals:	85 (A)		358 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DS29

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[3]	Remarks
0 - 1.5	10 YR 3/2	100					Sandy loam	Dense roots
1.5 - 12	10 YR 3/2	92	5 YR 4/6	8	C	M	Sandy loam	Dense roots to 6"

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compaction

Depth (inches): 12

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Examined several samples of the profile and some oxidized rhizospheres were identified, though not enough to meet the 2% requirement for C3.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: DS30

Investigator(s): R. McInvale, C. Ford | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.573511 | Long: 120.517166 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: N/A

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 ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is w/in a previously mapped wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murinum*	30	Yes	FACU
2. *Bromus hordeaceus*	20	Yes	FACU
3. *Festuca perennis*	20	Yes	FAC
4. *Medicago polymorpha*	5	No	FACU
5. *Erodium cicutarium*	2	No	Not Listed
6. *Erodium botrys*	15	No	Not Listed
7. *Festuca myuros*	8	No	FACU
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species	63	x 4 =	252
UPL species	17	x 5 =	85
Column Totals:	100 (A)		397 (B)

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: DS30

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[3]	Remarks
0 - 2	10 YR 2/2	99	5 YR 4/6	1	C	M	Sandy loam	Abundant roots
2 -11	10 YR 3/2	90	5 YR 4/6	10	C	M	Sandy loam	Very gravelly - abundant roots
11 - 20	10 YR 3/2	75	7.5 YR 4/6	10	C	M	Loamy sand	Somewhat loose
	10 YR 4/2	15						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Upper 11" compacted and gravelly. Below 11" the soil loosens considerably and couldn't extract a complete sample. Examined lower portion in-situ.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: C3 identification in the 2-11" layer meets the 2% criteria.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: DS31

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Valley | Local relief (concave, convex, none): Slightly convex | Slope (%): ~2

Subregion (LRR): C - Mediterranean California | Lat: 34.573511 | Long: 120.517166 | Datum:

Soil Map Unit Name: BOTELLA SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sampling point is located in slightly elevated compared to DS30.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum murinum*	35	Yes	FACU
2. *Bromus hordeaceus*	20	Yes	FACU
3. *Avena barbata*	5	No	Not Listed
4. *Festuca perennis*	10	No	FAC
5. *Festuca myuros*	10	No	FACU
6. *Carduus pycnocephalus*	5	No	Not Listed
7. *Cerastrium glomeratum*	2	No	UPL
8. *Sisrynchiun bellum*	3	No	FACW
Total Cover:	90 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species	10	x 3 =	30
FACU species	65	x 4 =	260
UPL species	12	x 5 =	60
Column Totals:	90 (A)		356 (B)

Prevalence Index = B/A = 3.96

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Grazed pasture.

SOIL

Sampling Point: DS31

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[3]	Remarks
0 - 4.5	10 YR 3/2	100					Sandy loam	Abundant roots
4.5 - 9	10 YR 3/2	90	5 YR 4/6	10	C	M	Sandy loam	
9 - 19	10 YR 3/2	80	5 YR 4/6	5	C	M	Loamy sand	
	10 YR 4/2	15						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Few oxidized rhizospheres along living roots but the vast majority of the redox is not along living roots. Determined not to meet C3 criteria. No other indicators present.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: DS32

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Pond | Local relief (concave, convex, none): Concave | Slope (%):

Subregion (LRR): C - Mediterranean California | Lat: 34.582701 | Long: 120.489761 | Datum:

Soil Map Unit Name: PITS AND DUMPS | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Access road appears to have cut off the runoff flows from the adjacent slope, which has created this area that apparently ponds. Cattle have destroyed the upper 3" by trampling while it was very wet.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	15	Yes	FACW
2.			
3.			
4.			
Total Cover:	15 %		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Polypogon monspeliensis*	20	Yes	FACW
2. *Medicago polymorpha*	2	No	FACU
3. *Brassica nigra*	3	No	Not Listed
4. *Erodium cicutarium*	2	No	Not Listed
5. *Festuca perennis*	2	No	FAC
6.			
7.			
8.			
Total Cover:	29 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 7 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	35	x 2 =	70
FAC species	2	x 3 =	6
FACU species	2	x 4 =	8
UPL species	5	x 5 =	25
Column Totals:	44 (A)		109 (B)

Prevalence Index = B/A = 2.48

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Cattle grazed and trampled. However vegetation is growing around the margins.

SOIL

Sampling Point: DS32

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[3]	Remarks
0 - 3	10 YR 4/2	100					Sandy clay loam	Trampled by cattle
3 - 14	10 YR 3/1	30	5 YR 5/6	3	C	M	Sandy clay loam	
	10 YR 5/2	60	5 YR 3/4	7	C	M	Sandy clay loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Small to medium sized gravel present throughout the upper layers to 7".

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Cattle have disturbed the soil surface so several indicators may not be conspicuous. However, B2 observed at approximately the same elevations as DS32 on the other side of the presumed pond.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/23/18

Applicant/Owner: | State: CA | Sampling Point: DS33

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Slope above pond | Local relief (concave, convex, none): Concave | Slope (%):

Subregion (LRR): C - Mediterranean California | Lat: 34.582701 | Long: 120.489761 | Datum:

Soil Map Unit Name: PITS AND DUMPS | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	3	No	FACW
2.			
3.			
4.			
Total Cover:	3 %		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	1		Not Listed
2.			
3.			
4.			
5.			
Total Cover:	1 %		
Herb Stratum			
1. *Carduus pycnocephalus*	5	No	Not Listed
2. *Brassica nigra*	20	Yes	Not Listed
3. *Medicago polymorpha*	35	Yes	FACU
4. *Silybum marianum*	10	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species		x 3 =	0
FACU species	35	x 4 =	140
UPL species	36	x 5 =	180
Column Totals:	74 (A)		326 (B)

Prevalence Index = B/A = 4.41

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Cattle grazed and trampled.

