Aquatic Resources Delineation

Vega SES 5 Solar Project

Imperial County, California

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

Amsl	Above mean sea level
APN	Assessor's Parcel Number
APT	Antecedent Precipitation Tool
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CNPS	California Native Plant Society
CWA	Clean Water Act
FP	Freshwater pond
FSW	Forested/shrub wetlands
Gen-tie	Generator inter-tie
GIS	Geographic Information System
GPS	Global Positioning System
IID	Imperial Irrigation District
MW	Megawatt
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPR	Navigable Waters Protection Rule
OHWM	Ordinary high-water mark
ORM	OMBIL Regulatory Module
Project	Vega SES 5 Solar Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
sUAS	Small unmanned aircraft system
SWQB	Surface Water Quality Bureau
SWRCB	State Water Resources Control Board
TNW	Traditional navigable water
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

LIST OF ACRONYMS AND ABBREVIATIONS

USGS	U.S. Geological Survey
WDR	Waste discharge regulation

1.0 INTRODUCTION

This aquatic resources delineation report was prepared to describe the aquatic resources at the Vega SES 5 Solar Project (Project). The proposed Project is a 50-megawatt (MW) alternating current solar photovoltaic energy project with an integrated 50-MW battery storage utility-scale solar project located on approximately 405 acres of land (*Project Area*) on three private parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-022-000, 025-260-019-000, and a portion of 025-260-011-000). For the purposes of this report, the term *Impact Area* refers to the area proposed to be directly affected by implementation of the Project and corresponds to the client supplied project impact boundary.

The Project Area is approximately 10 miles east of the Salton Sea and five miles east of the Chocolate Mountains (Figure 1. *Project Location and Vicinity*). The Project Area corresponds to portions of Sections 8, 16, 17, 18, 19, and 20; Township 11 South; and Range 15 East (San Bernardino Base and Meridian) of the "Iris, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1992). The approximate center of the Project Area is located at 33.206020° latitude and -115.440959° longitude within the Salton Sea Watershed (Hydrologic Unit Code #18100204, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016). Driving directions to the site are included as Attachment A.

This report describes aquatic resources identified within the Impact Area that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Section 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016). The aquatic resource boundaries depicted in this report represent a calculated estimation of the potentially jurisdictional area within the Impact Area and are subject to modification following a verification process by each regulating agency.

The original area surveyed in 2020 and 2021 included a larger footprint. This area was the Project Area plus a 500-foot buffer. The Impact Area of the Project was refined in 2022. Therefore, the original 2020 and 2021 survey area, including features mapped and sample points collected outside of the updated Impact Areas are shown on the figures to provide context. However, this report is intended to provide information to support USACE review and verification for features within the Impact Area only.

2.0 REGULATORY SETTING

2.1 Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road

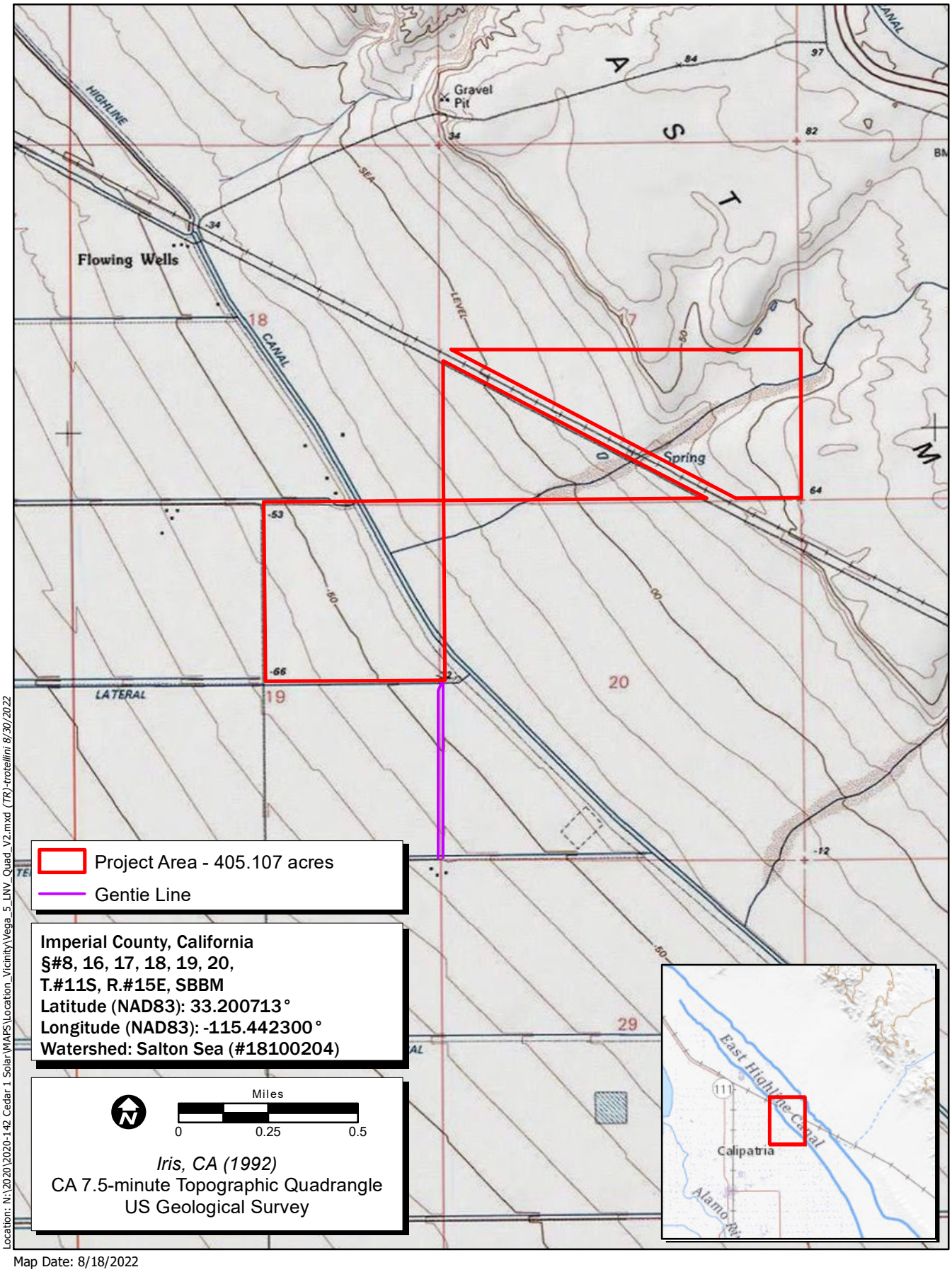

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Figure 1. Project Location and Vicinity

2020-144 Vega SES 5

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fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A RWQCB Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for USACE Section 404 permit actions.

Pursuant to the USEPA and USACE memorandum regarding CWA jurisdiction, issued following the U.S. Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (herein referred to as Rapanos), the agencies will assert jurisdiction over the following waters: "Traditional Navigable Waters" (TNW), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are "relatively permanent" waters (RPW) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

2.2 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (hereafter referred to as Porter-Cologne Act) provides a framework to protect water quality in California. The Porter-Cologne Act was enacted in 1969 as Division 7 of the Water Code and is the primary water quality law in California. The Porter-Cologne Act addresses two primary functions: water quality control planning and waste discharge regulation (WDR). The State Legislature, in adopting the Porter-Cologne Act, directed that California's waters "shall be regulated to attain the highest water quality which is reasonable" and charges the Water Boards with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all Waters of the State, including those not under federal jurisdiction.

The Porter-Cologne Act regulates discharges that could affect the quality of water of surface or ground waters, wherever those discharges may occur. Under the Porter-Cologne Act, the Water Board regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)].

The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation.

The Porter-Cologne Act further requires that anyone who plans to discharge waste where it might affect Waters of the State must first notify the Water Boards. The Water Boards identify the sources of pollutants that threaten water quality under the Porter-Cologne Act and regulate waste discharges that could affect water quality by issuing WDRs. The State Water Resources Control Board (SWRCB) adopted the *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material into Waters of the U.S.* in April 2019. The Water Board 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. The Water Board may require issuance of a WDR for these activities. If a project impacts Waters of the State that do not fall under federal jurisdiction, the applicant need not obtain a section 404 permit or a 401 certification, but instead must receive approval from the Water Boards through the adoption of WDRs.

2.3 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Streambed Alteration Agreement (SAA) application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (California Department of Fish and Wildlife [CDFW] 2020). In Title 14 of the California Code of Regulations, Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as:

> "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The CDFW's jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top-of-bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit an SAA that includes measures to protect affected fish and wildlife resources; this SAA is the final proposal agreed upon by the CDFW and the applicant.

A summary of federal, state, and local regulations and corresponding regulating agencies are summarized in Table 1.

Table 1. Summary of Federal, State, and Local Regulations

Regulation	Resource	Regulating Agency
Federal Regulations		
Federal Clean Water Act	Aquatic features meeting the definition of Waters of the US	USACE

State Regulations		
California Fish and Game Code Section 1602	River, stream, or lake and associated riparian habitat	CDFW
Porter-Cologne Act	Aquatic features meeting the definition of Waters of the State	SWRCB/RWQCB

3.0 METHODS

3.1 Pre-Survey Investigations

Due to the size of the area and limited road access, an initial survey utilizing a small Unmanned Aircraft System (sUAS) was conducted to assess current site conditions and gather high-resolution imagery. The sUAS survey was conducted on September 9, 2020. Photos collected during the sUAS survey were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS). Potential aquatic resources, specifically drainages, within the Project Area were digitized prior to the field survey using the sUAS imagery. Prior to conducting the field delineations, the following resources were reviewed to identify potential aquatic resources: sUAS imagery, satellite aerial imagery (ESRI 2020; Google Earth 2015; USDA 2018), the National Wetlands Database, the online web soil survey (NRCS 2020a), and a hydric soils list for the area (NRCS 2020c).