SOIL

Sampling Point: DS33

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[3]	Remarks
0 - 3	10 YR 3/1	100	N/A				Sandy clay loam	
3 - 6	10 YR 3/1	85	5 YR 5/6	5	C	M	Sandy clay loam	
	5 Y 5/2	10					Sandy clay loam	
6-15	10 YR 3/1	20	5 YR 4/6	10	C	M	Sandy clay loam	
	10 YR 2/2	50					Sandy clay loam	
	5 Y 5/2	30					Sandy clay loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 15

Hydric Soil Present? Yes ◉ No ○

Remarks: Rocks are abundant and common throughout the pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Sample point is above the elevation of th pond supporting B2. No other indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/24/18

Applicant/Owner: | State: CA | Sampling Point: DS34

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex | Slope (%): ~10

Subregion (LRR): C - Mediterranean California | Lat: 34.583309 | Long: 120.489968 | Datum:

Soil Map Unit Name: PITS AND DUMPS | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sample point taken on a slope with Salix lasiolepis but no channel/ swale feature. Representative of other north facing slopes supporting willow/ coyotebrush vegetation.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	35	Yes	FACW
2.			
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	25	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	25 %		
Herb Stratum			
1. *Clinopodium douglasii*	20	Yes	FACU
2. *Verbena lasiostachys*	5	No	FAC
3. *Sanicula laciniata*	1	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	26 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 74 % | % 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	35	x 2 =	70
FAC species	5	x 3 =	15
FACU species	20	x 4 =	80
UPL species	26	x 5 =	130
Column Totals:	86 (A)		295 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Appears to be relatively untouched by cattle.

SOIL

Sampling Point: DS34

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[3]	Remarks
0 - 4	2.5 Y 4/2	100	N/A				Clay loam	Gravelly-small (1/4-1/2")
4-12	5 Y 5/1	70	7.5 YR 5/6	20	C	M	Clay loam	Gravelly-larger (1/2-4")
	2.5 Y 4/2	10					Clay loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes ◉ No ○

Remarks: Very rocky. Pit could not be excavated to full depth.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/24/18

Applicant/Owner: | State: CA | Sampling Point: DS35

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex | Slope (%): ~10

Subregion (LRR): C - Mediterranean California | Lat: 34.581762 | Long: 120.489998 | Datum:

Soil Map Unit Name: PITS AND DUMPS | NWI classification: N/A

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: Immediately NNE, there is a potential wetland area but it is outside of the survey area. Sampling point taken just inside the survey area based on Collector and in line with the presumed flow direction. Sampling point ultimately determined to be located just outside of the survey area during data processing.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Festuca perennis*	20	Yes	FAC
2. *Medicago polymorpha*	10	No	FACU
3. *Hordeum murinum*	25	Yes	FACU
4. *Hordeum marinum*	25	Yes	FAC
5. *Erodium moschatum*	15	No	Not Listed
6. *Silybum marianum*	3	No	Not Listed
7.			
8.			
Total Cover:	98 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 2 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	45	x 3 =	135
FACU species	35	x 4 =	140
UPL species	18	x 5 =	90
Column Totals:	98 (A)		365 (B)

Prevalence Index = B/A = 3.72

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DS35

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[3]	Remarks
0 - 4	2.5 Y 5/2	15	N/A				Clay loam	gravelly
	2.5 Y 3/2	85					Clay loam	
4-11	2.5 Y 5/2	20	5 YR 5/8	10	C	M	Clay loam	gravelly
	2.5 Y 3/2	70					Clay loam	
11-16	2.5 Y 3/2	50	5 YR 5/6	20	C	M	Clay loam	gravelly
	10 YR 2/1	30						

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Very rocky. Small to medium cobble material (2-6" diameter). Could not extract a complete sample. Examined in-situ.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/29/18

Applicant/Owner: | State: CA | Sampling Point: DS36

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Canyon | Local relief (concave, convex, none): concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.587109 | Long: 120.512906 | Datum:

Soil Map Unit Name: Gaviota Sandy Loam - 30 to 75% slopes | NWI classification: PSS/FOC

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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Area has surface flow and is associated with an apparent spring. Livestock appear to have trampled much of the area.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Morella californica*	30	Yes	FACW
2.			
3.			
4.			
Total Cover:	30 %		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cotula coronopifolia*	2	Yes	OBL
2. *Juncus xiphioides*	1	No	OBL
3. *Nasturtium officinale*	3	Yes	OBL
4. *Polypogon monspliensis*	4	Yes	FACW
5.			
6.			
7.			
8.			
Total Cover:	10 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	34	x 2 =	68
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	40 (A)		74 (B)

Prevalence Index = B/A = 1.85

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Grazed. Immediate area has been trampled by cattle, likely affecting the herbaceous cover.

SOIL

Sampling Point: DS36

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[3]	Remarks
0 - 2	10 YR 3/2	100	N/A				Sandy loam	Sediment mixed by trampling
2-8	10 YR 3/2	45	7.5 YR 3/4	10	C	M	Sandy loam	
	10 YR 4/2	10					Sandy loam	
	10 Y 3/1	35					Sandy loam	
8-16	5 BG 3/1	70					Sandy loam	
	10 BG 3/1	25					Sandy loam	5% organic material

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Uppermost 2" are somewhat homogenized. Clear indicators of Gley 1 and 2 within the profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1-2

Water Table Present? Yes ◉ No ○ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/29/18

Applicant/Owner: | State: CA | Sampling Point: DS37

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Canyon | Local relief (concave, convex, none): concave | Slope (%): ~1

Subregion (LRR): C - Mediterranean California | Lat: 34.587139 | Long: 120.512889 | Datum:

Soil Map Unit Name: Gaviota Sandy Loam - 30 to 75% slopes | NWI classification: N/A

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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sample point is slightly upslope from DS 36.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Morella californica*	10	Yes	FACW
2.			
3.			
4.			
Total Cover:	10 %		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	3	Yes	Not Listed
2. *Artemisia californica*	2	Yes	Not Listed
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Bromus hordeaceus*	20	Yes	FACU
2. *Hordeum murinum*	20	Yes	FACU
3. *Festuca perennis*	15	Yes	FAC
4. *Avena barbata*	10	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	65 %		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 35 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	15	x 3 =	45
FACU species	40	x 4 =	160
UPL species	15	x 5 =	75
Column Totals:	80 (A)		300 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DS37

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[3]	Remarks
0 - 1	10 YR 3/2	100	N/A				Sandy loam	Abundant roots
1-6	10 YR 3/2	90	5 YR 4/6	5	C	M	Sandy loam	Redox in PL as well
	10 YR 4/2	5					Sandy loam	
6-16	5 Y 4/2	40	5 YR 4/4	10	C	M	Loamy sand	
	5 Y 4/3	30	5 YR 4/4	10	C	M	Sandy loam	
	10 YR 4/2	10					Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Soil is loose and could not extract a complete sample. Examined in-situ.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Few pore linings with oxidization but appears to be along read roots. Does not meet C3. No other wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/29/18

Applicant/Owner: | State: CA | Sampling Point: DS38

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Canyon | Local relief (concave, convex, none): concave | Slope (%): ~0

Subregion (LRR): C - Mediterranean California | Lat: 34.586842 | Long: 120.513415 | Datum:

Soil Map Unit Name: Gaviota Sandy Loam - 30 to 75% slopes | NWI classification: PSSC

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 ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Cattle tracks present within the stream channel. No obvious water source (e.g. spring) but the soil is moist.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	60	Yes	FACW
2. *Morella californica*	20	Yes	FACW
3.			
4.			
Total Cover:	80 %		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Sidalcea malviflora*	3	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	3 %		
Woody Vine Stratum			
1. *Rubus ursinus*	5	Yes	FAC
2. *Lonicera subspicata*	1	No	Not Listed
Total Cover:	6 %		

% Bare Ground in Herb Stratum 97 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	83	x 2 =	166
FAC species	5	x 3 =	15
FACU species		x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	89 (A)		186 (B)

Prevalence Index = B/A = 2.09

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Canopy is well developed but the understory is generally sparse. Approximately half of the bare ground is covered by leaf litter.

SOIL

Sampling Point: DS38

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[3]	Remarks
0 - 4.5	10 YR 2/1	100	N/A				Sandy loam	Organic material common
4.5 - 8	2.5 Y 3/1	90	5 YR 4/4	5	C	M	Loamy sand	Organic material common
	10 YR 2/1	5					Loamy sand	
8-17	5 Y 3/1	80	7.5 YR 4/6	5	C	M	Sandy loam	
	2.5 Y 3/1	10	7.5 YR 4/6	5	C	M	Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Hydrology indicators are contained within a narrow channel ~6 feet wide from sample point to culvert and 1-2 feet wide upstream of the sample point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/29/18

Applicant/Owner: | State: CA | Sampling Point: DS39

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex | Slope (%): ~6

Subregion (LRR): C - Mediterranean California | Lat: 34.586845 | Long: 120.513389 | Datum:

Soil Map Unit Name: Gaviota Sandy Loam - 30 to 75% slopes | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sample point is immedialtey upslope of DS 38. Still under partial Salix lasiolepis canopy.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	40	Yes	FACW
2. *Morella californica*	10	No	FACW
3. *Notholithocarpus densifolrus*	20	Yes	Not Listed
4.			
Total Cover:	70 %		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Anagalis arvensis*	1	No	FAC
2. *Carduus pycnocephalus*	1	No	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	2 %		
Woody Vine Stratum			
1. *Rubus ursinus*	15	Yes	FAC
2. *Lonicera subspicata*	2	No	Not Listed
Total Cover:	17 %		

% Bare Ground in Herb Stratum 98 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	50	x 2 =	100
FAC species	16	x 3 =	48
FACU species		x 4 =	0
UPL species	23	x 5 =	115
Column Totals:	89 (A)		263 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Bare ground is in herb stratum is ~75% leaf litter.

SOIL

Sampling Point: DS39

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[3]	Remarks
0 - 4	10 YR 3/2	90	N/A				Sandy loam	
	10 YR 4/3	10					Sany loam	
4-15	2.5 Y 5/6	50	7.5 YR 5/6	5	C	M	Loamy sand	
	2.5 Y 6/4	5					Loamy sand	
	10 YR 4/3	40					Sandy loam	
15-18	2.5 Y 6/3	60	7.5 YR 5/6	10	C	M	Loamy sand	
	10 YR 4/3	30					Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Redox present but value/ chroma do not meet the criteria.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/29/18

Applicant/Owner: | State: CA | Sampling Point: DS40

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): concave | Slope (%): ~8

Subregion (LRR): C - Mediterranean California | Lat: 34.586845 | Long: 120.513389 | Datum:

Soil Map Unit Name: Diablo Clay - 30 to 50% slopes, eroded | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sample point located on a slope containing multiple FAC/ FACW plant species. Investigated to determined status.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	2	No	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	2 %		
Herb Stratum			
1. *Helminthotheca echioides*	30	Yes	FAC
2. *Juncus patens*	10	No	FACW
3. *Geranium dissectum*	20	No	Not Listed
4. *Vicia villosa*	10	No	Not Listed
5. *Bromus hordeaceus*	25	Yes	FACU
6. *Festuca perennis*	20	No	FAC
7. *Carduus pycnocephalus*	5	No	Not Listed
8. *Hordeum brachyantherum*	5	No	FACW
Total Cover:	125%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	15	x 2 =	30
FAC species	50	x 3 =	150
FACU species	25	x 4 =	100
UPL species	37	x 5 =	185
Column Totals:	127 (A)		465 (B)

Prevalence Index = B/A = 3.66

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: No recent grazing apparent.