3.2 Field Survey Investigation

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010), and the State of New Mexico's *Hydrology Protocol for the Determination of Ephemeral, Intermittent, and Perennial Waters* (Surface Water Quality Bureau [SWQB] 2010). Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West OHWM Datasheets. ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (NRCS 2020a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) and the USACE National Wetland Plant List (USACE 2018) were used for plant nomenclature and identification.

Digitized feature boundaries identified during the pre-survey investigation were then verified in the field. Feature boundary modifications, if necessary, were made in the field using a post-processing capable global positioning system unit with sub-meter accuracy (EOS Arrow 100 GNSS). Where aquatic features were present, the extent of potential Waters of the U.S. and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance. Streambed widths were based on evidence of OHWM as observed during the field survey, and streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of

CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely influenced by the hydrology of the streambed. In addition, each of the drainages were evaluated for the presence or absence of sediment deposits, litter/debris, water stains, soil shelving, or exposed roots indicating active hydrology within the channel. Streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely deriving benefit from the hydrology of the streambed. In addition, stream conditions were assessed based on the SWQB protocol to classify features as ephemeral, intermittent, or perennial waters. A combination of hydrological, geomorphic and biological indicators was used to determine the hydrologic nature of each drainage. Each channel was also evaluated for the presence or absence of OHWM field indicators such as bed and bank, a natural line impressed in the bank, sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, litter/debris, leaf litter disturbance, water stains, soil shelving, and exposed roots indicating active hydrology within the channel.

Due to the alluvial fan system within the Project Area, ephemeral channels identified during the pre-survey investigation were assessed in the field to determine if active hydrology occurred within the channel. Ephemeral features were assessed on a case-by-case basis and determined to be active or inactive based on the number of OHWM features present and the presence of riparian vegetation. In general, ephemeral features were considered active if the feature exhibited at least two OHWM indicators and supported riparian vegetation. These active ephemeral drainages were mapped upstream of existing riparian vegetation to the extent that two or more OHWM indicators were present. Whereas channels mapped during the pre-survey that only exhibited one OHWM indicator were classified as inactive erosional channels, or rills. Channels classified as active are those that are presumed to regularly transport water during rain events, and channels classified as inactive do not regularly transport water during rain events and are relic remains of large rain events.

The boundaries of the aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Paired locations were sampled to evaluate whether the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to confirm boundaries. All aquatic features observed within the Project Area were recorded in the field using a post-processing capable Global Positioning System (GPS) unit with sub-meter accuracy (e.g., Juniper Geode™). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Field surveys were conducted on six days (September 29-30, November 9-11, 2020, and January 25, 2021) by ECORP delineation specialists Christina Congedo, Jessie Beckman, and Caroline Garcia. The September field surveys were general field reconnaissance of the Project Area to identify areas supporting potential state and federal jurisdictional waters. The November and January field surveys were a formal delineation

conducted to verify preliminary results observed in the September surveys and to collect additional data and photographs. The entire Project Area was visually surveyed to determine the location and extent of aquatic resources, and special attention was given to the features identified during the preliminary survey described above.

3.3 Post-Processing

The data collected in the field utilized ArcGIS™ Collector on a device (smartphone or tablet) connected to a submeter external receiver. The submeter receiver applies differential correction instantaneously in the field using the Satellite Based Augmentation System. The data were then viewed and analyzed for verification, edited, and compiled in GIS format at the time of download. ArcGIS™ software was used to develop the geodatabase and the shapefiles depicted on the figures included in this report.

4.0 RESULTS

4.1 Existing Site Conditions

The Project Area is located within relatively flat to gently sloping terrain situated at an elevational range of approximately -20 meters (-65 feet) and 22 meters (71 feet) above mean sea level (amsl) in the Sonoran Desert Region of the Desert Province (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Project Area is 41.7 degrees Fahrenheit (˚F) and the average summer high temperature is 104.7˚F. Average annual precipitation for Imperial, California is approximately 2.90 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2020a). During the 2019-2020 rain year prior to the to the November field survey (October 1, 2019 to April 30, 2020), approximately 4.74 inches of precipitation were recorded at the Imperial, CA weather station located approximately 25 miles southwest of the Project Area (NOAA 2020b). The most recent significant precipitation event prior to the surveys occurred April 8-11, 2020, with a total of 0.80 inches of rainfall accumulating over four days.

A typical year analysis of the Project Area via a single point method was conducted using the USACE Antecedent Precipitation Tool (APT, USACE 2021). The APT is an automation tool that utilizes standardized methodology to calculate precipitation normalcy at a given location using publicly available data sources. The APT analysis determines whether precipitation, drought, and other climatic conditions from the previous three months are *wet*, *normal*, or *dry* for the geographic area based on a rolling 30-year period (USEPA 2021). The APT was run for the dates the wetland delineation data were collected between September 29, 2020 and January 25, 2021. The APT demonstrated the site conditions on these dates represent a time of year referenced as the dry season, that the general region and site were in a moderate to severe drought, and that site conditions were normal to wetter than normal in climatic conditions.

The southwestern portion of the Project Area is primarily composed of undeveloped land that was historically used for agriculture. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats. The ephemeral drainage system (ED-3001) associated with Siphon Five runs northeast-southwest through the Project Area. A majority of ED-3001 is located outside of the Impact Area. The East Highline Canal bisects the western portion of the Project Area, and the Project Area is bisected by a railroad right-of-way in the northeastern portion of the Project Area. The

Project Area is surrounded to the west and south by agricultural fields and undeveloped land to the north, east, and southeast.

4.1.1 Vegetation Communities

The western portion of the Project Area is primarily composed of active and fallow agriculture. The eastern portion of the Project Area is primarily composed of a braided ephemeral drainage system with riparian scrub and wetland habitats. The Impact Area supports three vegetation communities: bush seepweed (*Suaeda nigra*) scrub, creosote bush (*Larrea tridentata*) scrub, and tamarisk (*Tamarix* spp.) thickets. The Impact Area also includes the following land cover types: fallow agricultural land and urban/developed. Two additional land cover types, iodine bush (*Allenrolfea occidentalis*) scrub and active agricultural land, were observed within the buffer, but not within the Impact Area. Descriptions of the vegetation communities and land cover within the Impact Area only are provided below.

Vegetation Communities with the Impact Area

Bush seepweed scrub is typically found in flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas (CNPS 2020). Bush seepweed scrub is found within an alkali sink that makes up most of the eastern portion of the Impact Area. Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Within the Impact Area, bush sweepweed dominated the shrub cover with occasional occurrences of four-wing saltbush (*Atriplex canescens*), arrow weed (*Pluchea sercia*), big saltbush (*Atriplex lentiformis*), alkali goldenbush (*Isocoma acradenia*), and tamarisk.

Creosote bush scrub is typically found on alluvial fans, bajadas, upland slopes, and washes (CNPS 2020). Within the Impact Area, creosote bush scrub is located in the upland areas adjacent to the alkali sink and is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. Creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage (*Ambrosia dumosa*), with an absent to intermittent herbaceous layer of seasonal annuals. Other plant species include four-wing saltbush, big saltbush, Mediterranean grass (*Schismus barbatus*) and occasional bush seepweed on the banks of established drainages.

Tamarisk thickets are typically found in sandy or gravelly braided washes or streams, areas where evaporation is high therefore increasing the saltiness. Within the Impact Area, tamarisk thickets are located within the ephemeral drainage and within the wetlands adjacent to East Highline Canal, and are characterized by a weedy, monoculture of tamarisk. Within the Impact Area, tamarisk and arrow weed were often co-dominant in this vegetation community. Other plant species observed include arrow weed, bush seepweed, four-wing saltbush, and big saltbush.

Land Cover Types within the Impact Area

Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southwestern portion of the Impact Area. With the Impact

Area, this land cover consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), sudangrass (*Sorghum bicolor* ssp. *drummondii*), and occasional big saltbush.

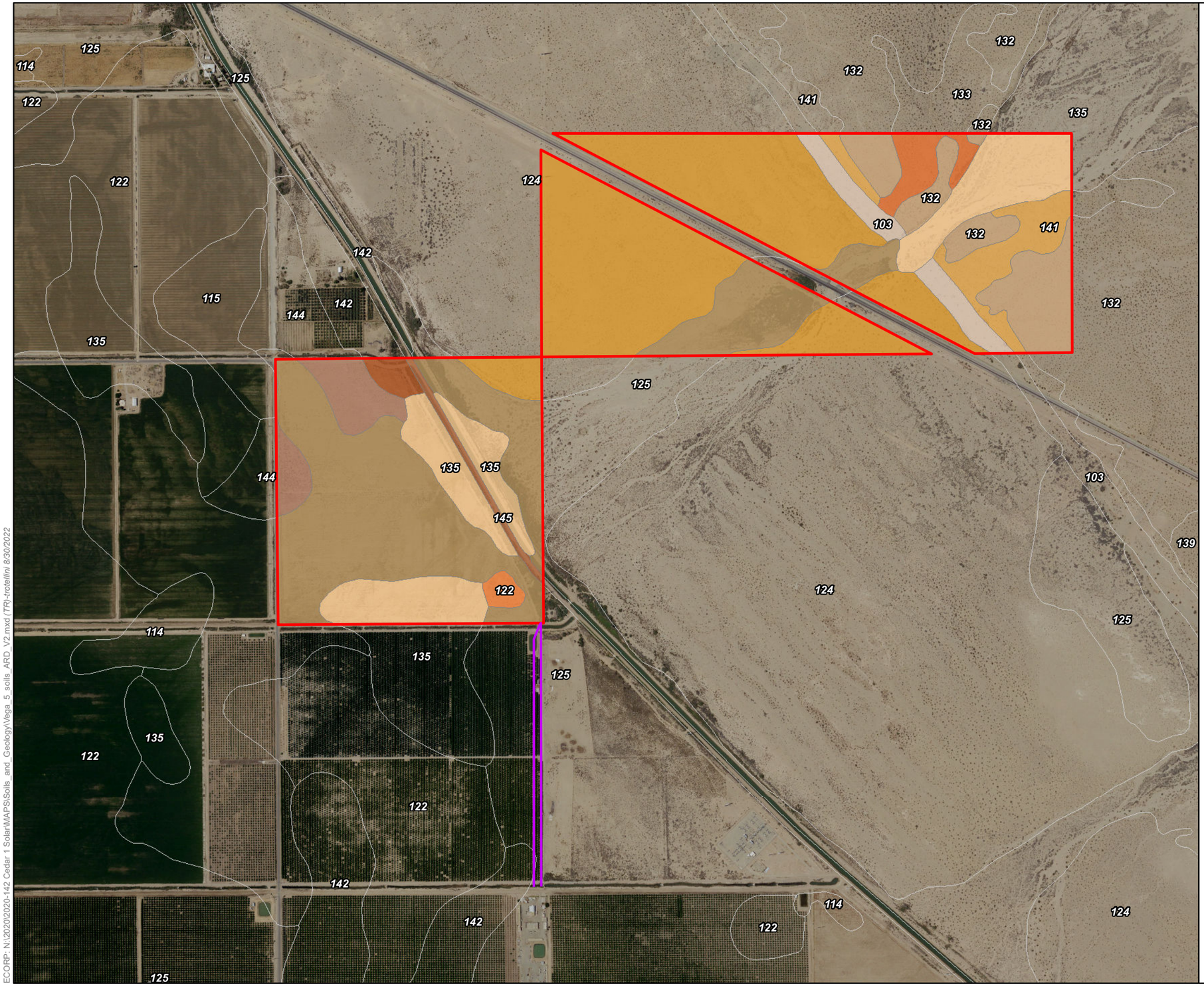
Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. There may be irrigated landscaped, ornamental species present between the hardscape. Within the Impact Area, this land cover consisted primarily of compacted dirt roads, structures, including utility towers.