SOIL

Sampling Point: DS40

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[3]	Remarks
0 - 18	10 YR 2/1	90	7.5 YR 4/6	1	C	M	Clay	Approx 20% rock in the pit
	2.5 Y 5/3	9					Loamy sand	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Dense clay soil. Small to medium size rocks (angular) present throughout the pit. Redox as soft masses present at very low concentrations and did not meet F6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: SB County | Sampling Date: 5/29/18

Applicant/Owner: | State: CA | Sampling Point: DS41

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex | Slope (%): ~10

Subregion (LRR): C - Mediterranean California | Lat: 34.577422 | Long: 120.532033 | Datum:

Soil Map Unit Name: Diablo Clay - 30 to 50% slopes, eroded | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Sample point is under the willow canopy on the slope adjacent to an intermittent stream. Investigating to determine if the area constitutes adjacent wetlands.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	35	Yes	FACW
2.			
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1. *Sambucus nigra ssp. caerulea*	20	Yes	FACU
2.			
3.			
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1. *Conium maculatum*	60	Yes	FACW
2. *Urtica urens*	3	No	Not Listed
3. *Scrophularia californica*	1	No	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	64 %		
Woody Vine Stratum			
1. *Toxicodendron diversilobum*	10	Yes	FACU
2. *Marah fabaceus*	5	Yes	Not Listed
Total Cover:	15 %		

% Bare Ground in Herb Stratum 36 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	95	x 2 =	190
FAC species	1	x 3 =	3
FACU species	30	x 4 =	120
UPL species	8	x 5 =	40
Column Totals:	134 (A)		353 (B)

Prevalence Index = B/A = 2.63

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DS41

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[3]	Remarks
0 - 20	10 YR 2/1	99	5 YR 4/6	1	C	M	Clay loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N/A

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Abundant roots in the upper 5". Very minimal redox identified.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No wetland hydrology indicators identified.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind City/County: Santa Barbara Sampling Date: 6/5/18

Applicant/Owner: State: CA Sampling Point: DS42

Investigator(s): R. McInvale Section, Township, Range:

Landform (hillslope, terrace, etc.): Base of hillslope Local relief (concave, convex, none): Concave Slope (%): ~1

Subregion (LRR): C - Mediterranean California Lat: 34.574004 Long: 120.516792 Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% NWI classification: N/A

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 ( )	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes (●)	No ( )	**within a Wetland?**	**Yes (●) No ( )**

Remarks: Sampling point collected as a follow-up due to changes in vegetation species dominance and percent cover since April 2018.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Plantago coronopus*	75	Yes	FAC
2. *Rumex crispus*	3	No	FAC
3. *Festuca perennis*	5	No	FAC
4. *Bromus hordeaceus*	8	No	FACU
5. *Hordeam murinum*	3	No	FACU
6. *Brassica nigra*	5	No	Not Listed
7. *Juncus xiphioides*	5	No	OBL
8.			
Total Cover:	104%		
Woody Vine Stratum			
1. *N/A*			
2.			
Total Cover:	%		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species		x 2 =	0
FAC species	83	x 3 =	249
FACU species	11	x 4 =	44
UPL species	5	x 5 =	25
Column Totals:	104 (A)		323 (B)

Prevalence Index = B/A = 3.11

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Grazed pasture. Plantago clearly the dominant, which differs from the April 2018 survey.

SOIL

Sampling Point: DS42

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[3]	Remarks

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ◉ **No** ○

Remarks: See DS2 for soils data

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? **Yes** ◉ **No** ○

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

Remarks: See DS2 for hydrology data

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara | Sampling Date: 6/5/18

Applicant/Owner: | State: CA | Sampling Point: DS42

Investigator(s): R. McInvale | Section, Township, Range:

Landform (hillslope, terrace, etc.): Ephemeral channel | Local relief (concave, convex, none): Concave | Slope (%): ~3

Subregion (LRR): C - Mediterranean California | Lat: 34.575097 | Long: 120.530292 | Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% | NWI classification: PSSA

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 ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the bottom of an ephemeral channel typical of the N and NE facing slopes. Mix of upland and riparian vegetation. Clearly defined OHWM.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Salix lasiolepis*	15	Yes	FACW
2. *Baccharis pilularis*	20	Yes	Not Listed
3. *Artemisia californica*	15	Yes	Not Listed
4. *Mimulus auranticus*	5	No	FACU
5.			
Total Cover:	55 %		
Herb Stratum			
1. *Bromus hordeaceus*	15	Yes	FACU
2. *Frageria vesca*	5	No	UPL
3. *Castilleja affinis*	2	No	Not Listed
4. *Clinopodium douglasii*	5	No	FACU
5. *Senecio vulgaris*	3	No	FACU
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1. *Rubus ursinus*	5	Yes	FAC
2. *Toxicodendron diversilobum*	3	Yes	FACU
Total Cover:	8 %		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	31	x 4 =	124
UPL species	42	x 5 =	210
Column Totals:	93 (A)		379 (B)

Prevalence Index = B/A = 4.08

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Cattle grazed

SOIL

Sampling Point: DS42

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[3]	Remarks
0-6	10 YR 3/2	98	5 YR 4/4	2	C	M	Sandy clay loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 6

Hydric Soil Present? Yes ○ No ◉

Remarks: Cattle trampling. Shallow soil to bedrock

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Riverine hydrology present. OHWM is narrow and measures 14" at the sampling point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Strauss Wind | City/County: Santa Barbara | Sampling Date: 6/5/18

Applicant/Owner: | State: CA | Sampling Point: DS44

Investigator(s): R. McInvale | Section, Township, Range:

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

Subregion (LRR): C - Mediterranean California | Lat: 34.587943 | Long: 120.485226 | Datum:

Soil Map Unit Name: Botella Silty Clay Loam 2-9% | NWI classification: N/A

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 (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sampling point is immediately adjacent to a narrow swale/ ephemeral channel (~12" wide). Culvert also adjacent and drains the slope to San Miguelito Creek.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	45	Yes	FACW
2. *Phoenix canariensis*	10	No	Not Listed
3.			
4.			
Total Cover:	55 %		
Sapling/Shrub Stratum			
1. *Salix lasiolepis*	15	Yes	FACW
2.			
3.			
4.			
5.			
Total Cover:	15 %		
Herb Stratum			
1. *Conium maculatum*	5	Yes	FACW
2. *Urtica dioica*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	15 %		
Woody Vine Stratum			
1. *Rubus ursinus*	5	Yes	FAC
2. *Ribes aureum*	10	Yes	FAC
Total Cover:	15 %		

% Bare Ground in Herb Stratum 85 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	65	x 2 =	130
FAC species	25	x 3 =	75
FACU species		x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	100 (A)		255 (B)

Prevalence Index = B/A = 2.55

Hydrophytic Vegetation Indicators:

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

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Thatch makes up most of the bare ground in the herb layer.

SOIL

Sampling Point: DS44

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[3]	Remarks
0-4	10 YR 4/3	100	N/A				Loamy sand	~0.5" of thatch/ OM on surface
4-6.5	10 YR 4/3	50	N/A				Loamy sand	
	10 YR 3/2	48	5 YR 4/6	2	C	M	Sandy loam	
6.5-13	10 YR 4/2	80	5 YR 4/6	1	C	M	Loamy Sand	
	10 YR 3/2	15	5 YR 4/4	4	C	M	Sandy loam	

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

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 13

Hydric Soil Present? Yes ○ No ◉

Remarks: Possible rip-rap material, and not bedrock, makes up the restrictive layer. May be associated with the culvert.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Culvert immediately adjacent to the sampling points apparently drains teh slope.

APPENDIX C

Photo Exhibits

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APPENDIX C
Photo Exhibits



Photo 1. Data Station 1-Within the County jurisdictional two-parameter wetland. Facing southwest.



Photo 2. Data Station 8-Within the County jurisdictional two-parameter wetland. Facing south.



Photo 3. Ephemeral channel upstream of Data Station 8. Facing west.



Photo 4. Data Station 14-Within the three-parameter wetland. Facing northwest.

	
Photo 5. Intermitent stream immediately upstream of Data Station 14. Facing west.	Photo 6. Spring feature associated with the intermittent stream upstream of Data Station 14. Facing southeast.
	
Photo 7. Data Station 36-Within the three-parameter wetland. Facing east.	Photo 8. Data Station 19-Immediately adjacent to the mapped intermittent stream. Facing north.



Photo 9. Spring feature associated with the intermittent stream immediately upstream of Data Station 19. Facing south.



Photo 10. Data Station 20-Within the three-parameter wetland. Determined to be an isolated feature. Facing north.



Photo 11. Data Station 41-Within riparian corridor associated with an intermittent stream. Facing east.



Photo 12. San Miguelito Creek in the northern portion of the Project site. Facing northeast.

	
Photo 13. Data Station 18-Within an area supporting hydrophytic vegetation but no hydric soils or wetland hydrology. Facing north.	Photo 14. Representative swale feature lacking an ordinary high water mark or bed and bank. Facing east.

APPENDIX D

Soil Descriptions

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APPENDIX D
Soil Descriptions

The soil descriptions below include the soil series present within the Project site and survey area and are based on the U.S. Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS, formerly the Soil Conservation Service) Official Soil Series Descriptions and Classifications (USDA-NRCS 2018d). A brief summary of the soils located on the Project site and survey area is provided herein because biological resources can often be associated with various substrates; this is particularly true of some special-status plant species and wetland resources. The U.S. Department of Agriculture, Natural Resource Conservation Service has mapped thirteen soil series in the survey area. These soils vary widely in depth, fertility, and permeability.

A brief description of the surface soils present at the project site based on the U.S. Department of Agriculture, Natural Resource Conservation Service (formerly the Soil Conservation Service) is provided below. The location of the various soil types are shown in *Figure 4* (USDA-NRCS 2018).

Ballard Series

The Ballard series consists of deep, well drained soils that formed in alluvial material from sedimentary rocks. Ballard soils are on terraces and have slopes of 0 to 15 percent. The mean annual precipitation is about 18 inches and the mean annual temperature is about 58 degrees F. Used mainly for rangeland and production of dryland grain. Where irrigation water is available, they are used for production of orchards, alfalfa, and pasture. Native vegetation is annual grasses, forbs, and live oak trees.

Taxonomic class. Fine-loamy, mixed, active, thermic Typic Argixerolls

Typical Pedon

A11--0 to 10 inches; grayish brown (10YR 5/2) gravelly fine sandy loam, very dark brown (10YR 2/2) moist; moderate medium and coarse granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 25 percent gravel; moderately acid (pH 6.0); gradual wavy boundary. (8 to 12 inches thick)

A12--10 to 18 inches; grayish brown (10YR 5/2) gravelly fine sandy loam, very dark brown (10R 2/2) moist; weak find and medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial and many fine and medium tubular pores; 15 percent gravel; slightly acid (pH 6.2); clear wavy boundary. (6 to 10 inches thick)

B1--18 to 34 inches; light yellowish brown (10YR 6/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine roots; many fine interstitial and common very fine and fine tubular pores; few thin clay films line

pores, few thin colloidal stains on mineral grains; 15 percent gravel; slightly acid (pH 6.5); clear wavy boundary. (6 to 16 inches thick)

Botella Series

The Botella series consists of very deep, well drained soils that formed in alluvial material from sedimentary rocks. Botella soils are in valley bottoms and on alluvial fans and have slopes of 0 to 15 percent. The mean annual precipitation is about 457 mm (18 inches) and the mean annual air temperature is about 14 degrees C (58 degrees F). sed for growing field, forage, truck crops, and orchards and nonirrigated grain pasture, hay, and range. Some areas are used for urban development. Uncultivated areas have a cover of annual grasses and forbs with scattered oak trees and coastal sagebrush in some areas.

Taxonomic class. Fine-loamy, mixed, superactive, thermic Pachic Argixerolls

Typical Pedon

Ap--0 to 23 cm (0 to 9 inches); gray (N 5/) clay loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; very hard, friable, sticky and plastic; common very fine roots; few very fine interstitial, common very fine, fine and medium tubular pores; moderately acid (pH 6.0); gradual smooth boundary. (20 to 61 cm or 8 to 24 inches thick)

BAt--23 to 36 cm (9 to 14 inches); gray (N 5/) silty clay loam, black (10YR 2/1) moist; weak coarse prismatic structure parting to moderate medium angular blocky; extremely hard, firm, sticky and plastic; common very fine roots; few very fine interstitial and common very fine, few fine tubular pores; few thin clay films line tubular pores moderately acid (pH 6.0) gradual wavy boundary. (0 to 20 cm or 0 to 8 inches thick)

Bt1--36 to 71 cm (14 to 28 inches); gray (10YR 5/1) silty clay loam, black (10YR 2/1) moist; weak coarse prismatic structure parting to strong medium angular blocky; extremely hard, firm, very sticky, and very plastic; common very fine roots; few very fine interstitial and many very fine tubular pores; common thin clay films on faces of peds; slightly acid (pH 6.4) gradual smooth boundary. (20 to 41 cm or 8 to 16 inches thick)

Diablo Series

Soils in the Diablo series are well drained, slow runoff when soil is dry, medium to rapid when soils are moist; slow permeability. The series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from sedimentary rocks. are on complex undulating, rolling to steep uplands with slopes of 5 to 50 percent. The mean annual precipitation is 10 to 35 inches and the mean annual air temperature is about 57 to 62 degrees F. Used for grazing and for

production of dry farmed grain, mainly barley. Uncultivated areas have a cover of annual grasses and forbs.