4.1.2 Soils

According to the Web Soil Survey (NRCS 2020a), eight soil units, or types, have been mapped within the Project Area (Figure 2. *Natural Resources Conservation Service Soil Types*). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

The Niland gravelly sand (124) and the Niland gravelly sand, wet map units (125) both contain hydric minor components (NCRS 2020c). Three water state classes (dry, moist, and wet) are used as soil moisture status entries for map unit components and designate a mean monthly soil water state at a specified depth. A summary of characteristics based on official series descriptions for each of the soil series mapped within the alignments are provided below (NRCS 2020b).



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Scale in Feet
0 1,000

Figure 2. Natural Resources Conservation Service Soil Types

2020-144 Vega SES 5

Carsitas Series

The Carsitas series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rocks. The Carsitas soils are on alluvial fans, fan aprons, valley fills, dissected remnants of alluvial fans and in drainageways. Slopes range from 0 to 30 percent. The mean annual precipitation is about three inches and the mean annual air temperature is about 77°F.

Imperial Series

The Imperial series consists very deep, well and moderately well-drained soils that formed in calcareous alluvium from mixed sources. The Imperial soils are nearly level to gently sloping are on flood plains and in old lake beds. The climate is arid with hot dry summers and cool dry winters. Average annual precipitation is less than four inches and the average annual temperature is about 72°F.

Glenbar Series

The Glenbar series consists of very deep, well-drained soils that formed in stratified stream alluvium. Glenbar soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent. The mean annual precipitation is about seven inches and the mean annual air temperature is about 71°F.

Meloland Series

The Meloland series consists of naturally well-drained soils that commonly have perched water tables under irrigation. Typically, Meloland soils have light brown and very pale brown, calcareous very fine sandy loam, loamy fine sand, and silt loam upper horizons underlain by pink calcareous silty clay at depth of 26 inches that extends to a depth of 71 inches. Meloland soils are found in nearly level lacustrine basins and flood plains in the deserts. These soils have low to medium surface runoff and slow permeability.

Niland Series

The Niland series consists of well and moderately well-drained soils with slopes that formed in coarse mixed alluvium overlying fine alluvium at depths of less than 36 inches. Niland soils are on basin and floodplain edges and have slopes that are typically less than one percent, but can range up to five percent. Average annual precipitation is less than four inches and the average annual temperature is about 72°F.

Rositas Series

The Rositas series consists of very deep, somewhat excessively drained soils. These soils are formed in sandy eolian material and have less than 15 percent coarse and very coarse sand. Rositas soils are on dunes and sand sheets and have slopes that range from 0 to 30 percent. The mean annual precipitation is about four inches and the mean annual air temperature is about 72°F.

Torriorthents and Orthids Series

The Torriorthents and Orthids series consists of deep, well drained to excessively drained soils formed on terrace escarpments and old alluvial fans dissected by geologic erosion. These soils are formed in mixed, unconsolidated alluvial sediment. These soils have rapid surface runoff and slow to rapid permeability.

Vint Series

The Vint series consists of very deep, somewhat excessively drained soils formed in stratified stream alluvium. These soils are on flood plains with a mean annual precipitation is about seven inches and the mean annual air temperature is about 71°F.

4.1.3 National Wetland Inventory

According to the National Wetlands Inventory (NWI, USFWS 2020a), there are four general types of drainage features mapped within the Project Area. These include freshwater pond, freshwater forested/shrub wetland, fluvial natural drainage features, and fluvial unnatural features (Figure 3. *National Wetland Inventory*).

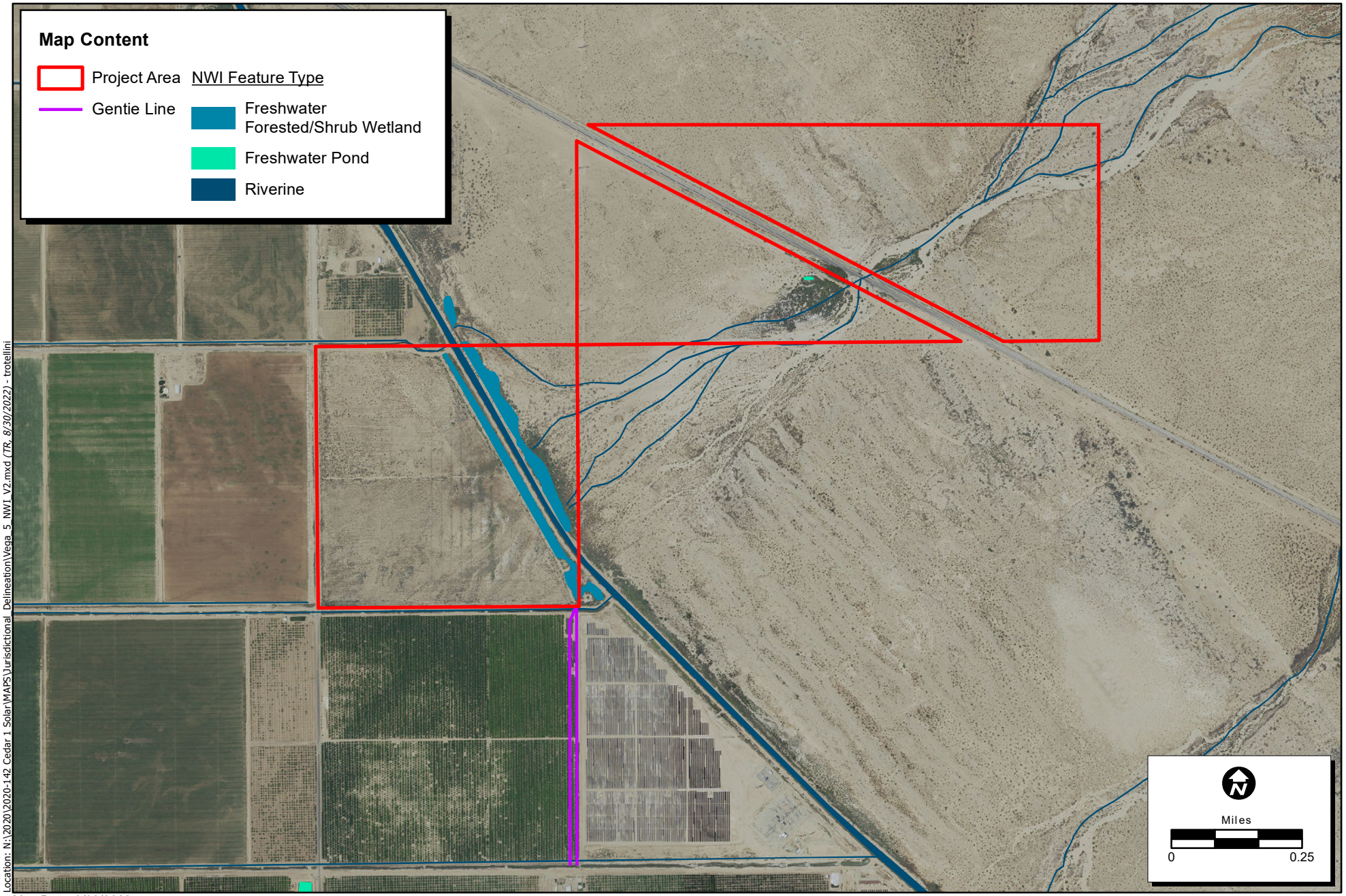
4.1.4 Hydrology

The Project Area is within the Salton Sea Watershed (Hydrologic Unit Code #18100204, NRCS et al. 2016). The Project Area and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. soils. A number of ephemeral features within the Project Area are relic remains of rain events and do not actively transport surface flow within the site; they would therefore be considered inactive ephemeral drainages. Furthermore, these features lack connectivity to the ephemeral system further upstream due to the presence of the railroad right-of-way.