Taxonomic class. Fine, smectitic, thermic Aridic Haploxererts

Typical Pedon

Ap--0 to 6 inches; dark gray (5Y 4/1) silty clay, very dark gray (5Y 3/1) moist; the immediate very thin surface crust dries gray (5Y 6/1) and light gray (5Y 7/1); the surface 1 to 3 inches has string medium granular structure, the remainder has strong coarse and medium blocky structure; very hard, very firm, sticky, very plastic; common fine roots mainly along faces of peds; few very fine tubular pores; neutral; clear wavy boundary. (4 to 10 inches thick)

A--6 to 15 inches; dark gray (5Y 4/1) silty clay, very dark gray (5Y 3/1) moist; moderate coarse prismatic and moderate coarse blocky structure; very hard, very firm, sticky, very plastic;few fine roots mainly along faces of peds; noneffervescent except for an occasional small white lime nodule; mildly alkaline; clear smooth boundary. (8 to 20 inches thick)

Bkss1--15 to 26 inches; finely mixed gray (5Y 5/1) and olive gray (5Y 5/2) silty clay, dark gray (5Y 4/1) and olive gray (5Y 4/2) moist; moderate coarse prismatic and medium blocky structure; very hard, very firm, sticky, very plastic; few fine roots along faces of peds; few fine and very fine tubular pores; numerous slickensides; slightly effervescent in matrix, strongly effervescent few white lime nodules; moderately alkaline; clear wavy boundary. (3 to 12 inches thick)

Gaviota Series

The Gaviota series consists of very shallow or shallow, well drained soils that formed in material weathered from hard sandstone or meta-sandstone. Gaviota soils are on hills and mountains and have slopes of 2 to 100 percent. The average annual precipitation is about 20 inches and the mean annual temperature is about 60 degrees F. Used mostly for livestock grazing. Some of the less sloping areas are cropped to dryland grain. Natural vegetation is California sage, chamise, manzanita, purple needlegrass and annual grasses.

Taxonomic class. Loamy-skeletal, mixed, superactive, thermic Lithic Ultic Haploxerolls

Typical Pedon

A1--0 to 6 inches; brown (7.5YR 5/4) gravelly loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; neutral (pH 7.0); clear smooth boundary.

A2--6 to 10 inches; brown (7.5YR 5/4) gravelly loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; neutral (pH 6.8); abrupt wavy boundary.

R--10 to 17 inches; pale brown (10YR 6/3) hard meta-sandstone.

Gazos Series

The Gazos series consists of moderately deep to bedrock, well drained soils that formed in material weathered from sandstone and shale. Gazos soils are on hills and have slopes of 9 to 75 percent. The mean annual precipitation is about 22 inches and the mean annual air temperature is about 60 degrees F. Used mostly for livestock grazing; a few areas cultivated for growing small grain and hay. Vegetation is mostly annual grasses and forbs with some brush and a few oak trees.

Taxonomic class. Fine-loamy, mixed, superactive, thermic Pachic Haploxerolls

Typical Pedon

A1--0 to 9 inches; dark grayish brown (10YR 4/2) heavy silt loam, very dark grayish brown (10YR 3/2) moist; strong medium and coarse angular blocky structure; hard, friable, sticky and plastic; many very fine and fine roots; many very fine and fine, few medium tubular pores; slightly acid (pH 6.5); clear wavy boundary. (7 to 14 inches thick)

A2--9 to 22 inches; dark grayish brown (10YR 4/2) heavy silt loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; many very fine and fine, few medium tubular pores; slightly acid (pH 6.5); gradual wavy boundary. (10 to 16 inches thick)

Bw--22 to 29 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; many very fine and fine, few medium tubular pores; slightly acid (pH 6.5); clear wavy boundary. (7 to 20 inches thick)

R--29 to 36 inches; very pale brown (10YR 7/4) weathered, slightly acid (pH 6.5) sandstone.

Linne Series

The Linne series consists of moderately deep, well drained soils that formed in material weathered from fairly soft shale and sandstone. Linne soils are on hills and have slopes of 5 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 59 degrees F. Used for range. Some areas farmed to small grains, related crops, and

almonds. Naturalized and native vegetation is annual grasses and forbs, some live oak, and coastal sage.

Taxonomic class. Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls

Typical Pedon

Ap--0 to 9 inches; very dark gray (10YR 3/1) clay loam, black (10YR 2/1) moist; moderate coarse subangular blocky structure, 1/6 to 1/3 of horizon strong fine granular between larger peds, larger peds part mostly to granular; very hard, friable, sticky and plastic; common very fine roots; many very fine few fine interstitial pores 1/4 of horizon is krotovinas 2 to 3 inches across; slightly effervescent, disseminated lime; moderately alkaline (pH 8.0); clear smooth boundary. (7 to 12 inches thick)

A12--9 to 14 inches; dark gray (10YR 4/1) clay loam, black (10YR 2/1) moist; weak coarse prismatic structure; very hard, friable, sticky and plastic; common very fine roots; many very fine, common fine interstitial pores and few fine tubular pores; 1/3 of horizon is krotovinas 2 to 3 inches across, strongly effervescent disseminated lime and few fine lime filaments, especially on faces of larger peds; moderately alkaline (pH 8.0); gradual wavy boundary. (4 to 9 inches thick)

A13--14 to 29 inches; gray (10YR 5/1) clay loam, very dark gray (10YR 3/1) moist; weak coarse prismatic structure that parts to medium and coarse angular blocky with much medium granular structure; very hard, friable, sticky and plastic; few very fine roots; many very fine interstitial and few fine and medium tubular pores; 1/3 of horizon is krotovinas 2 to 3 inches across; violently effervescent disseminated lime and many fine lime filaments especially on faces of larger peds; moderately alkaline (pH 8.0); gradual wavy boundary. (7 to 16 inches thick)

AC--29 to 32 inches; gray and light gray (10YR 5/1 and 7/1) sandy clay loam, gray and light brownish gray (10YR 5/1 and 6/2) moist; weak coarse and medium angular blocky structure with some coarse granules; very hard, friable, sticky and plastic; few very fine roots; many very fine interstitial and few fine tubular pores; several krotovinas 2 to 3 inches across; violently effervescent, disseminated lime and many distinct lime filaments; moderately alkaline (pH 8.0); clear irregular boundary. (2 to 6 inches thick)

Lopez Series

The Lopez series consists of shallow, somewhat excessively drained soils that formed in material weathered from hard, fractured diatomaceous shale. Lopez soils are on narrow divides and have slopes of 9 to 100 percent. The mean annual precipitation is about 21 inches and the mean annual air temperature is about 58 degrees F.

Taxonomic class. Loamy-skeletal, mixed, superactive, thermic Lithic Ultic Haploxerolls

Typical Pedon

A11--0 to 8 inches; dark gray (10YR 4/1) very shaly clay loam, very dark gray (10YR 3/1) moist; strong fine and medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, medium and coarse roots; many very fine and fine interstitial pores; about 15 percent by volume angular shale fragments larger than 3/4 inch, plus 30 percent about 2 mm; neutral (pH 6.8); gradual irregular boundary. (4 to 12 inches thick)

A12--8 to 14 inches; gray (10YR 5/1) very shaly clay loam, dark grayish brown (10YR 4/2) moist; strong fine and medium granular structure; slightly hard, very friable, sticky and slightly plastic; common very fine, fine, medium and coarse roots; many very fine and fine interstitial pores; about 40 percent shale fragments larger than 3/4 inch plus about 30 percent larger than 2 mm; neutral (pH 6.6); abrupt irregular boundary. (2 to 8 inches thick)

R--14 to 20 inches; hard fractured diatomaceous (Monterey) shale. Strata tilted at about 45 degree angle with few hard outcrops exposed. Rock joints are coated with thin dark brown clay films.

Los Osos Series

The Los Osos series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Los Osos soils are on uplands and have slopes of 5 to 75 percent. The mean annual precipitation is about 25 inches and the mean annual air temperature is about 60 degrees F. Used mostly for range, limited areas are cropped to grain and sudan grass pasture. Vegetation is mostly annual grasses and forbs with some perennial grasses, coastal sagebrush, and live oak.

Taxonomic class. Fine, smectitic, thermic Typic Argixerolls

Typical Pedon

A--0 to 14 inches; brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; moderately acid (pH 6.0); clear smooth boundary. (10 to 16 inches thick)

Btss1--14 to 24 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; weak medium prismatic structure; very hard, very firm, sticky and plastic; few very fine roots; few very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; few slickensides; moderately acid (pH 6.0); gradual wavy boundary. (6 to 12 inches thick)

Btss2--24 to 32 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; massive; very hard, very firm, sticky and plastic; few very fine roots, common very fine tubular pores; many moderately thick clay films lining pores; few slickensides; few manganese concretions; slightly acid (pH 6.5); gradual wavy boundary. (4 to 8 inches thick)

Mocho Series

The Mocho series consists of very deep, well drained soils that formed in alluvium derived mostly from sandstone and shale rock sources. Mocho soils are on alluvial fans and have slopes of 0 to 9 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 59 degrees F. Mostly irrigated and intensively used for forage, field and truck crops, some fruit and dry areas are sued for grain and range. Nontilled areas have a cover of naturalized vegetation of annual grasses and forbs.

Taxonomic class. Fine-loamy, mixed, superactive, thermic Fluventic Haploxerolls

Typical Pedon

Ap--0 to 11 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine and medium interstitial pores; slightly effervescent, carbonates disseminated; moderately alkaline; clear smooth boundary. (6 to 14 inches thick)

A--11 to 18 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine roots; common very fine and fine tubular pores; strongly effervescent, carbonates disseminated; moderately alkaline; clear smooth boundary. (5 to 10 inches thick)

C1--18 to 29 inches; light brownish gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine tubular pores; strongly effervescent, carbonates disseminated; moderately alkaline; clear smooth boundary. (9 to 14 inches thick)

Nacimiento Series

The Nacimiento series consists of moderately deep, well drained soils that formed in material weathered from calcareous shale and sandstone. Nacimiento soils are on rolling uplands and have mostly complex slopes of 9 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 60 degrees F. Used mainly for range with some dry farmed grain. Non-tilled areas have annual grasses and forbs with trees in draws and some live oak in places.

Taxonomic class. Fine-loamy, mixed, superactive, thermic Calcic Haploxerolls

Typical Pedon

A1--0 to 5 inches; dark grayish brown (10YR 4/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure parting to strong medium and fine granular; slightly hard, very friable, sticky and plastic; many very fine roots; many very fine, common fine interstitial and common fine tubular pores; strongly effervescent with disseminated lime; moderately alkaline (pH 8.0); gradual wavy boundary. (3 to 8 inches thick)

A2--5 to 18 inches; dark grayish brown (10YR 4/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, very friable, sticky and plastic; many very fine exped and common inped roots; many very fine interstitial and many very fine, few medium tubular pores; strongly effervescent with disseminated lime; moderately alkaline (pH 8.0); numerous 2 inch krotovinas; clear wavy boundary. (4 to 16 inches thick.

Bk--18 to 28 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; hard, very friable, sticky and plastic; common very fine roots; many very fine interstitial and many very fine, few medium tubular pores; violently effervescent with disseminated and segregated lime in fine soft masses, many fine filaments on peds and in pores; moderately alkaline (pH 8.0); many 2 inch krotovinas; abrupt wavy boundary. (7 to 20 inches thick)

Cr--28 to 39 inches; light yellowish brown (10YR 6/4) and light
gray (10YR 7/2) shale, yellowish brown (10YR 5/4) moist; broken with hand tools to strong medium angular blocky structure; very hard, firm; few fine roots outside of shale fragments; exterior of shale fragments coated with lime and violently effervescent.