The hydrology of the ephemeral system within the Project Area supports associated wetland, alkali sink, and riparian habitat. The ephemeral system ultimately drains into wetlands existing along the eastern end of the East Highline Canal, and additional wetlands exist along the western end of the canal. Runoff within the Project Area generally flows southwest from the direction of the Chocolate Mountains toward the East Highline Canal and associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea. The Salton Sea is a traditional navigable water (TNW) per Section 404 of the CWA.

4.2 Aquatic Resources

Aquatic resources have been mapped within the Impact Area; each resource is summarized by feature in Table 2 and depicted on Figure 4. *Aquatic Resources Delineation*. The regulated limits that are presented in Table 2 serve as an estimate and are subject to agency verification. Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, defined bed and bank, scour, presence of a clear and natural line impressed on the bank, disturbance of leaf litter, the presence or absence of sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, and/or exposed roots indicating active hydrology within the channel.



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Map Date: 8/30/2022
Photo Source: NAIP (2020)

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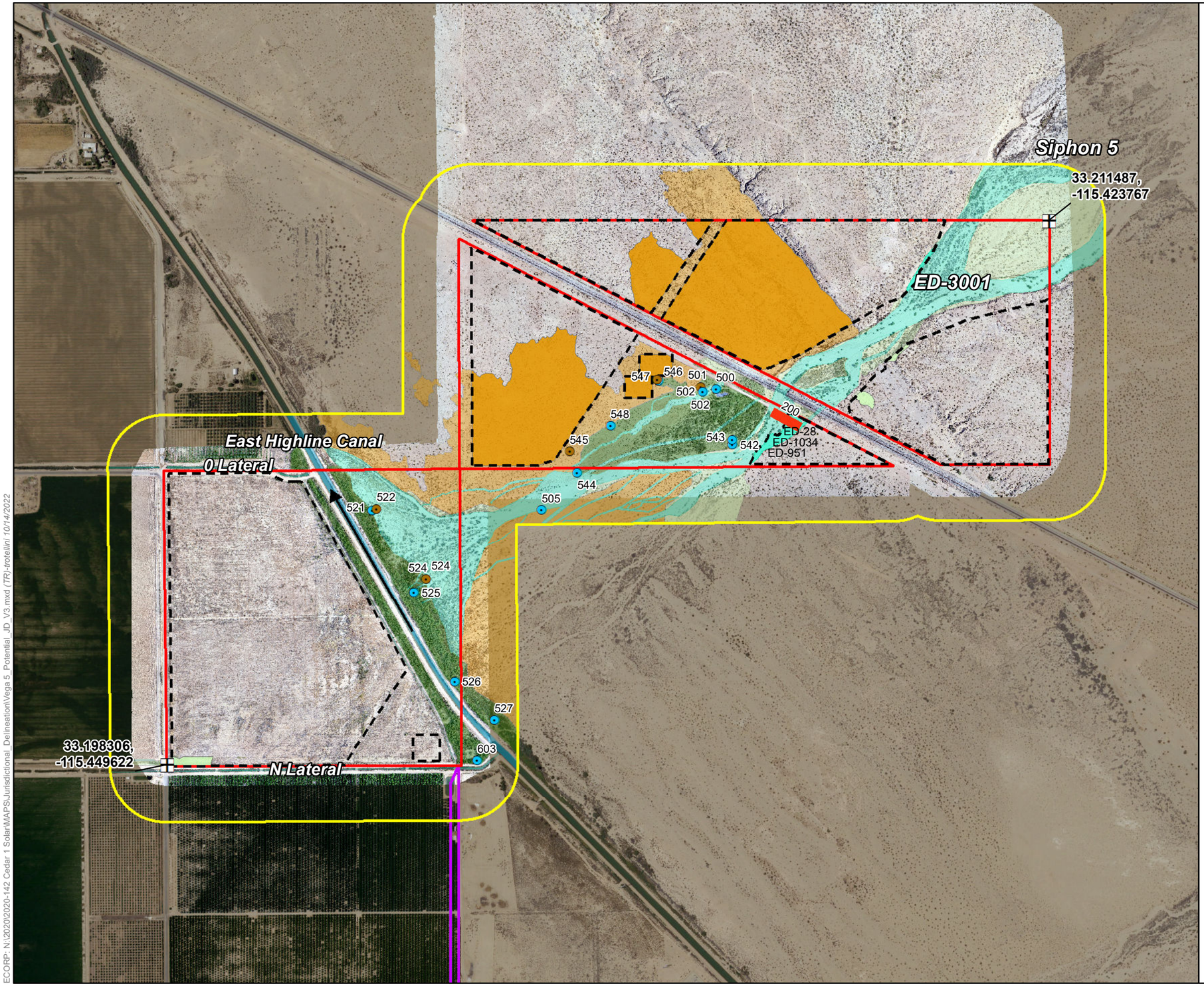
Figure 3. National Wetland Inventory

2020-144 Vega SES 5

Table 2. Aquatic Resources within the Impact Area

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-3001	R6	33.20708933, -115.4308437	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.433	1092.817	300	61.505
ED-28	R6	33.20652851, -115.4310019	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	88.544	15	N/A
ED-951	R6	33.20618897, -115.432043	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	25.806	100	N/A
ED-1034	R6	33.20608786, -115.4317562	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	20.695	25	N/A
Unassociated Riparian Habitat	N/A	33.19838717, -115.4489476	Relic feature with riparian habitat persisting; hydrology that was diverted for cropland has been redirected and no longer exists; non-wetland. Associated with N Lateral.	Tamarisk Thickets	N/A	N/A	N/A	0.680
Total	N/A	N/A	N/A	N/A	1.535	1227.862	N/A	62.185

[1]ED= Ephemeral Drainage
[2]Cowardin Codes: (R6) Riverine, Ephemeral (USFWS 2020b).
[3] Bank-to-bank width.
[4]Includes Alkali Sink and Riparian Habitat acreages.



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Gentie Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

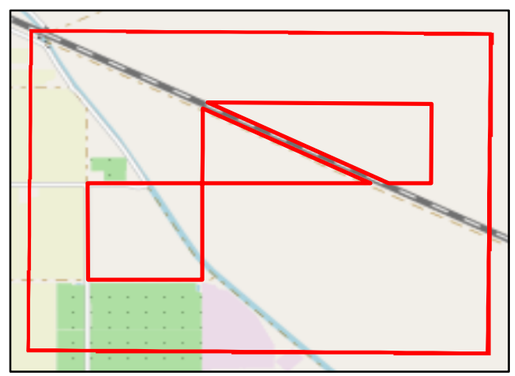
- Irrigation Channel
- Canal
- Freshwater Pond
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



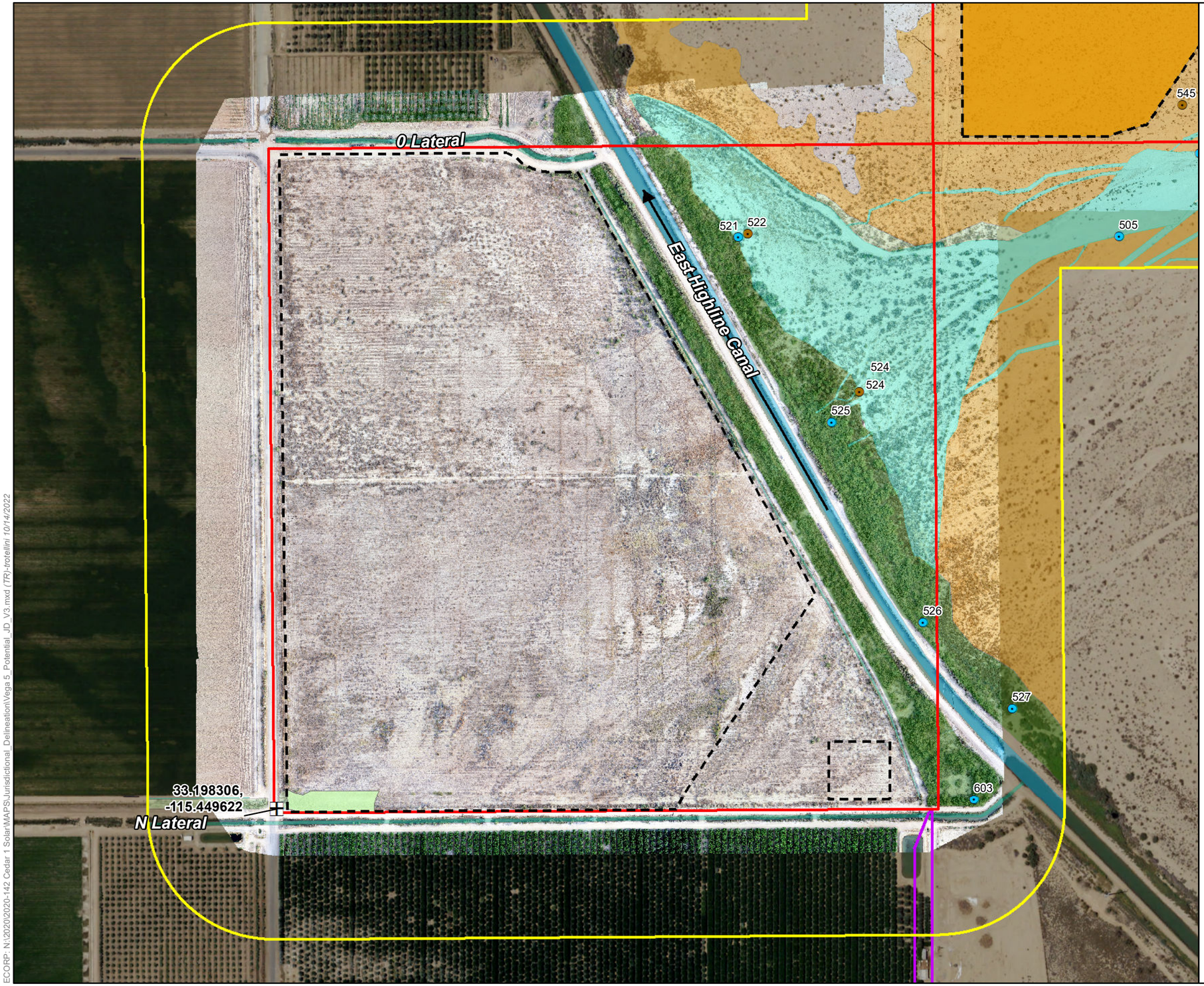
ECORP: N:\20202020-142 Cedar 1 Solar\MAPS\Jurisdictional_Delineation\Vega 5_Potential_JD_V3.mxd (TR)-trotellini 10/14/2022

Map Date: 10/14/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 450 900

Figure 4. Aquatic Resources Delineation Overview - Sheet 1 of 3
2020-144 Vega SES 5



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Gentie Line
- Reference Point
- Flow to TNW

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

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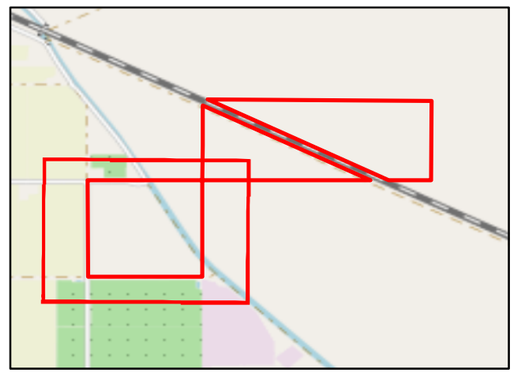
*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Jurisdictional_Delineation\Vega 5_Potential_JD_V3.mxd (TR)-trotellini 10/14/2022

Map Date: 10/14/2022

ECORP Consulting, Inc.
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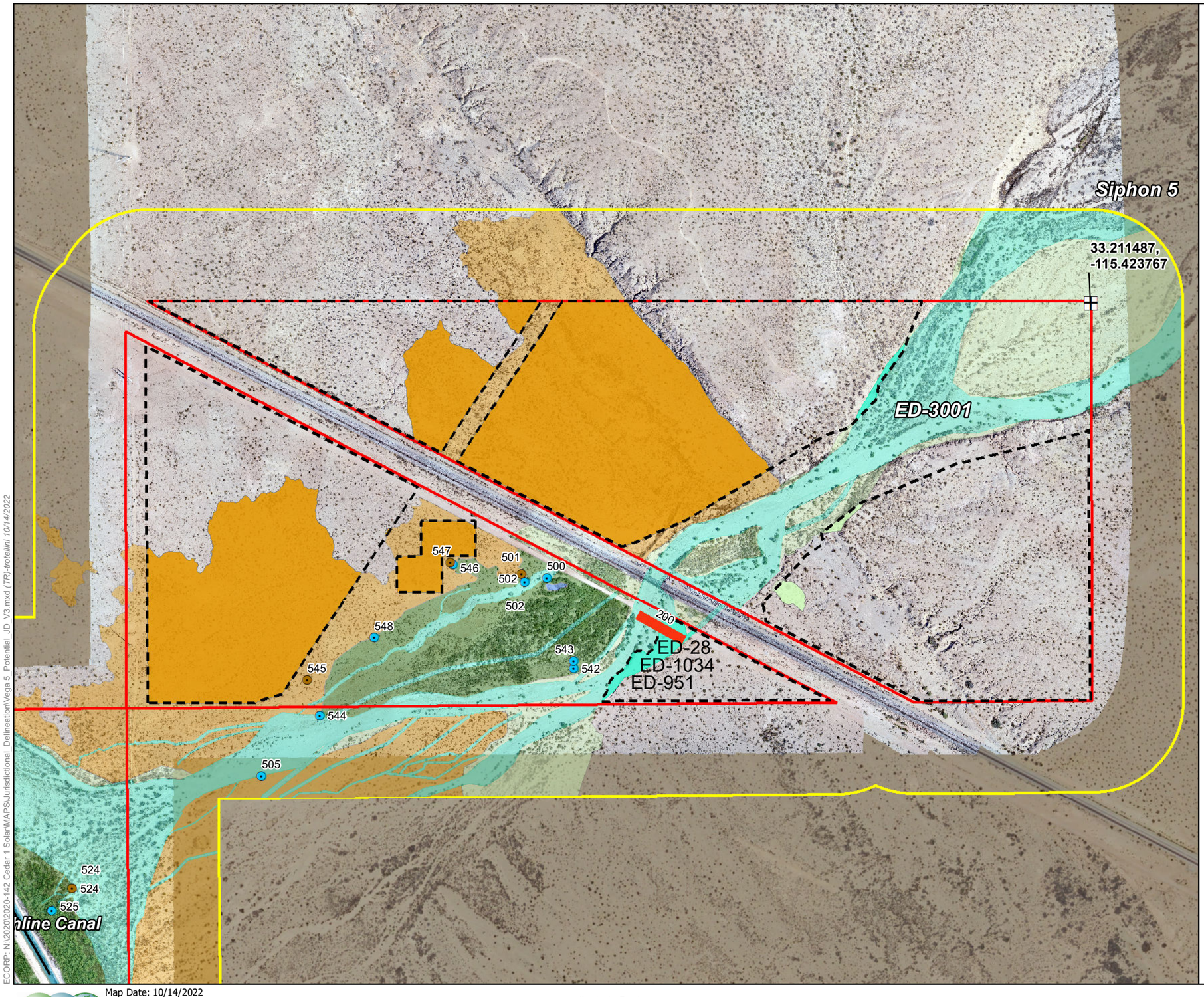
Scale in Feet
0 200 400

Figure 4. Aquatic Resources Delineation
Sheet 2 of 3
2020-144 Vega SES 5



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Reference Point
- Flow to TNW
- OHWM Cross Section

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

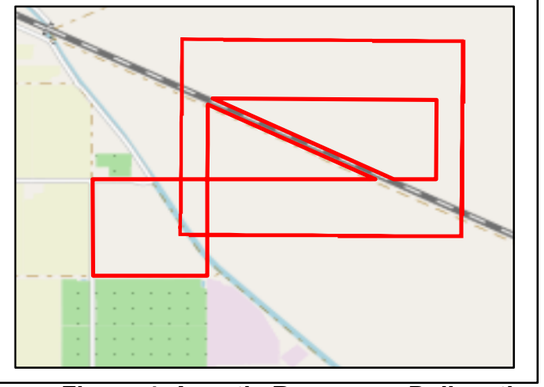
- Irrigation Channel
- Canal
- Freshwater Pond
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Jurisdictional_Delineation\Vega 5_Potential_JD_V3.mxd (TR)-trotellini 10/14/2022

Map Date: 10/14/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 275 550

Figure 4. Aquatic Resources Delineation
Sheet 3 of 3
2020-144 Vega SES 5

Contiguous riparian habitat associated with a nearby aquatic feature was mapped, and the aquatic feature with which the habitat was associated was also recorded. Riparian habitat not associated with an active aquatic feature was also mapped. OHWM and Wetland Determination Data Forms are included as Attachment B, representative site photographs are included as Attachment C, the USACE OMBIL Regulatory Module (ORM) aquatic resources table is included as Attachment D, and digital data are provided as Attachment E.

4.2.1 Wetlands

No wetlands were delineated within the Impact Area. Three freshwater forested/shrub wetlands and one freshwater pond were identified and mapped within the Project Area but outside of the Impact Area. These features are discussed below to provide context for the aquatic resources within the Impact Area only and not to support verification of these features.

Freshwater Forested/Shrub Wetland

Freshwater forested/shrub wetlands (FSW) are dominated by woody vegetation such as true shrubs, young trees (saplings), and trees or shrubs that are stunted due to environmental conditions. In seasonally flooded wetlands, surface water is present for extended periods, particularly in the early growing season, but is absent by the end of the growing season in most years. The water table can be variable after a flooding event, and ranges from saturation at the ground surface to a water table well below the ground surface (USFWS 2020b).

Three freshwater forested/shrub wetlands were identified and mapped within the Project Area but outside of the Impact Area. Two of these features are located adjacent to the East Highline Canal in the southwest parcel, and one feature is associated with the ephemeral drainage in the northeast parcel of the Project Area. These features are documented with Sampling Points 502, 521, 525, 526, 527, 542, 543, 544, 548, and 603 (Attachment B) and Photos 6-8 (Attachment C). Sampling Points 500, 502, 542, 543, 548, and 544 were collected in the wetland in the northeast parcel of the Project Area. Sampling Points 521, 525, 526, and 527 were collected in the wetland east of the East Highline Canal. Sampling Point 603 was collected in the freshwater forested/shrub wetland west of the East Highline Canal. At the time of the aquatic resource delineation in 2020 and 2021, these sampling points were inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the aforementioned Sampling Points.

All freshwater forested/shrub wetlands were sparsely vegetated and dominated by hydrophytic vegetation characterized as tamarisk scrub. Plant species observed within the wetlands included tamarisk, bush seepweed, arrow-weed, iodine bush, big saltbush, and saltgrass. All sampling points met the F8 (redox depressions) hydric soil indicator. All sampling points met the surface soil cracks (B6) primary wetland hydrology indicator, and multiple sampling points met additional primary or secondary indicators. Additional primary indicators present included sediment deposits (B2) and drift deposits (B3). Additional secondary indicators present included water marks (B1), sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and the FAC-neutral test (D5). Soil at Sampling Point 525 and Sampling Point 526

are representative of soil conditions within the wetlands throughout the Project Area. Conditions at these sampling points are described below.

At Sampling Point 525, the matrix color at a depth of 0 to 4 inches was 10YR 4/4 with no redox features; and at a depth of 4 to 12 inches the matrix color was 10YR 4/3 with 5 percent redox features colored 5YR 5/8. Texture was the primary difference between these horizons. The A horizon was loamy sand, and the B horizon was silty clay loam. The soil was moist at a depth of approximately four inches, indicating possible ground water connection to the adjacent East Highline Canal at the time of the assessment. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and FAC-neutral test (D5) secondary indicators.

At Sampling Point 526, the matrix color at a depth of 0 to 2 inches was 10YR 4/3 with no redox features; at a depth of 2 to 4 inches the matrix color was 85 percent 10YR 4/3 and 10 percent N 2.5/0 with 5 percent redox features colored 5YR 5/8; and at a depth of 4 to 12 inches the matrix color was 10YR 4/3 with no redox features. The presence of redox features was the primary difference between these horizons. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and FAC-neutral test (D5) secondary indicators.

Freshwater Pond

Freshwater ponds (FP) are non-tidal wetlands that are typically dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. They consist of unconsolidated substrates with less than 75 percent coverage of stones, boulders or bedrock and less than 30 percent coverage of vegetation. In intermittently flooded wetlands, substrate is usually exposed but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or years may pass between periods of inundation (USFWS 2020a).

One freshwater pond was identified and mapped within the northeast portion of the Project Area, outside of the Impact Area. This feature is documented by Sampling Point 500 (Attachment B) and Photo 5 (Attachment C). At the time of the aquatic resource delineation in 2020 and 2021, this Sampling Point was inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the Sampling Point 500. Plant species observed within the wetland included tamarisk and iodine bush. The matrix color at a depth of 0 to 6 inches was 7.5YR 4/4 with 5 percent redox features colored 7.5R 5/8; and at a depth of 6 to 15 inches the matrix color was 7.5YR 4/3 with 30 percent redox features colored 7.5R 5/8. Texture and the percentage of redox features were the primary differences between these horizons. The A horizon was clay loam, and the B horizon was silty clay. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators met included the surface soil cracks (B6) primary indicator and FAC-neutral test (D5) secondary indicator.

4.2.2 Other Aquatic Resources (Non-Wetland Waters)

Ephemeral Drainage

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. As previously described, the Project Area and adjacent upslope areas are within an alluvial fan drainage system. Multiple ephemeral drainages that are part of this system flow through the Project Area and appear to transport surface water from the direction of the Chocolate Mountains to the East Highline Canal, the ephemeral drainage (ED-3001), and/or the freshwater forested/shrub wetland directly northeast of the East Highline Canal. These features lack connectivity to the ephemeral system further upstream due to the presence of the railroad right-of-way.

Four ephemeral drainage features associated with Siphon Five are located fully or partially within the Impact Area (ED-3001, ED-28, ED-951, and ED-1034). Feature ED-3001 is documented by OHWM Transect 200 (Attachment B) and Photo 3 (Attachment C). A majority of feature ED-3001 is outside of the Impact Area. At the time of the field delineation in 2020, the OHWM Transect was located inside the Project impact limits, as previously provided by the Applicant. The Impact Area limits were revised in 2022 and the OHWM Transect was no longer located fully within the revised Impact Area, but was partially within and directly adjacent. The OHWM Transect data sheet has been included in this report because the field conditions documented are representative of the ephemeral drainages mapped within the revised Impact Area limits. At the time of the field assessment, this feature contained no surface flow and had sparse vegetation within the bed. The OHWM was delineated in the field primarily by changes in sediment, vegetation, a natural scour line, bank erosion, and the presence of litter and debris. ED-3001 flows southwest under the railroad via a concrete underpass. It diverts surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and the railroad right-of-way, and ultimately connects to the East Highline Canal and/or associated wetlands within the southwest portion of the Project Area. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea.

At the time of the field assessment, all other ephemeral features contained no surface flow. The OHWM was delineated in the field primarily by the changes in vegetation, sediment changes, and the break in bank slope. Other features observed included mud cracks and surface relief caused by flowing water. Channel surface features within ephemeral drainages indicated weak bed and bank along with a narrow scoured area that varied in width. Other indicators present included drainage patterns and sediment deposits..

4.2.3 Manmade Features

No manmade features were delineated within the Impact Area. One canal and three irrigation channels were identified and mapped within the Project Area and buffer but are located outside of the Impact Area. These features are discussed below to provide context for the aquatic resources within the Impact Area only and not to support verification of these features.

Canal

One major canal, the East Highline Canal, is located within the Project Area but outside of the Impact Area. The East Highline Canal is managed by the Imperial Irrigation District (IID) and was constructed for the purposes of water delivery. It is an unvegetated, concrete (or other impervious material)-lined channel that transports water year-round. Within the Project Area, lateral canals transport water from the East Highline Canal east towards active agricultural land within the buffer area. The East Highline Canal ultimately flows into the Salton Sea through a series of lateral canals and drains.

Irrigation Channel

Features classified as irrigation channels include concrete-lined lateral canals and concrete-lined irrigation ditches. The irrigation channels located within the buffer of the Project Area are used for agricultural purposes and are part of a larger interconnected system that supplies water throughout the Imperial Valley.

Lateral Canals

The lateral canals within the buffer of the Project Area are managed by IID and supply water to irrigation ditches that are used by private farming operations. The concrete-lined lateral canals are managed by IID to be free of vegetation and therefore lack habitat for wildlife species. Lateral canals that fall adjacent to the Project Area include the O Lateral along the northern end and the N Lateral along the southern end of the western portion of the Project Area.

Irrigation Ditches

There is one concrete-lined irrigation ditch within the Project Area, but outside of the Impact Area, that is associated with a fallow agricultural field and is no longer in use. This irrigation ditch runs parallel to the East Highline Canal and associated wetlands. The concrete-lined irrigation ditch is free of vegetation and therefore lacks habitat for wildlife species.

4.2.4 Potential CDFW Regulated Habitats

The following describes vegetation communities or habitat features that could be regulated by CDFW but are not expected to be regulated by the USACE under Section 404 of the CWA because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often temporarily flooded during large precipitation events, but do not stay inundated long enough to form hydric soils.

The alkali sink habitat is documented with Sampling Points 501, 522, 524, 545, and 547 (Attachment B) and Photo 9 (Attachment C). At the time of the aquatic resource delineation in 2020 and 2021, these sampling points were inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the aforementioned Sampling Points. However, alkali sink habitat is still

present within the revised Impact Area and is subject to direct impacts. Sampling Points 501, 522, 524, 545, and 547 are representative of the alkali sink habitat of the Project Area as a whole. Sparse hydrophytic vegetation was present at all sampling point locations within the alkali sink habitat, including iodine bush, arrow weed, bush seepweed, and big saltbush. Indicators of wetland hydrology were observed at multiple upland sampling points within the alkali sinks, including primary indicator surface soil cracks (B6) and secondary indicators sediment deposits (B2), drift deposits (B3), and drainage patterns (B10). All sampling points within the alkali sink habitat lacked hydric soil indicators. Upland Sampling Points 522 and 545 document locations which had hydrophytic vegetation but lacked wetland hydrology and hydric soils. Upland Sampling Points 524 and 547 document locations which had hydrophytic vegetation and wetland hydrology but lacked hydric soils.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the Project Area consists of tamarisk thickets, which is characterized by a weedy, monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Throughout the Project Area, other species observed included four-wing saltbush and arrow weed. There is additional riparian habitat within the southwest portion of the Impact Area near the N Lateral canal that is not associated with an active aquatic feature. This habitat likely established opportunistically in areas that were recently left fallow and consists of tamarisk thickets. This area was determined to be remnant of a relic unlined irrigation channel that is no longer in use.

5.0 JURISDICTIONAL ASSESSMENT

Aquatic resources that are potentially regulated under the CWA, the Porter-Cologne Act, and California Fish and Game Code Section 1602 within the Impact Area are summarized below. These results are subject to modification following agency verification.

5.1 Clean Water Act

Per Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determin*es that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*" (USACE 2016b). The following information on connectivity of wetlands and other waters in the Survey Area to TNW is provided should an Approved Jurisdictional Determination (AJD) be necessary.

The ephemeral drainages within the Impact Area are tributary to the Salton Sea, which is a TNW. Under the current definition of waters of the U.S., the *Rapanos* guidance, the ephemeral drainages onsite would be considered non-navigable tributaries that are not relatively permanent. In which, case, a significant nexus evaluation of the ephemeral drainages would be necessary to determine jurisdiction if seeking an AJD.

5.2 Porter-Cologne Water Quality Control Act

Ephemeral drainages meet the definition of Waters of the State and are regulated pursuant to the Porter-Cologne Act. The Porter-Cologne Act defines Waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation.

5.3 California Fish and Game Code Section 1600-1602

The following categories meet the criteria for resources that are regulated under section 1600 of the California Fish and Game Code. This includes all resources with surface or subsurface flow, and a body of water that "flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life." Areas with associated riparian vegetation that is supported by the surface and subsurface flow through these streambeds are also added to CDFW's jurisdiction under 1600. The categories are:

- Ephemeral Drainages
- Riparian Habitat
- Alkali Sinks

6.0 REFERENCES

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LIST OF ATTACHMENTS

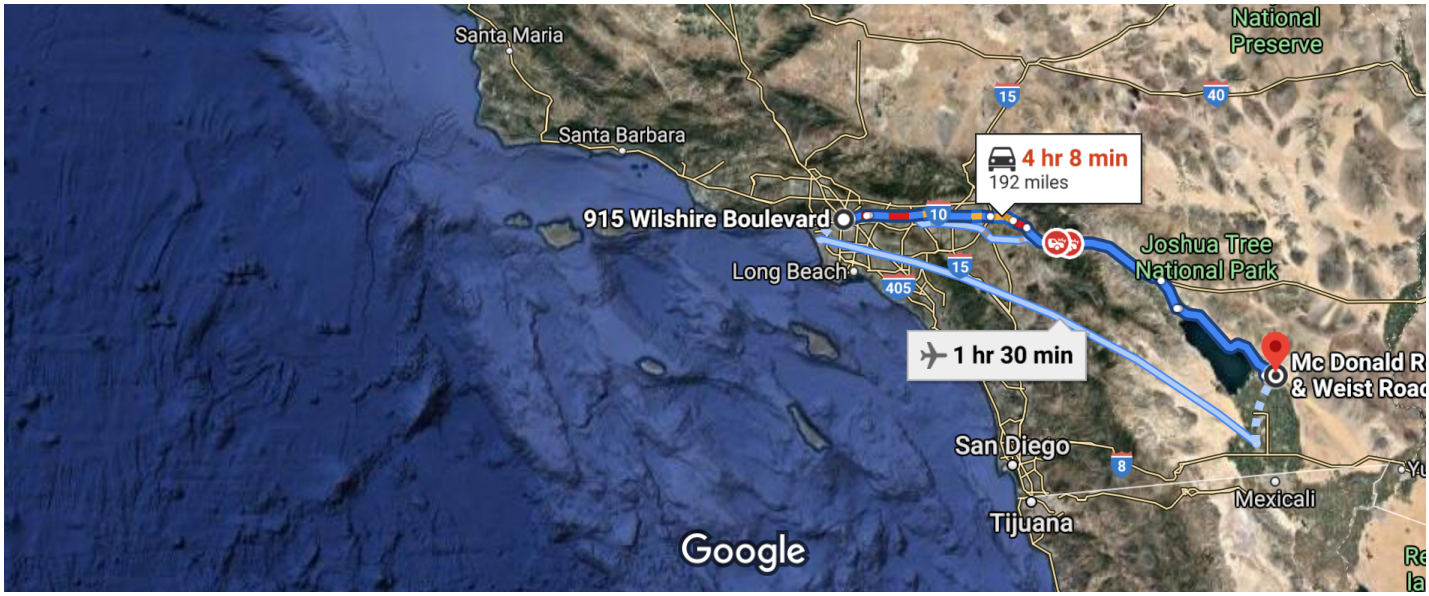
ATTACHMENT A

Driving Directions to the Project

Google Maps

915 Wilshire Blvd, Los Angeles, CA 90017 to Wiest Rd & McDonald Rd, California 92233

Drive 192 miles, 4 hr 8 min



Imagery ©2020 TerraMetrics, Map data ©2020 Google, INEGI 50 mi

915 Wilshire Blvd

Los Angeles, CA 90017

Get on CA-110 N/Harbor Fwy from S Figueroa St

2 min (0.5 mi)

1. Head southeast on Wilshire Blvd toward S Figueroa St

410 ft

2. Use the left 2 lanes to turn left at the 1st cross street onto S Figueroa St

0.2 mi

3. Use the 2nd from the left lane to turn left at the 3rd cross street onto W 5th St

174 ft

4. Keep right at the fork, follow signs for Harbor Fwy/CA-110 N and merge onto CA-110 N/Harbor Fwy

0.2 mi

Follow I-10 E to CA-86 S in Indio

1 hr 59 min (129 mi)

5. Merge onto CA-110 N/Harbor Fwy

0.5 mi

6. Use the 2nd from the right lane to take the exit toward I-5 S/I-10 E

0.5 mi

7. Merge onto US-101 S

1.3 mi

8. Keep left at the fork to continue on San Bernardino Fwy, follow signs for I-10 E/San Bernardino

1.2 mi

9. Continue onto I-10 E/San Bernardino Fwy

5.8 mi

10. Keep left to stay on I-10 E

1.0 mi

11. Keep left to stay on I-10 E

46.2 mi

12. Keep left to stay on I-10 E

Pass by Starbucks (on the right in 1.2 mi)

9.2 mi

13. Keep left to stay on I-10 E

6.0 mi

14. Keep left to stay on I-10 E

57.6 mi

Follow CA-86 S and CA-111 S to McDonald Rd in Imperial County

1 hr 6 min (62.8 mi)

15. Keep right to continue on CA-86 S, follow signs for Brawley/El Centro/865 Expy

12.1 mi

16. Use the left lane to take the 66th Ave ramp to CA-111 S/Niland/Calipatria

0.2 mi

17. Turn left onto 66th Ave

0.8 mi

18. Continue onto Lincoln St

190 ft

19. Turn right onto CA-111 S

45.7 mi

20. Turn left onto McDonald Rd

4.0 mi

McDonald Rd & Weist Rd

California 92233

ATTACHMENT B

OHWM and Wetland Determination Data Forms – Arid West Region

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 5
Project Number:
Stream: ED-3001 (Cross section #200)
Investigator(s): C. Congedo, C. Torres

Date: 09/29/2020
Town: Calipatria
Photo begin file#:

Time: 10:30AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken of ED-3001 adjacent to railroad right-of-way at northeast portion of Project Area.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system:

Channel diverted under railroad tracks using a concrete culvert, and drainage system eventually meets with the East Highline Canal at the southwest end of the site. Lateral canals divert water from the East Highline Canal to active agriculture that is adjacent to the Project Area.

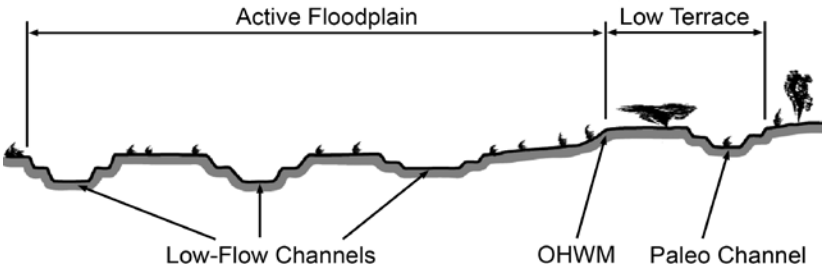
Brief site description: The East Highline Canal bisects the western portion of the Study Area and a railroad bisects the eastern portion of the Study Area. The portion of the site that is southwest of the canal consists of undeveloped land that was historically used for agriculture. The portion of the site that is northeast of the canal is comprised of an ephemeral drainage system and associated wetland and riparian habitats. Wetland habitat lines both sides of the East Highline Canal.

Checklist of resources (if available):

- [x] Aerial photography
  Dates: 1953- 2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

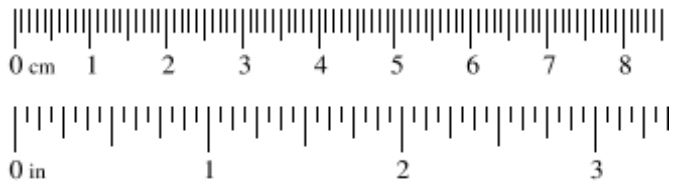


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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

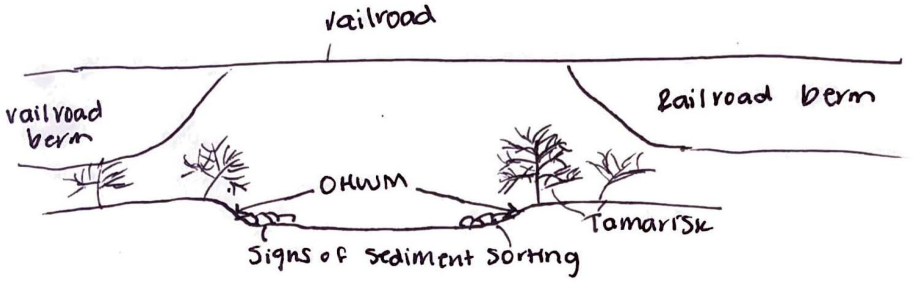
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



Project ID: Vega SES 5 **Cross section ID:** ED-3001 (#200) **Date:** 09/29/2020 **Time:** 10:30 AM

Cross section drawing:



OHWM

GPS point: 33.206767, -115.431705

Indicators:

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

Comments:

Cross section taken adjacent to railroad. Drainage width eventually increases further downstream as feature continues through site.
OHWM: 3' width, 4" depth
B2B: 4' width, 1' depth

Floodplain unit:

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

GPS point: 33.206767, -115.431705

Characteristics of the floodplain unit:

Average sediment texture: Medium to fine sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

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

Indicators:

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

Comments:

Channel itself is unvegetated. *Tamarix* sp. present on banks of channel. Further downstream there a few scattered individuals of ironwood mixed with tamarisk.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 500

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207433 Long: -115.433520 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken within the outer limits of the freshwater emergent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	5	x	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 5	x 2 = 10
FAC species 1	x 3 = 3
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 6 (A)	13 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 500

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/4	95	7.5R 5/8	5	C	M	Clay loam	5% small rocks
6-15+	7.5YR 4/3	70	7.5R 5/8	30	C	M	Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ **No** _____

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

Remarks:

Soils moist starting at 6" depth.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 501

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): D Lat: 33.207491 Long: -115.433970 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Sampling point in upland vegetation with mounds.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Larrea tridentata	1		N/L
2. Isocoma acradenia	5	x	FACU
3. Atriplex canescens	1		N/L
4. Allenrolfea occidentalis	1		FACW
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 15')			
1. Isocoma acradenia (seedlings)	3	x	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	8	x 4 =	32
UPL species	2	x 5 =	10
Column Totals:	11 (A)		44 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 501

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4	100					Loamy sa	Fine rocks
8-12+	10YR 4/4	100					Loamy sa	90% small/medium pebbles

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Appears to receive ephemeral water flow, from overflow during high rain events. Drainage just west (10 feet) from collection.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: _____ Sampling Point: 502

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): D Lat: 33.207369 Long: -115.433918 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Point collected ~200 feet southwest of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	2		FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	3	x	FACW
2.			
3.			
4.			
5.			
	3	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 3	x 2 = 6
FAC species 2	x 3 = 6
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 5 (A)	12 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 502

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	100					Loamy sa	
4-12	10YR 4/3	93	7.5YR 5/8	7	C	M	Silty clay	
12-15+	10YR 4/3	80	7.5YR 5/8	20	C	M	Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils wet at 4" deep.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Salt crust is present, but most likely from agricultural runoff.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 521

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.204514 Long: -115.443583 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~180 feet east of hard-packed road and adjacent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	3		FACW
2. Suaeda nigra	6	x	OBL
3. Tamarix sp.	2		FAC
4.			
5.			
	11	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 88 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	3	x 2 =	6
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	12 (A)		21 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 521

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Silt loam	
2-5	10YR 4/4	95	7.5YR 5/8	5	C	M	Silt loam	
5-12+	10YR 4/4	100					Loamy sa	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ✓ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks:

Soil cracks prevalent, sheet flow until wetland then begins ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 522

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.204555 Long: -115.443463 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Point taken ~220 feet east of hard-packed road and adjacent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	4	x	OBL
2. Pluchea sericea	1		FACW
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 10')			
1. Schismus barbatus	2		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 93 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 4	x 1 = 4
FACW species 1	x 2 = 2
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 2	x 5 = 10
Column Totals: 7 (A)	16 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 522

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/4	98	Gley 1, 2.5/N	2	C	M	Silt loam	
3-6	10YR 4/4	100					Loamy sa	30% small pebbles
6-12+	10YR 4/4	100					Loamy sa	50% small/medium pebbles

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ **No** ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 524

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.202820 Long: -115.442029 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	5	x	OBL
2. Larrea tridentata	2		N/L
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Brassica tournefortii	3		N/L
2. Schismus barbatus	3		N/L
3.			
4.			
5.			
6.			
7.			
8.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 86 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 5	x 1 = 5
FACW species 0	x 2 = 0
FAC species 1	x 3 = 3
FACU species 0	x 4 = 0
UPL species 8	x 5 = 40
Column Totals: 14 (A)	48 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 524

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/4	100					Loamy sa	Fine
10-12	10YR 4/3	100					Loamy sa	Very fine

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

Appears to be part of sheet flow from numerous drainages.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 525

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.202490 Long: -115.442389 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point collected within wetland ~150 east of hard-packed road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	5		FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	25	x	OBL
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		40 (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 525

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	100					Loamy sa	
4-12	10YR 4/3	95	5YR 5/8	5	C	M	Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soil moist approximately 4" deep.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 526

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.200294 Long: -115.441220 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	10	x	FAC
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Atriplex lentiformis	10	x	FAC
2. Suaeda nigra	3		OBL
3.			
4.			
5.			
	13 = Total Cover		
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 77 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 3	x 1 = 3
FACW species 0	x 2 = 0
FAC species 20	x 3 = 60
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 23 (A)	63 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 526

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					Silty clay	
2-4	10YR 4/3	85	5YR 5/8	5	C	M/PL	Silty clay	
2-4	Gley 1, 2.5/N	10					Silty clay	
4-12+	10YR 4/3	100					Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 527

Investigator(s): C. Congedo Section, Township, Range: S20, T11S, R15E

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

Subregion (LRR): D Lat: 33.199352 Long: -115.440070 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
	8 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	3		FACW
2. Suaeda nigra	10	x	OBL
3.			
4.			
5.			
	13 = Total Cover		
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 79 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 10	x 1 =	10
FACW species 3	x 2 =	6
FAC species 8	x 3 =	24
FACU species 0	x 4 =	0
UPL species 0	x 5 =	0
Column Totals: 21 (A)		40 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 527

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Silty clay	
4-8	10YR 4/3	75	5YR 5/8	5	C	M	Silty clay	
4-8	N/9.5	20						
8-12+	10YR 4/3	60	5YR 5/8	20	C	M	Sandy cla	
8-12+	N/9.5	20						

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: _____ Sampling Point: 542

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206062 Long: -115.433048 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Flood plain area of main channels, several small inlet channels that appear to hold water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 8	x 3 = 24
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 8 (A)	24 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 542

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/4	90					Loamy sa	10% small pebbles
2-4	10YR 3/4	75					Loamy sa	25% small pebbles
4-6	10YR 5/4	80	5YR 5/8	20	C	M	Loamy sa	
6-12+	10YR 5/4	80	5YR 5/8	10	C	M	Loamy sa	10% small pebbles

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils moist at 9" deep.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Within overflow channels connected to main channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 543

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206175 Long: -115.433052 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Wedge of overflow area, just on other side (west) of overflow channel from Sampling Point 542.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 8	x 3 = 24
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 8 (A)	24 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 543

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/4	90					Loamy sa	10% small/medium pebbles
1-6	7.5YR 4/4	87	5YR 5/8	5	C	M	Silty clay	
1-6			WP 7.5YR 8.5/2	8	C	M	Silty clay	
6-12	7.5YR 4/4	80	5YR 5/8	10	C	M	Silty clay	
6-12	WP 7.5YR 8.5/2	10					Silty clay	
12-15	7.5YR 4/4	80	5YR 5/8	10	C	M	Silty clay	
	WP 7.5YR 8.5/2	5					Silty clay	
	Gley 1, 2.5/N	5					Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

WP= White Page

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 544

Investigator(s): C. Congedo Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 12

Subregion (LRR): D Lat: 33.205394 Long: -115.437585 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

South end of adjacent freshwater forested/shrub wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	8	x	FACW
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 544

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/4	80	5YR 5/8	20	C	M	Loamy sa	
2-5	7.5YR 4/4	92	5YR 5/8	8	C	M	Silty clay	
5-12+	10YR 4/4	97	5YR 5/8	3	C	M	Loamy sa	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 545

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 12

Subregion (LRR): D Lat: 33.205924 Long: -115.437809 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Atriplex canescens	2		N/L
2. Suaeda nigra	5	x	OBL
3. Larrea tridentata	1		N/L
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	3		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 5	x 1 = 5
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 6	x 5 = 30
Column Totals: 11 (A)	35 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 545

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	95					Loamy sa	5% large pebbles
4-7	10YR 4/4	100					Loamy sa	Small pebbles
7-12+	7.5YR 4/4	95	7.5YR 6/8	5	C	M	Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✓

Remarks:

Moist at 7" deep.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ **No** ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 546

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207644 Long: -115.435196 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Point taken ~425 feet southwest of the railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	3	x	OBL
2. Allenrolfea occidentalis	2	x	FACW
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	1		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 3	x 1 = 3
FACW species 2	x 2 = 4
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 1	x 5 = 5
Column Totals: 6 (A)	12 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 546

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/4	100					Loamy sa	
2-8	7.5YR 4/4	85	7.5YR 5/8	15	C	M	Silty clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 547

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207674 Long: -115.435234 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	4	x	OBL
2. Atriplex canescens	2		N/L
3.			
4.			
5.			
	6	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	2		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	6 (A)		14 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 547

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/4	90					Loamy sa	10% small/medium pebbles
7-12+	7.5YR 4/4	98	5YR 5/8	2	C	M	Loamy sa	Fine

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 548

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206551 Long: -115.436605 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	3	x	OBL
2. Atriplex canescens	1		N/L
3.			
4.			
5.			
	4 = Total Cover		
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.	0		
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 96 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	4 (A)		8 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 548

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Loamy sa	Gritty
2-4	7.5YR 4/4	100					Silty clay	Salt particles (10%)
4-12+	7.5YR 4/4	60	5YR 5/8	5	C	M	Silty clay	
4-12+	10YR 5/4	20	5YR 5/8	15	C	M	Loamy sa	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/13/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 603

Investigator(s): C. Congedo and C. Torres Section, Township, Range: S20, T11S, R15E

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

Subregion (LRR): D Lat: 33.198356 Long: -115.440576 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	5		FAC
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Pluchea sericea	4		FACW
2.			
3.			
4.			
5.			
	4 = Total Cover		
Herb Stratum (Plot size: 15')			
1. Distichlis spicata	15	x	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 76 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 4	x 2 = 8
FAC species 20	x 3 = 60
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 24 (A)	68 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 603

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	95	7.5YR 6/8	3	C	M	Sandy loa	
0-3	Gley 1, 1.5/N	1	2.5YR 4/8	1	C	M		
3-4	10YR 4/4	97	5YR 5/8	3	C	M	Sandy loa	
4-9	10YR 4/4	81	7.5YR 5/8	12	C	M	Silty clay	
4-9			5YR 5/8	7	C	M		
9-12+	10YR 4/4	95	5YR 5/8	5	C	M	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Salt crust present, most likely from agricultural runoff.

ATTACHMENT C

Representative Site Photographs

Photo 1. View of the N Lateral canal within the southwestern portion of the buffer of the Project Area; photo facing south. September 29, 2020.

Photo 2. View of the railroad right-of-way within the northeast portion of the Project Area. ED-3001 drainage crosses the railroad via an underpass; photo facing northeast. November 11, 2020.

Photo 3. View of a braided portion of ED-3001 taken at OHWM Cross Section 200 near the railroad right-of-way within the Project Area; photo facing northeast. September 29, 2020.

Photo 4. View of an ephemeral drainage determined to be inactive within the northeastern portion of the Project Area; photo facing northeast. January 25, 2021.

Photo 5. View of Sampling Point 500 taken within the freshwater pond at the northeast portion of the Project Area; photo facing southeast. November 9, 2020.

Photo 6. View of Sampling Point 543 taken within the freshwater forested/shrub wetland at the northeast portion of the site; photo facing west. November 11, 2020.

Photo 7. View of Sampling Point 525 taken within the freshwater forested/shrub wetland along the east side of the East Highline Canal; photo facing west. November 10, 2020.

Photo 8. View of Sampling Point 603 taken within the freshwater forested/shrub along the west side of the East Highline Canal; photo facing north. November 13, 2020.

Photo 9. Sampling Point 547 taken within alkali sink habitat at the northeastern portion of the Project Area; photo facing southeast. November 11, 2020.

Photo 10. View of unassociated riparian habitat within the southwestern portion of the Project Area. Habitat is likely remnant of a relic unlined irrigation channel that is no longer in use; photo facing southwest. September 30, 2020.

ATTACHMENT D

USACE ORM Aquatic Resources Table
(Provided as an accompanying electronic file)

ATTACHMENT E

Digital Data
(Provided as accompanying electronic files)