San Andreas Series

The San Andreas series consists of moderately deep soils that formed in material weathered from soft sandstone. San Andreas soils are on hills and mountainous uplands and have slopes of 9 to 75 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 61 degrees F. Used mainly for grazing with small incidental areas used for irrigated crops and small grain. Principal naturalized plants are annual grasses and forbs with some coastal sagebrush and scattered live oak.

Taxonomic class. Coarse-loamy, mixed, superactive, thermic Typic Haploxerolls

Typical Pedon

A1--0 to 2 inches; grayish brown (10YR 5/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; few soft rock fragments; neutral (pH 7.0); considerable mixing with A2 horizon through rodent activity; abrupt smooth boundary. (0 to 7 inches thick)

A2--2 to 15 inches; brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial and many very fine tubular pores; few soft rock fragments; moderately acid (pH 6.0); clear smooth boundary. (10 to 16 inches thick)

Bt1--15 to 24 inches; grayish brown (10YR 5/2) very fine sandy loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, sticky and plastic; common very fine roots; common very fine interstitial and many very fine tubular pores; common thin clay films as bridges; few soft rock fragments; moderately acid (pH 6.0); gradual irregular boundary. (4 to 10 inches thick)

Bt2--24 to 28 inches; brown (10YR 5/3) very fine sandy loam, dark brown (10YR 3/3) moist; massive; hard, friable, sticky and plastic; few very fine roots; common very fine interstitial and many very fine tubular pores; common thin clay films as bridges and lining pores; 25 percent soft rock fragments that crush easily; moderately acid (pH 6.0); abrupt irregular boundary. (4 to 10 inches thick)

Santa Lucia Series

The Santa Lucia series consists of moderately deep, well drained soils that formed in material weathered from white shale containing some ash, and some siliceous and diatomaceous material. Santa Lucia soils are on uplands and have slopes of 2 to 75 percent. The mean annual precipitation is about 25 inches and the mean annual air temperature is 59 degrees F. Used mostly for grazing. A few areas are farmed to small grain and minor areas of other crops. Vegetation is mostly coastal type sage with live oak and variable amounts of annual grass-form vegetation. Some open annual grass-form with scattered oak.

Taxonomic class. Clayey-skeletal, mixed, superactive, thermic Pachic Ultic Haploxerolls

Typical Pedon

A1--0 to 8 inches; very dark gray (10YR 3/1) shaly light clay loam, black (10YR 2/1) moist; weak coarse and medium subangular blocky structure, upper 3/4 to 1 inch medium to strong fine granular structure on about 3/4 of surface; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; about 10 percent angular shale fragments larger than 3/4 inch and about 25 percent above 2mm; moderately acid (pH 6.0); gradual wavy boundary.

A2--8 to 17 inches; very dark gray (10YR 3/1) very shaly light clay loam, black (10YR 2/1) moist; strong fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; about 50 percent angular shale fragments larger than 3/4 inch and about 15 percent larger than 2mm; moderately acid (pH 6.0); gradual wavy boundary. (7 to 12 inches thick)

A3--17 to 24 inches; very dark gray (10YR 3/1) very shaly clay loam, black (10YR 2/1) moist; strong fine and medium granular structure; slightly hard, friable, sticky and plastic; many very fine roots; many very fine interstitial pores; about 50 percent shale fragments larger than 3/4 inch and about 15 percent larger than 2 mm; strongly acid (pH 5.5); abrupt irregular boundary. (5 to 20 inches thick)

R--24 to 36 inches; hard weakly fractured Monterey shale; contains some porcelaneous strata.

Tierra Series

The Tierra series consists of deep, moderately well drained soils that formed in alluvial materials from sedimentary rocks. Tierra soils are on dissected terraces and low hills and have slopes of 2 to 50 percent. The mean annual precipitation is about 18 inches and the mean annual air temperature is about 58 degrees F. Used for grazing and growing small grains and small areas of large number of crops. Many cultivated areas have reverted to grass. Vegetation dominantly is annual grasses and forbs.

Taxonomic class. Fine, smectitic, thermic Mollic Palexeralfs

Typical Pedon

Ap--0 to 7 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine interstitial and common very fine and medium tubular pores; strongly acid (pH 5.5); gradual smooth boundary. (5 to 10 inches thick)

A12--7 to 11 inches; gray (10YR 5/1) loam, very dark gray (10YR 3/1) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial, many very fine interstitial and many very fine tubular pores; medium acid (pH 6.0); abrupt smooth boundary. (5 to 14 inches thick)

B21t--12 to 16 inches; very dark grayish brown (10YR 3/2) clay, very dark brown (10YR 2/2) moist; moderate coarse prismatic structure; very hard, very firm, very sticky and very plastic; few very fine roots concentrated along faces of peds; few very fine interstitial and few very fine tubular pores; many moderately thick clay films on faces of peds, continuous thin clay films lining pores; slightly acid (pH 6.5); gradual smooth boundary. (4 to 20 inches thick)

B22t--16 to 25 inches; dark brown (10YR 4/3) clay (not as fine as horizon above), dark brown (10YR 3/3) moist; weak coarse prismatic structure and moderate medium angular blocky; very hard, very firm, very sticky and very plastic; few very fine roots on faces of peds; few very fine interstitial and few very fine tubular pores; continuous thin clay films on faces of peds and lining pores; slightly acid (pH 6.5); gradual smooth boundary. (8 to 12 inches thick)

APPENDIX E

Preliminary Jurisdictional Determination Form

DRAFT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office | File/ORM # | PJD Date:

State | City/County

Nearest Waterbody:

Location: TRS, LatLong or UTM:

Name/ Address of Person Requesting PJD

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: linear ft | width | acres | Stream Flow:

Wetlands: acre(s) | Cowardin Class:

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

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

- ☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite quad name:
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☐ Photographs: ☐ Aerial (Name & Date):
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office | File/ORM # | PJD Date:

State | City/County | Person Requestinq PJD

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource

Notes: