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Attachment 1

Updated Aquatic Resources Delineation Report

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July 7, 2021 12755

Mr. Justin Amirault
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Subject: *Aquatic Resources Delineation Report for Compass Battery Energy Storage Project, San Juan Capistrano, California*

Dear Mr. Amirault:

This letter report documents the existing aquatic resources at the proposed Compass Battery Energy Storage Project site (Project) located in the City of San Juan Capistrano, Orange County, California. The Project proposes the installation of a battery energy storage facility. This letter report is intended to (1) evaluate the presence and extent of aquatic resources that may be subject to the jurisdiction of the United Stated Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW), (2) quantify impacts to aquatic resources that would result from implementation of repairs at the project site, and (3) provide a discussion of potential water resource permits required for construction of the project.

1 Project Location

The Project will be constructed on approximately 13 acres in the north-western portion of the City of San Juan Capistrano (Project Boundary) (Attachment A: Figure 1). The 13-acre Project Boundary occurs located west of Interstate 5 and State Route 73, and east of Golden Lantern Street. The Project Boundary occurs within an undeveloped area located to the south of an existing church facility.

The Project Boundary and a 100-foot buffer were assessed for this report (Survey Area). The Survey Area is surrounded by the Saddleback Church Rancho Capistrano to the north, open space and scattered residences to the south, Oso Creek to the south and east, Burlington Northern Santa Fe (BNSF) railroad tracks and Interstate-5 to the east, and Oso Rancho Capistrano Trail to the west. The SDG&E Trabuco to Capistrano 138 kV transmission line is located approximately 250 feet to the east and runs alongside the BNSF tracks.

2 Project Description

The proposed Project will be composed of lithium-ion batteries installed in racks, inverters, medium-voltage (MV) transformers, a switchyard, a collector substation, and other associated equipment to interconnect into the SDG&E Trabuco to Capistrano 138 kV transmission line (point of interconnection). The batteries will be installed either in containers or in purpose-built enclosures designed for aesthetic compatibility with the surrounding area. The containers or enclosures will have battery storage racks, with relay and communications systems for automated monitoring and managing of the batteries to ensure design performance. A battery management system will be provided to control the charging/discharging of the batteries, along with temperature monitoring and control of the individual battery cell temperature with an integrated cooling system. Batteries operate with direct current (DC)

electricity, which must be converted to alternating current (AC) for compatibility with the existing electric grid. Power inverters to convert between AC and DC, along with transformers to step up the voltage, will be included.

The proposed facility will provide a service to the regional electric grid by looping into the SDG&E electric transmission system, storing energy on site, and then later delivering energy (discharging) back to the point of interconnection. Following construction, the proposed use will not create emissions to air, will not require sanitary facilities, and will not require water for operation.

3 Regulatory Background

3.1 Federal Statutes and Regulations – U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act (CWA), any person or public agency proposing to discharge dredged or fill material into "waters of the United States", including jurisdictional wetlands, must obtain a permit from the ACOE. On January 23, 2020, the Environmental Protection Agency and ACOE published a final rule (33 CFR, Part 328) defining the scope of waters protected under the CWA in an effort to undo the broad interpretation of federal jurisdiction established in the 2015 "Clean Water Rule" (80 Federal Regulation 37053). The new rule, referred to as the "Navigable Waters Protection Rule," issued new regulations to redefine the types of waterbodies covered by the federal CWA, which dramatically narrowed the scope of the federal administration's regulatory authority compared to previous CWA regulations. As a result of the final rule, the Environmental Protection Agency and ACOE define "waters of the United States" to include the following four categories: (1) the territorial seas and traditional navigable waters; (2) tributaries of such waters; (3) certain lakes, ponds, and impoundments of jurisdictional waters; and (4) wetlands adjacent to other jurisdictional waters (other than waters that are themselves wetlands).

For non-tidal waters of the United States, the lateral limits of ACOE jurisdiction extend to the ordinary high-water mark (OHWM) when no adjacent wetlands are present. As defined in 33 Code of Federal Regulations 328.3(c)(6), the OHWM is "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." If adjacent wetlands are present, the jurisdiction extends to the limit of the wetlands.

Wetlands are "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). Wetlands are jurisdictional if they meet this definition as well as the definition of waters of the United States. Three criteria must be satisfied to classify an area as a wetland under ACOE jurisdiction: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). The ACOE uses the methodology in the Regional Supplements to the Corps of Engineers Wetland Delineation Manual to determine whether an area meets these three criteria. In the Survey Area, the supplement for the Arid West Region (ACOE 2008a) is used.

ACOE-Regulated Activities

Under Section 404 of the CWA, the ACOE regulates activities that involve a discharge of dredged or fill material, including but not limited to grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.

3.2 State Statutes and Regulations – Regional Water Quality Control Board

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

Section 401 of the Clean Water Act

Section 401 of the CWA requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA. Therefore, in California, before the ACOE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the RWQCB.

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

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" (California Water Code, Section 13260(a)), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. "Waters of the state" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by the ACOE due to a lack of connectivity with a navigable water body.

3.3 State Statutes and Regulations – California Department of Fish and Wildlife

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

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

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

4 Methods

4.1 Literature Review

The following available resources were reviewed to assess the potential for jurisdictional aquatic resources within the Survey Area: aerial photographs (Google Earth 2021; Historic Aerials 2021); the U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2021); a Natural Resources Conservation Service soil map (USDA 2021a); U.S. Environmental Protection Agency Watershed Assessment, Tracking & Environmental Results System (EPA 2020), which includes the National Hydrography Dataset; and the National Wetland Inventory (NWI; USFWS 2021).

4.2 Jurisdictional Delineation

On March 11, 2021, Dudek biologist Dylan Ayers conducted a formal aquatic resources delineation of potentially jurisdictional waters and wetlands within the Survey Area, where access was available. The Survey Area, which encompasses the Project Boundary, was surveyed on foot. The following types of features were surveyed for:

- Waters of the United States, including wetlands, under the jurisdiction of the ACOE, pursuant to Section 404 of the federal CWA
- Waters of the state under the jurisdiction of the RWQCB, pursuant to Section 401 of the federal CWA and the Porter-Cologne Water Quality Control Act as wetlands or drainages
- Streambeds under the jurisdiction of the CDFW, pursuant to Section 1602 of the California Fish and Game Code

Non-wetland waters of the United States were delineated based on the presence of an OHWM as determined using the methodology in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (ACOE 2008b). Wetland waters of the United States were delineated based on methodology described in the 1987 Corps of Engineers Wetland Delineation Manual (ACOE 1987) and the ACOE Regional Supplement (ACOE 2008a). Pursuant to the federal CWA, ACOE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the ACOE, but can also include isolated

features that have evidence of surface water inundation pursuant to the state Porter-Cologne Water Quality Control Act. Isolated features are delineated at the OHWM, at the outer limits of hydrophytic vegetation, or at the outer rim of depressional features if relevant.

Streambeds are typically delineated from top of bank to top of bank or the extent of the overhanging canopy of associated riparian vegetation beyond the top of bank. For shallow drainages and washes that do not support riparian vegetation, the top-of-bank measurement may be the same as the OHWM measurement.

To aid in the delineation, data forms were used to collect information at representative locations. Information obtained at each sample point location was recorded on the appropriate data form to determine the OHWM, as provided in Appendix B of the ACOE's OHWM guidance (ACOE 2008b), and presence of jurisdictional wetlands, as provided in Appendix C of the ACOE's Regional Supplement (ACOE 2008a). Hydrology, vegetation, and soils were assessed, and data were collected on an approved ACOE Arid West Wetland Determination Data form. These datasheets and forms are provided in Attachment B of this report. Representative photographs of the jurisdictional features were taken in accordance with ACOE guidelines and are provided in Attachment C.

5 Environmental Setting

5.1 Land Uses

The Survey Area occurs adjacent to Oso Creek and consists of a mix of undeveloped and developed lands. Open space is located on the northern side of the Project Boundary, associated with the Saddleback Church Rancho Capistrano, that contains dirt roads and light, non-commercial agricultural activity. Besides a few small dirt trails and roads, the southern portion of the Project Boundary is undeveloped and showed no sign of recent agricultural activity. The entire eastern edge of the Project Boundary is adjacent to Oso Creek which lies at the bottom of steep slopes which cut through large areas of the site (Attachment A: Figure 2). Outside of these steep areas, the Survey Area is flat to gently sloping. Elevation on the Survey Area ranges from approximately 165 to 270 feet above mean sea level. Representative photographs of the Survey Area are included in Attachment C.

5.2 Climate

The climate of southern Orange County consists of a generally dry yet coastal climate typical of the arid southwest, characterized by hot, dry summers with mild winters. Average yearly temperatures near San Juan Capistrano range from approximately 43°F to 78°F, with the lowest average temperature of 51°F in January to the highest average temperature of 71°F in August. The regional area generally receives an average rainfall of approximately 12.52 inches per year, with precipitation concentrated in the winter to spring months of November through March (WRCC 2021). Rainfall had occurred in the region approximately two weeks before or after the March 11 site visit (Weather Underground 2021).

5.3 Soils

According to the NRCS Web Soil Survey (USDA 2021a), the Survey Area occurs within the Orange County and Part of Riverside County, California (CA678). Six soil types were found within the Survey Area (Attachment A: Figure 3). A brief description of each series is provided below:

- Alo soils consists of moderately deep, well drained soils. They formed in material weathered from shale or sandstone on mountains. Alo soils have slopes of 2 to 75 percent.
- Botella soils generally consist of very deep, well drained soils that formed in alluvial material from sedimentary rocks. Botella soils typically occur in valley bottoms and on alluvial fans with slopes of 0 to 15 percent.
- Corralitos soils consist of deep, somewhat excessively drained soils that formed in recent sandy alluvium derived from acid sandstone and related rocks. Corralitos soils are on alluvial fans and in small valleys and have slopes of 0 to 15 percent.
- Myford soils are generally deep, moderately well drained soils formed on terraces. They typically occur on nearly level to moderately steep terraces at elevations of less than 1,500 feet.
- Riverwash soils generally consist of coarse sands, gravel, and sandy loams. They are the result of stream flow and are often found on alluvial fans.
- Sorrento soils consist of very deep, well drained soils that formed in alluvium mostly from sedimentary rocks. Sorrento soils are on alluvial fans and stabilized floodplains and have slopes of 0 to 15 percent.

Soils in the northern half of the Survey Area are somewhat disturbed due to agricultural activity, while soils in the southern portion of the Survey Area are mostly undisturbed.

Riverwash is listed as a hydric soil by the Natural Resource Conservation Service for Orange County and Part of Riverside County, California (USDA 2021b). No other soil types mapped within the Survey Area are considered hydric.

5.4 Vegetation Communities and Land Covers

The Survey Area consists of mostly undeveloped lands (Attachment A: Figure 4). Most of the Survey Area is dominated by non-native annual grasses, with trees and shrubs occurring intermittently around the Survey Area. Dense riparian vegetation is found around the aquatic resources on the Survey Area and non-native vegetation occurs sporadically throughout. The entire eastern edge of the Survey Area contains steep slopes that are associated with Oso Creek. Significant erosion is occurring on these steep slopes, leaving some areas as barren soils with no established vegetative cover. Communities observed throughout the Survey Area include Agriculture (AGR), Artemisia Californica Association (Artcal), Urban/Developed (DEV), Disturbed Habitat (DH), Non-Vegetated Channel (NVC), Ornamental (ORN), Populus fremontii – Salix lasiolepis Association (Popfre-Sallas), and Upland Mustards (UM). These vegetation communities and land covers are described in further detail below. The complete list of plant species observed at the Survey Area is included in Attachment D.

5.4.1 Native Vegetation Communities

Agriculture (AGR) The AGR mapping unit is not recognized by the Natural Communities List (CDFG 2010) but is described by Oberbauer (2008). The AGR mapping unit refers to areas that support an active agricultural operation.

Agricultural activity occurring on-site consisted of row crops and raised container gardens that are part of a non-commercial operation. Some herbaceous ruderal species were observed growing in the disturbed soils associated with these areas. AGR habitat is mapped throughout the northern half of Project site and accounts for approximately 27.42 acres of the Survey Area.

Artemisia Californica Association (Artcal) The Artcal vegetation community occurs nears the southern tip of the Project and is mapped adjacent to the Oso Creek Trail. Characteristic species of this community incudes California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), purple sage (*Salvia leucophylla*), and sugar bush (*Rhus ovata*). Other mixed herbs observed in this community include artichoke thistle (*Cynara cardunculus*), fiddleneck (*Amsinckia menziesii*), and California wood sorrel (*Oxalis californica*). This vegetation community occurs outside of the project site and Survey Area boundaries but is found on adjacent hillsides to the west.

Mulefat Thickets (Bascal) The Bascal mapping unit occurs along the edges of the Popfre-Sallas vegetation community, on the steep slopes associated with Oso Creek. Charaterictic species of this community includes mule fat (*Baccharis salicifolia*), elderberry (*Sambucus nigra*), and tamarisk (*Tamarix ramoissima*). Other mixed herbs observed in this community include poison hemlock, black mustard (*Brassica nigra*), and horseweed (*Erigeron* sp.). This community is relatively low and occupies 4.86 acres within the Survey Area.

Urban/Developed (DEV) The DEV unit is not recognized by the Natural Communities List (CDFG 2010) but is described by Oberbauer (2008). Developed land typically includes areas that have been constructed upon and do not contain any naturally occurring vegetation. These areas are generally characterized as graded land with asphalt and concrete placed upon it. DEV areas mapped for the Survey Area include approximately 2.86 acres of the existing paved parking lots and roadway on the northern side of the site. No vegetation was observed within DEV areas on the Survey Area.

Disturbed Habitat (DH) The DH mapping unit is not recognized by the Natural Communities List (CDFG 2010) but is described by Oberbauer (2008). The DH mapping unit refers to areas that lack vegetation but still retain a pervious surface, or that are dominated by a sparse cover of non-native grasses and ruderal species such as wild oat (*Avena fatua)*, black mustard, red brome (*Bromus madritensis*), and prickly lettuce (*Lactuca serriola*). DH is mapped in the northern areas of the site near some barren parking areas that are compacted with predominantly bare ground. It is also mapped along the dirt roads that extend across the entire site. It accounts for approximately 6.12 acres of the Survey Area.

Non-Vegetated Channel (NVC) The NVC mapping unit is not recognized be the Natural Communities List (CDFG (2010) but is described by Oberauer (2008). The NVC mapping unit refers to sandy, gravelly, or rocky fringe of waterways or flood channels. These areas are generally unvegetated due to variable water lines although some weedy species of grasses may grow along the outer edges. NVC is mapped near the northeastern corner of the site, associated with the artificial channels that convey Oso Creek. It accounts for 0.42-acre within the Survey Area.

Ornamental (ORN) The ORN mapping unit is not recognized be the Natural Communities List (CDFG (2010) but is described by Oberauer (2008). The ORN mapping unit refers to areas that are consistently managed and planted with decorative tree, shrub, and herbaceous species. ORN is mapped near the northwestern corner of the site, associated with the DEV areas also located near that side of the site. It accounts for 0.47-acre within the Survey Area.

Populus fremontii – Salix lasiolepis Association (Popfre-Sallas) The Popfre-Sallas vegetation community occurs along Oso Creek and Stream 1, found on both flat land and steep slopes. Characteristic species of this community includes Fremont's cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), and California sycamore (*Platanus racemosa*). Other mixed herbs observed in this community include poison hemlock (*Conium maculatum*) and California wood sorrel. This community is relatively high quality and occupies 4.88 acres within the Survey Area.

Upland Mustards (UM) The UM vegetation community occurs across all portions of the site, on both sloped areas and flat lands. The community is mapped for approximately 12.55 acres of the Survey Area. Characteristic species of this community includes black mustard, red brome, ripgut brome (*Bromus diandrus*), wild oat, soft chess (B*romus hordeaceus*), and Johnsongrass (*Sorghum halepense*). Other mixed herbs observed in this community include artichoke thistle (*Cynara cardunculus*), pampas grass (*Cortaderia selloana*), red stemmed filaree (*Erodium cicutarium*), and London rocket (*Sisymbrium irio*). This community is relatively low quality as many of the observed species are non-native and associated with prior disturbance.

5.5 Topography

The Survey Area is located in southeastern Orange County and occurs within in lightly developed area as depicted on the Orange, CA 7.5-minute USGS topographic quadrangle map. The Survey Area is flat to very steep with an elevation range of approximately 165 feet above mean sea level (AMSL) to 270 feet AMSL. The surrounding topography is generally similar. The most significant change in topography within the Survey Area is associated with Oso Creek and its steep slopes.

5.6 Hydrology

The Survey Area is located within the Aliso-San Onofre watershed (HUC 8), and specifically within the San Juan Creek Subwatershed (HUC 10) (Attachment A, Figure 5). The Aliso-San Onofre watershed covers approximately 176 square miles of mountainous, urban, and costal lands and its drainage area includes portions or Orange, Riverside, and San Diego counties.

The Nation Hydrography Dataset (NHD) maps Oso Creek as a perennial stream feature which flows north to south along the eastern edge of the Project (Attachment A, Figure 6). An ephemeral drainage feature is mapped flowing across the southern portion of the Project, originating from a concrete lined channel at the southwestern corner of the site. This ephemeral feature flows northeast, eventually flowing into Oso Creek. One additional ephemeral stream feature is mapped on the western side of the Project, but it was not observed in the field. A review of the National Wetland Inventory (NWI) dataset revealed one wetland type, Riverine, occurs within the Survey Area. Oso Creek (R4SBC) habitat is classified as riverine, intermittent, streambed, and seasonally flooded. The ephemeral streams mentioned above are not shown in the NWI dataset.

Oso Creek flows south, away from the Project, into Arroyo Trabuco. Arroyo Trabuco joins with San Juan Creek, a relatively permanent water (RPW) downstream, which flows into the Pacific Ocean, a traditional navigable water (TNW) near Dana Point.

6 Results

Based on the results of the literature and database review, and the jurisdictional delineation conducted in the field, one perennial stream, Oso Creek, one unnamed ephemeral stream, Stream 1, and one upland swale, Swale 1, were identified and evaluated within the Survey Area. Oso Creek drains the local watershed, including Stream 1 and Swale 1, and exhibits direct downstream connectivity with the Pacific Ocean. All features are potentially subject to the regulatory agency jurisdiction under Section 404 and 401 of the CWA, and Section 1600 et seq. of CFG Code, which is described in more detail below for each jurisdiction. All data collected in the field is provided in Attachment B. As required by the ACOE's Los Angeles District, a summary of aquatic resources investigated is provided in Attachment E, Aquatic Resources Upload Sheet. Attachment A, Figures 7a & 7b, provide a complete geographic overview of the features discussed.

6.1 Waters of the United States

The Survey Area contains portions of Oso Creek, Stream 1, and Swale 1. All features exhibit downstream connectivity with the Pacific Ocean, a traditional navigable water, but only Oso Creek and Stream 1 display an OHWM (Attachment A, Figures 7a & 7b).

The following descriptions are detailed accounts of the potentially jurisdictional features investigated within the Survey Area. For potential wetland areas, the wetland indicator status has been assigned to each species using the National Wetland Plant List (California) (Lichvar et al. 2016), as shown in Table 1.

Table 1. Summary of Wetland Indicator Status

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability of >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability of 67% to 99%)
Facultative (FAC)	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34% to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67% to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)
No Indicator (NI)	—

Oso Creek

Oso Creek flows onto the site via a concrete lined culvert near the northeast corner of the Survey Area. The Cowardin classification for Oso Creek is R4SBC (Riverine Intermittent Streambed Seasonally Flooded Wetlands), which supports the observed conditions of the creek during the aquatic delineation in the field. Besides the concrete lined portions, the creek is heavily vegetated with riparian species and large trees that shade out much of the creek. Vegetation around the creek was dominated by native species with some non-native populations found throughout the observable portions of the Survey Area.

Two data stations were collected at Oso Creek, one on the muddy bank of the creek (DP-03), and one in an adjacent upland area (DP-04). Data Point 3 (DP-03) contains a dominance of arroyo willow (FACW) and mule fat (FAC). The

presence of hydrophytic plant species represents a dominance of hydrophytes, and therefore hydrophytic vegetation is present. A 5-inch soil sample was taken at DP-03. A restrictive layer of cobbles and roots was found at the bottom of the sample. The soil within the entire 5-inches had a sandy clay loam texture and displayed a color of 10YR 4/2 in 100% of the matrix. No redoximorphic concentrations were found. Due to the lack of hydric soil indicators, hydric soils are absent from DP-03. However, soils within the sample were saturated which is a primary wetland hydrology indicator, as well as the presence of secondary wetland hydrology indicators such as water marks, sediment deposits, and drift deposits within a riverine feature. Therefore, wetland hydrology is present within DP-03. Since DP-03 only contains 2 of the 3 ACOE wetland parameters, it does not pass the "three parameter test" and is not considered a wetland feature.

Data Point 4 (DP-04) contains a dominance of black mustard (NI), red stemmed filaree (NI), and fiddleneck (NI). The presence of these upland species does not represent a dominance or prevalence of hydrophytes, and therefore no hydrophytic vegetation is present. A 3-inch soil sample was taken at DP-04. A restrictive layer of hard soils was found immediately below the surface. The soil within the entire 3-inches had a clay loam texture and displayed a color of 10YR 5/3 in 100% of the matrix. No redoximorphic concentrations were found. Due to the lack of hydric soil indicators, hydric soils are absent from DP-04. Finally, no wetland hydrology indicators were observed and there was a lack of a surface water, a high-water table, and saturated soils. Therefore, DP-04 does not occur within a wetland as all three wetland parameters are absent.

Stream 1

Stream 1 flows into the Survey Area via a concrete lined channel at the southwestern corner of the site. Stream 1 is described as an ephemeral stream and has no Cowardian classification. This feature, after flowing on-site beneath a pedestrian bridge, widens out as it flows under a thick riparian canopy before becoming channelized and moving towards a dirt road. The creek has a separate branch the dead ends at this dirt road. After crossing the road, the riparian canopy thins out as Stream 1 reaches the edge of the steep slopes associated with Oso Creek. Before reaching the creek, water in Stream 1 falls over a 15+ foot vertical drop.

Three data stations were collected at Stream 1, one within the thick riparian canopy near the southwestern corner of the Survey Area (DP-05), one in an upland area adjacent to a branch of Stream 1 (DP-01), and one in a vegetated area on the southern bank of the stream (DP-02).

Data Point 1 (DP-01) contains a dominance of poison hemlock (FACW) and California wood sorrel (NI). The presence of these species does not represent a dominance or prevalence of hydrophytes, and therefore no hydrophytic vegetation is present. A 9-inch soil sample was taken at DP-01. A restrictive layer of hard clay soils was found below the surface. The soil within the entire 9-inches had a clay loam texture and displayed a color of 10YR 3/2 in 100% of the matrix. No redoximorphic concentrations were found. Due to the lack of hydric soil indicators, hydric soils are absent from DP-01. However, soils within the sample were saturated which is a primary wetland hydrology indicator. Therefore, wetland hydrology is present within DP-01. Since DP-01 only contains 1 of the 3 ACOE wetland parameters, it does not pass the "three parameter test" and is not considered a wetland feature.

Data Point 2 (DP-02) contains a dominance of arroyo willow (FACW) and poison hemlock (FACW). The presence of hydrophytic plant species represents a dominance of hydrophytes, and therefore hydrophytic vegetation is present. A 10-inch soil sample was taken at DP-02. A restrictive layer of hard clay soils was found below the surface. The

soil within the entire 10-inches had a clay loam texture and displayed a color of 10YR 3/3 in 100% of the matrix. No redoximorphic concentrations were found. Due to the lack of hydric soil indicators, hydric soils are absent from DP-02. However, soils within the sample were saturated which is a primary wetland hydrology indicator. Therefore, wetland hydrology is present within DP-02. Since DP-02 only contains 2 of the 3 ACOE wetland parameters, it does not pass the "three parameter test" and is not considered a wetland feature.

Data Point 5 (DP-05) contains a dominance of arroyo willow (FACW), poison hemlock (NI), Brazilian pepper (*Schinus terebinthifolius*) (FAC), and California wood sorrel (NI). The presence of hydrophytic plant species represents a dominance of hydrophytes, and therefore hydrophytic vegetation is present. A 10-inch soil sample was taken at DP-05. A restrictive layer of hard clay soils was found below the surface. The soils within inches 0 to 4 had silty clay texture and displayed a color of 10YR 5/2 in 100% of the matrix. Inches 4 to 10 had sandy clay loam texture and displayed a color of 10YR 5/3 in 90% of the matrix. No redoximorphic concentrations were found. Due to the lack of hydric soil indicators, hydric soils are absent from DP-05. However, soils within the sample were saturated which is a primary wetland hydrology indicator. Therefore, wetland hydrology is present within DP-05. Since DP-05 only contains 2 of the 3 ACOE wetland parameters, it does not pass the "three parameter test" and is not considered a wetland feature.

Swale 1

Swale 1 is a small erosional feature that acts as an upland swale, draining areas associated with adjacent agricultural areas. This feature was deep and V-shaped and did not exhibit an OHWM. Water than enters Swale 1 moves towards the steep slope that leads down to Oso Creek. Significant erosion can be seen below Swale 1 along the slope. No hydrophytic vegetation was observed in this feature.

A summary of the data collected at each data station is provided below in Table 2.

Table 2. Data Station Results Summary

Data Station	Wetland Field Indicators			Vegetation Community	ACOE Jurisdictional Status	ACOE Jurisdiction Type
	Vegetation	Hydric Soils	Hydrology			
DP-01	None	None	✓	Popfre-Sallas	Jurisdictional	Non-Wetland
DP-02	✓	None	✓	Popfre-Sallas	Jurisdictional	Non-Wetland
DP-03	✓	None	✓	Popfre-Sallas	Jurisdictional	Non-Wetland
DP-04	None	None	None	Upland Mustards	Jurisdictional	Non-Wetland
DP-05	✓	None	✓	Popfre-Sallas	Jurisdictional	Non-Wetland

6.2 Waters of the State

RWQCB Jurisdiction

The features described above as subject to ACOE's jurisdiction as Waters of the U.S. also potentially fall under the authority of the Santa Ana RWQCB in accordance with Section 401 of the CWA.

6.3 CDFW Jurisdiction

Areas under CDFW jurisdiction mapped on the Survey Area include the portions of Oso Creek, Stream 1, and Swale 1 that encompass all non-wetland waters of the U.S./State, and the top of channel banks and associated riparian habitats (Attachment A, Figures 7a & 7b).

6.4 Summary of Jurisdictional Aquatic Resources

The Survey Area supports three features that would be considered non-wetland waters of the United States under the jurisdiction of the ACOE, non-wetland waters of the State under the jurisdiction of RWQCB, and CDFW jurisdictional non-wetland waters. Table 3 summarizes the extent of each regulatory agency's jurisdiction within the Survey Area.

Table 3. Summary of Jurisdictional Aquatic Resources within the Survey Area

Jurisdiction	Habitat Type	Total (acres/linear feet)
Waters of the United States and State (ACOE/RWQCB)		
Non-Wetland Waters		
Oso Creek	OHWM	0.23/1,865
Stream 1	OHWM	0.37/3,233
Waters of the United States and State (ACOE/RWQCB) Total*		**0.60/5,098**
CDFW Waters		
Non-Wetland Waters		
Oso Creek	OHWM and Bank	0.40
Stream 1	Concrete Bank and Channel	1.39
Swale 1	Swale Bank and Channel	0.01
CDFW Jurisdiction Total*		**1.89**

Notes:
* Acreage may not total due to rounding.
RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife.

7 Conclusions

The delineation determined that the Survey Area contains non-wetland waters of the U.S. and State within the reach of Oso Creek that occurs along the Survey Area boundary. As currently designed the project will be constructed within upland habitats on site, and no design features are proposed to encroach within potential jurisdictional limits. However, in the event project impacts do occur, permitting and subsequent mitigation would be required from the regulatory agencies. Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at tmolioo@dudek.com or 949.373.8308.

Sincerely,

Dylan Ogers Tommy Molioo

Dylan Ayers
Biologist

Tommy Molioo
Sr. Biologist

Att.: A – Figures
1. Project Location
2. Local Topographic Map
3. Soils Map
4. Biological Resources
5. Watershed Map
6. Hydrology Map
7. Aquatic Resources Delineation
B – Datasheets
C – Site Photographs
D – Species Compendium
E – Aquatic Resources Upload Sheet

References

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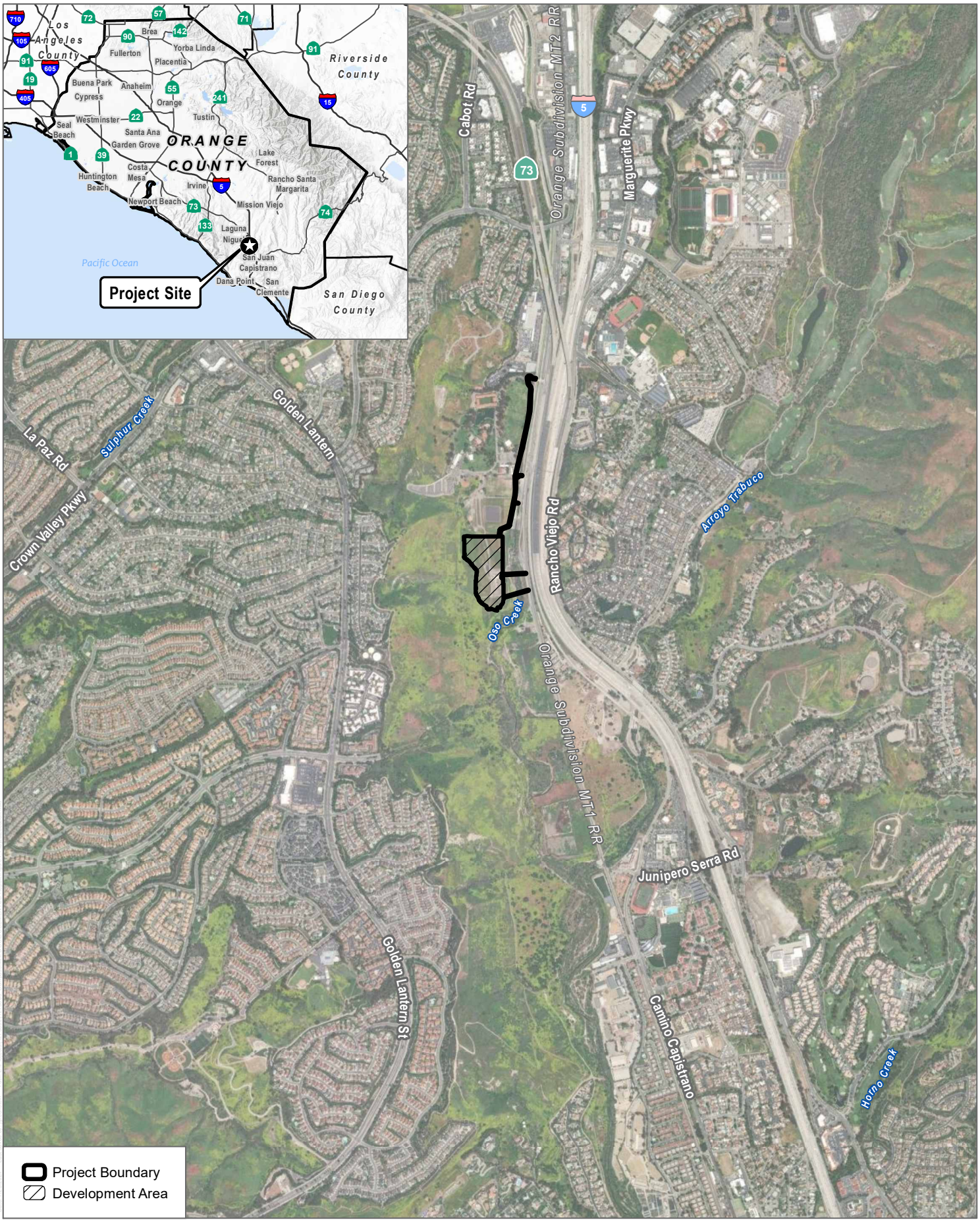
Attachment A

Figures



SOURCE: Esri World Imagery 2020

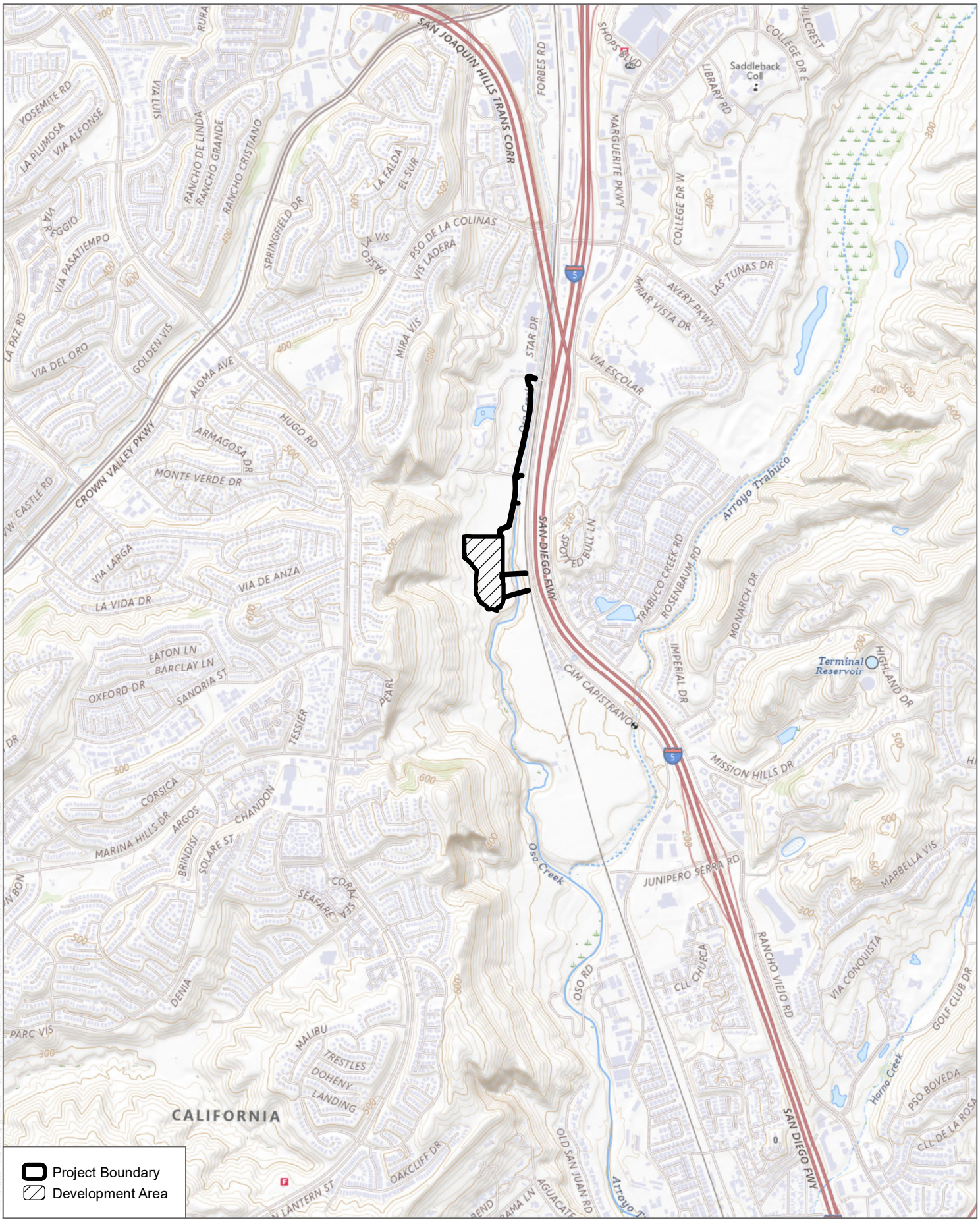
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Compass Energy Storage Project



SOURCE: USGS Topo Series San Juan Capistrano Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 2

Local Topographic Map

Compass Energy Storage Project

SOURCE: Esri World Imagery 2023; USDA 2023; Open Street Map 2023

DUDEK

0 295 590 Feet

FIGURE 3

Soils

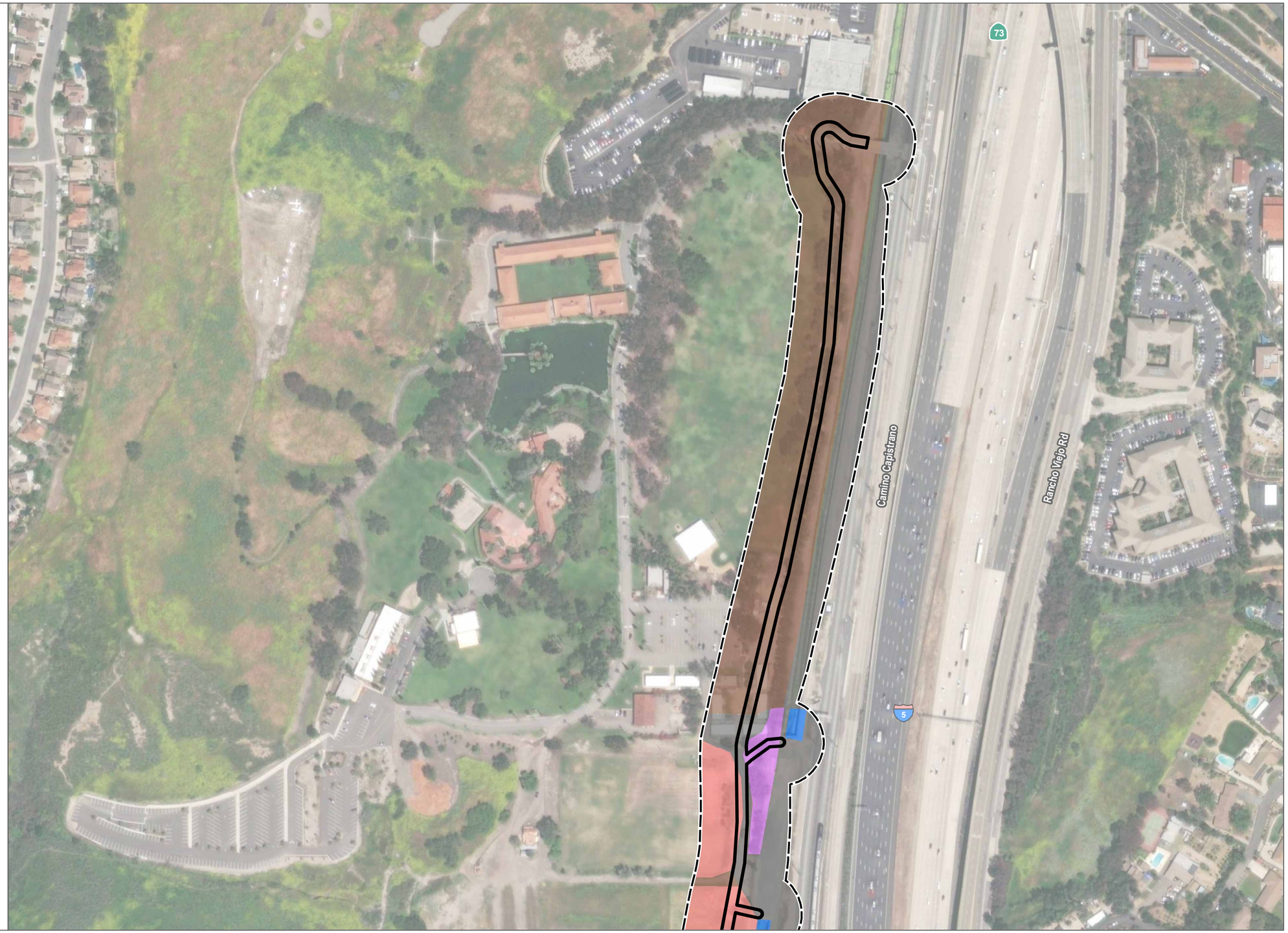
Compass Energy Storage Project

Project Boundary

Survey Area

Vegetation Communities and Land Covers

- Upland Mustards
- Disturbed Habitat
- General Agriculture
- Non-Vegetated Channel
- Ornamental
- Urban/Developed



SOURCE: Esri World Imagery 2023; Open Street Map 2023

DUDEK

0 125 250 Feet

FIGURE 4A

Biological Resources

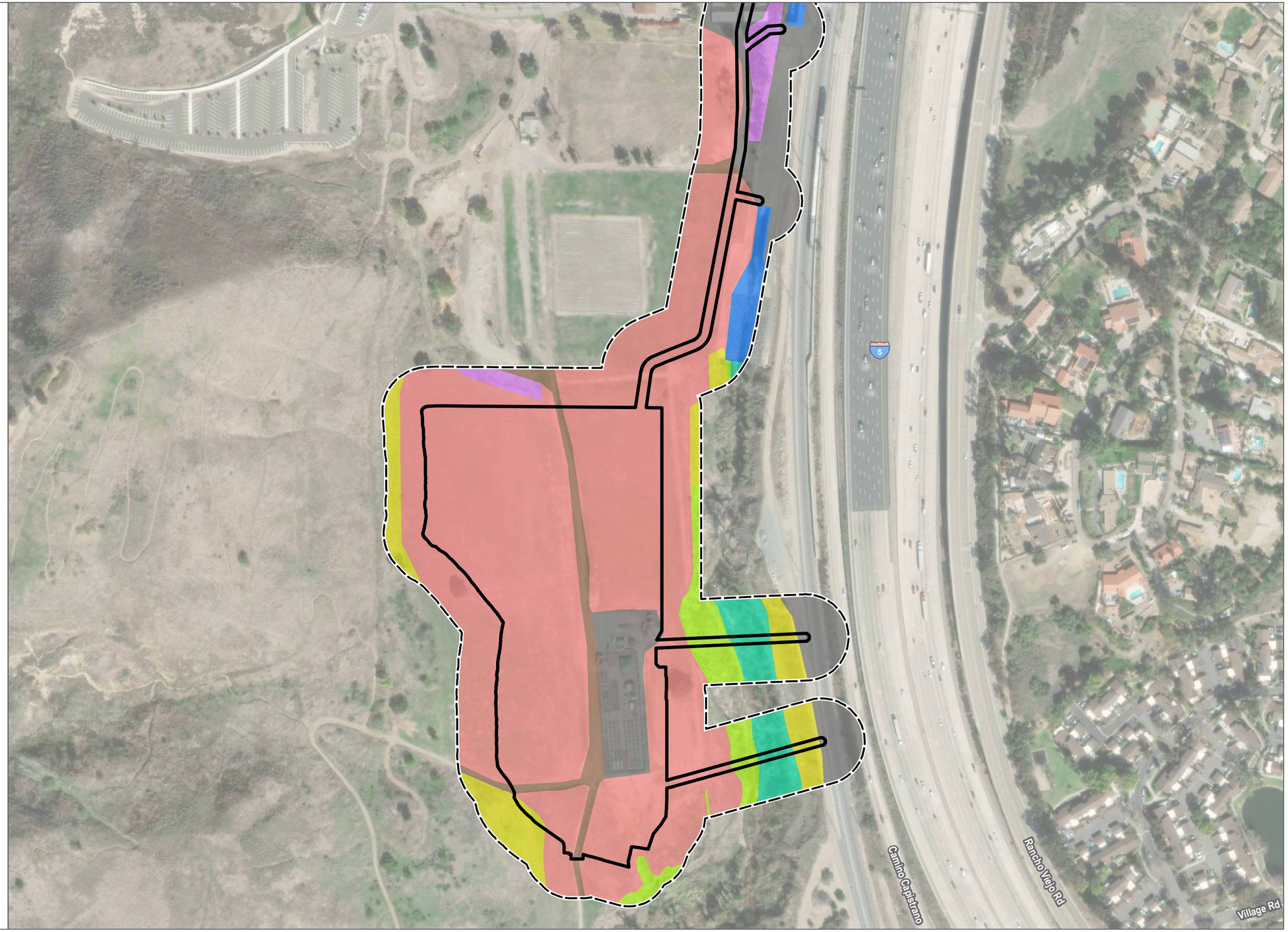
Compass Energy Storage Project

Project Boundary

Survey Area

Vegetation Communities and Land Covers

- Mulefat thickets
- Populus fremontii - Salix lasiolepis Association
- Upland Mustards
- Disturbed Habitat
- General Agriculture
- Non-Vegetated Channel
- Ornamental
- Urban/Developed



SOURCE: Esri World Imagery 2023; Open Street Map 2023

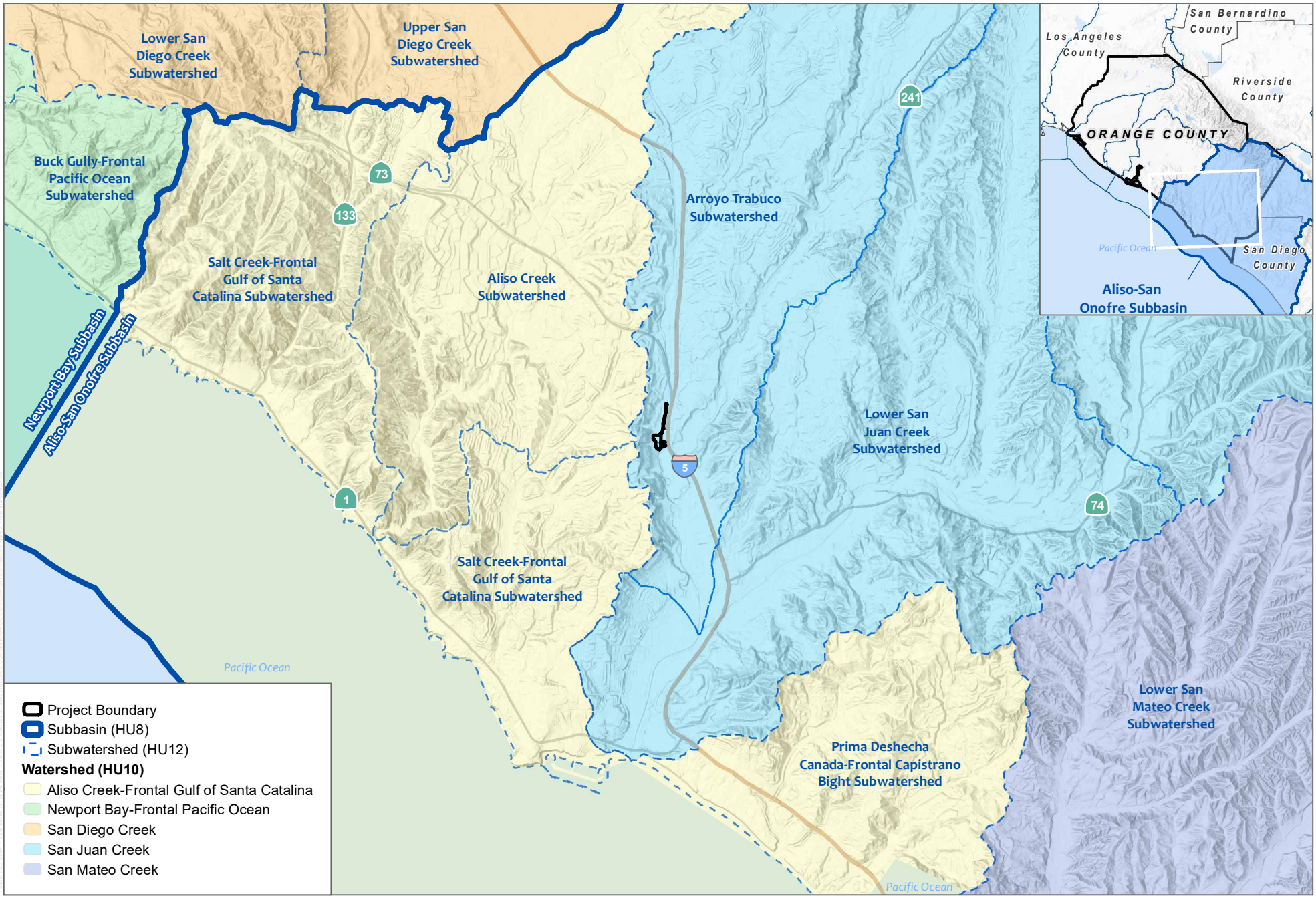
DUDEK

0 125 250 Feet

FIGURE 4B

Biological Resources

Compass Energy Storage Project



SOURCE: Esri Shaded Relief 2023; USGS 2023

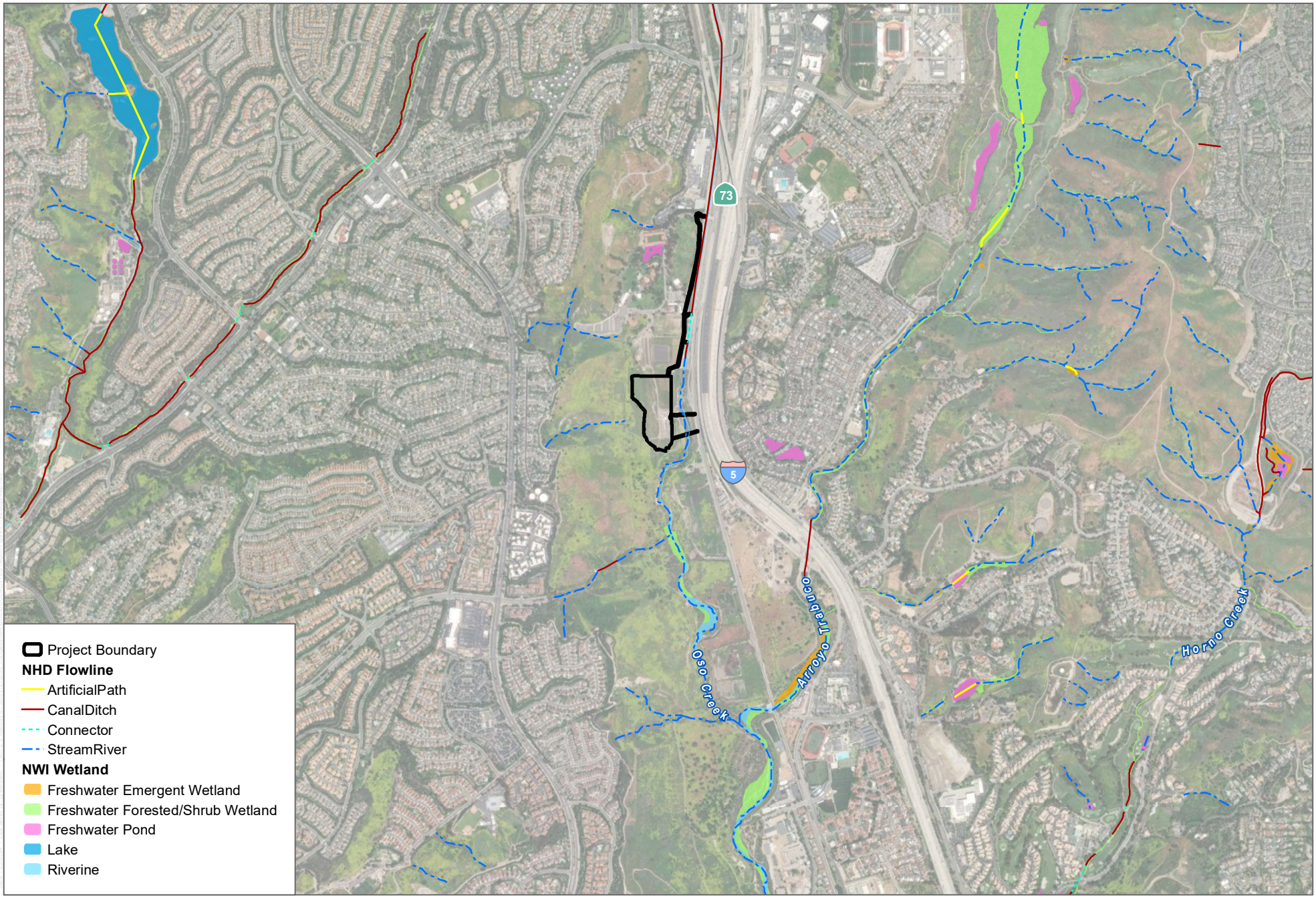
DUDEK

0 5,000 10,000 Feet

FIGURE 5

Watershed Map

Compass Energy Storage Project



SOURCE: Esri World Imagery 2023; USFWS NWI 2023; USGS NHD 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 6

Hydrology Map

Compass Energy Storage Project

Project Boundary (14.54 acres)
Survey Area (39.17 acres)
Map Reference Point

Jurisdictional Features

Bank/Swale (CDFW) (0.93 acres)
OHWM (USACE, RWQCB, CDFW) (1.40 acres)
Bank Habitat

Vegetation Communities and Land Covers

AGR, General
DEV, Urban/Developed
DH, Disturbed Habitat
NVC, Non-Vegetated Channel
ORN, Ornamental

Created on Thursday, July 25, 2024
Made in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program*, as amended on February 10, 2016 by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Coordinate System: NAD 1983 State Plane Zone 5
Projection: Transverse Mercator
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet
1 inch = 100 feet

SOURCE: Esri World Imagery 2023

DUDEK 0 125 250 Feet

FIGURE 7A
Aquatic Resources Delineation
Compass Energy Storage Project

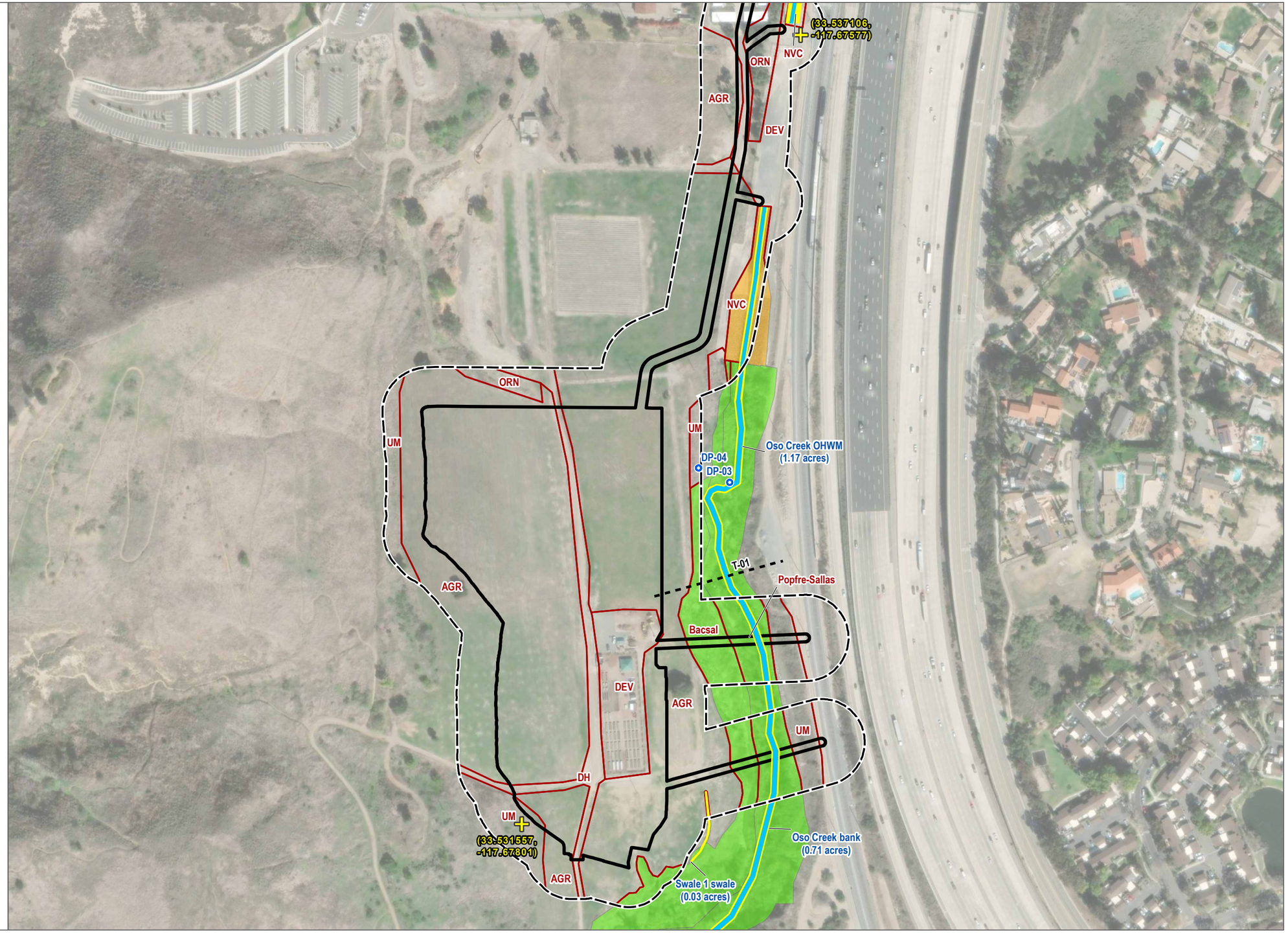
- Project Boundary (14.54 acres)
- Survey Area (39.17 acres)
- Map Reference Point
- Data Point
- Transect

Jurisdictional Features

- Bank/Swale (CDFW) (0.93 acres)
- OHWM (USACE, RWQCB, CDFW) (1.40 acres)
- Bank Habitat
- CDFW Riparian Oso Creek (15.36 acres)

Vegetation Communities and Land Covers

- AGR, General
- Bacsal, Mulefat thickets
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NVC, Non-Vegetated Channel
- ORN, Ornamental
- Popfre-Sallas, Populus fremontii - Salix lasiolepis Association
- UM, Upland Mustards



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Coordinate System: NAD 1983 State Plane Zone 5
Projection: Transverse Mercator
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet
1 inch = 100 feet

SOURCE: Esri World Imagery 2023

DUDEK

0 125 250 Feet

FIGURE 7B
Aquatic Resources Delineation
Compass Energy Storage Project

Attachment B

Datasheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Captiva BESS City/County: San juan capistrano Sampling Date: 2021-03-11

Applicant/Owner: State: California Sampling Point: CPTV-DMA-DP-01

Investigator(s): DMA Section, Township, Range:

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

Subregion (LRR): C 19 Lat: 33.5348206 Long: -117.6741809 Datum: WGS 84

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks:

Some old Ag trees in area, area mostly dominated by shrub and herb species, sub dominant species include palm, mule fat, pampas grass, and oxalis understory. Besides a dirt road nearby, area is mostly unimpacted.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus agrifolia	5	✔	NI
2.			
3.			
4.			
	5%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10x10 ft r)			
1. Conium maculatum	80	✔	FACW
2. Cortaderia jubata	5		FACU
3.			
4.			
5.			
	85%	= Total Cover	
Herb Stratum (Plot size: 10x10 ft r)			
1. Oxalis californica	70	✔	NI
2. Conium maculatum	25	✔	FACW
3. Silybum marianum	5		NI
4.			
5.			
6.			
7.			
8.			
	100%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	110 (A)		230 (B)

Prevalence Index = B/A = 2.1

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:

Hydro veg in this area is dominated mostly by sub tree species.

SOIL

Sampling Point: CPTV-DMA-DP-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	10YR 3/2	100					Clay Loam	Soils are saturated, likely from recent rain, no water table found, sample is one uniform layer
-								
-								
-								
-								
-								
-								
-								

[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: Hard clay soils

Depth (inches): 9

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 Vis ble 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): 1

Wetland Hydrology Present? Yes ✔ No ____

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

Point taken between two stream features in the riparian area they support, recent rains the previous night, ground is moist.

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Captiva BESS City/County: San juan capistrano Sampling Date: 2021-03-11

Applicant/Owner: State: California Sampling Point: CPTV-DMA-DP-02

Investigator(s): DMA Section, Township, Range:

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

Subregion (LRR): Lat: 33.527097 Long: -117.678112 Datum: WGS 84

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	25	✔	FACW
2.			
3.			
4.			
	25%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10x10 ft r)			
1. Conium maculatum	70	✔	FACW
2.			
3.			FACU
4.			
5.			
	70%	= Total Cover	
Herb Stratum (Plot size: 10x10 ft r)			
1. Oxalis californica	70	✔	NI
2. Conium maculatum	25	✔	FACW
3. Silybum marianum	5		NI
4.			
5.			
6.			
7.			
8.			
	100%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

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

Hydro veg in this area is dominated mostly by sub tree species, few willow in area, some new growth occuring

SOIL

Sampling Point: CPTV-DMA-DP-02

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

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

Depth (inches): 10

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 Vis ble 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): 1

Wetland Hydrology Present? Yes ✔ No ____

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

Point taken near stream feature, rain has occurred recently,

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Captiva BESS City/County: San juan capistrano Sampling Date: 2021-03-11

Applicant/Owner: State: California Sampling Point: CPTV-DMA-DP-03

Investigator(s): DMA Section, Township, Range:

Landform (hillslope, terrace, etc.): Riverine Local relief (concave, convex, none): Concave Slope (%): 25

Subregion (LRR): Lat: 33.533971 Long: -117.676311 Datum: WGS 84

Soil Map Unit Name: NWI classification:

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

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

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

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

Hydrophytic Vegetation Present?	Yes ✔	No ____	**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: 10x10 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Baccharis salicifolia	40	✔	FAC
2. Salix lasiolepis	25	✔	FACW
3. Washingtonia robusta	15		FACW
4.			
	80%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10x10 ft r)			
1. Baccharis salicifolia	50	✔	FAC
2.			
3.			
4.			FACU
5.			
	50%	= Total Cover	
Herb Stratum (Plot size: 10x10 ft r)			
1. Rumex crispus	25	✔	FAC
2.			
3.			FACW
4.			
5.			
6.			
7.			
8.			
	25%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 75.0 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	155 (A)		425 (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:

Adventitious rooting in this area, point taken near edge of water

SOIL

Sampling Point: CPTV-DMA-DP-03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 4/2	100					Sandy Clay Loam	Soils are saturated, likely from recent rain, lots of organics in sample,
-								
-								
-								
-								
-								
-								
-								

[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: Cobbles

Depth (inches): 6

Hydric Soil Present? Yes ____ No ✔

Remarks:

Despite proximity to creek, no hydric indicators were found. Difficult to dig given presence of cobbles and roots from surrounding veg

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 Vis ble 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): 1

Wetland Hydrology Present? Yes ✔ No ____

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

Point taken adjacent to oso creek where water is flowing at or just below ordinary high levels.

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Captiva BESS City/County: San juan capistrano Sampling Date: 2021-03-11

Applicant/Owner: State: California Sampling Point: CPTV-DMA-DP-04

Investigator(s): DMA Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR): Lat: 33.534067 Long: -117.676572 Datum: WGS 84

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks:

Veg maintenance occurs near this area, ag areas are nearby but this location doesn't seem to support any actual ag activity. Despite this, mowing and other management likely occurs here. Very slight grade which lead to slope which becomes steeper in riparian areas

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.	15	✔	FACW
2.			
3.			FAC
4.			
	15%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10x10 ft r)			
1. Baccharis salicifolia	15	✔	FAC
2.			
3.			
4.			
5.			
	15%	= Total Cover	
Herb Stratum (Plot size: 10x10 ft r)			
1. Brassica nigra	25	✔	NI
2. Erodium cicutarium	25	✔	NI
3. Amsinckia menziesii	15	✔	NI
4. Lactuca serriola	10		FACU
5.			
6.			
7.			
8.			
	75%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 25.0 % Cover of Biotic Crust ____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	40 (A)		115 (B)

Prevalence Index = B/A = 2.9

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:

Upland area

SOIL

Sampling Point: CPTV-DMA-DP-04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 5/3	100					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: Hard soils

Depth (inches): 4

Hydric Soil Present? Yes _____ No ✔

Remarks:

Upland area

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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:

Upland, no evidence of flow in this area

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Captiva BESS City/County: San juan capistrano Sampling Date: 2021-04-08

Applicant/Owner: State: California Sampling Point: CPTV-DMA-DP-05

Investigator(s): DMA Section, Township, Range:

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

Subregion (LRR): C 19 Lat: 33.526707 Long: -117.679008 Datum: WGS 84

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks:

Point taken in forested riparian habitat

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	60	✔	FACW
2.			
3.			
4.			
	60%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10x10 ft r)			
1. Schinus terebinthifolia	25	✔	FAC
2. Persea palustris	15	✔	NI
3. Conium maculatum	5		FACW
4.			
5.			
	45%	= Total Cover	
Herb Stratum (Plot size: 10x10 ft r)			
1. Oxalis californica	65	✔	NI
2. Cyperus eragrostis	15		FACW
3. Conium maculatum	10		FACW
4.			
5.			
6.			
7.			
8.			
	90%	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 10.0 % Cover of Biotic Crust ____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		255 (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:

Multiple hydrophytic species found in this riparian area, ground is moist from recent rains, no OBL species found

SOIL

Sampling Point: CPTV-DMA-DP-05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 5/2	100					Silty Clay	
4 - 10	10YR 5/3	90					Sandy Clay Loam	Some mineral material felt in sample, some gravel and organic materials
-								
-								
-								
-								
-								
-								

[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: Roots and cobbles

Depth (inches): 10

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 Vis ble 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): 1

Wetland Hydrology Present? Yes ✔ No _____

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

Point taken near branching area of stream, rain has occurred recently, water is not flowing in some places, some standing water visible in streambed

Remarks:

Attachment C

Site Photographs

<table>
<tr>
<td> 
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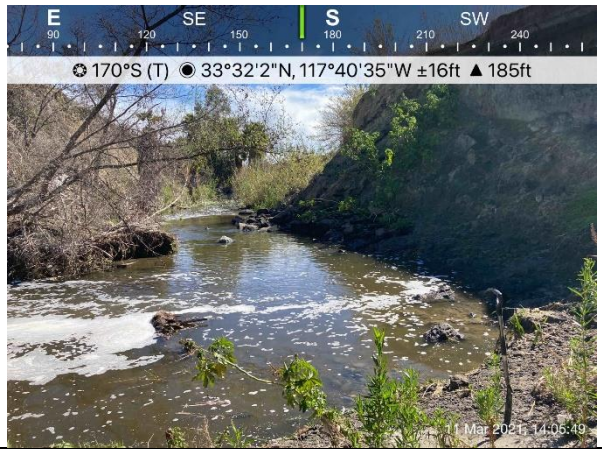
<tr>
<td>Photo 1: View of Oso Creek flowing out of culvert into non-vegetated channel at northeast corner of site.</td>
<td>Photo 2: View looking upstream Oso Creek towards non-vegetated channel.</td>
</tr>
<tr>
<td> 
</td>
<td> 
</td>
</tr>
<tr>
<td>Photo 3: Another view of Oso Creek channel, looking upstream from western bank.</td>
<td>Photo 4: View of Oso Creek taken from western bank, looking downstream.</td>
</tr>
</table>

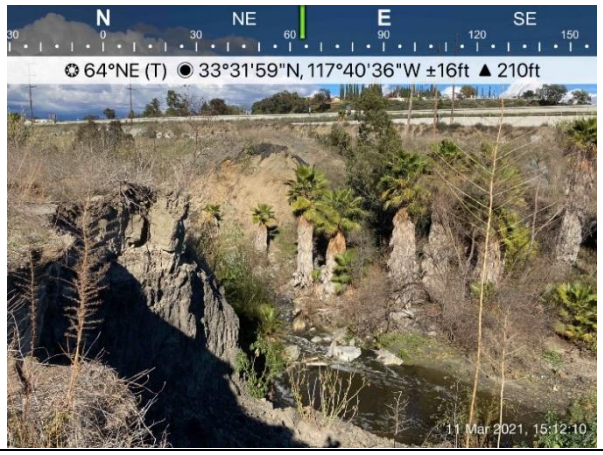


Photo 5: View of Oso Creek, taken from top of steep bank, riparian area in view.

Photo 6: View of area around DP-03.

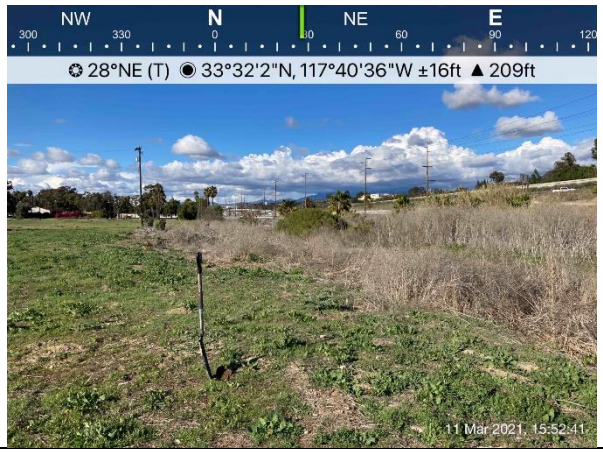


Photo 7: View of area around DP-04.

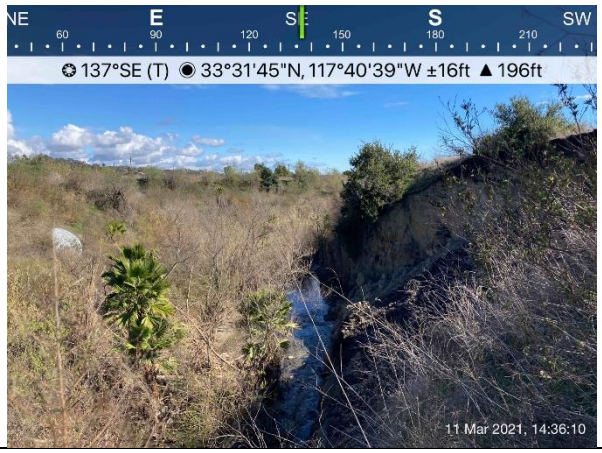


Photo 8: View of riparian area and steep walls that characterize Oso Creek.

Photo 9: Additional view of riparian area and steep walls around Oso Creek.

Photo 10: View of Stream 1 coming down onto site from adjacent slope. Concrete Streambed shown.

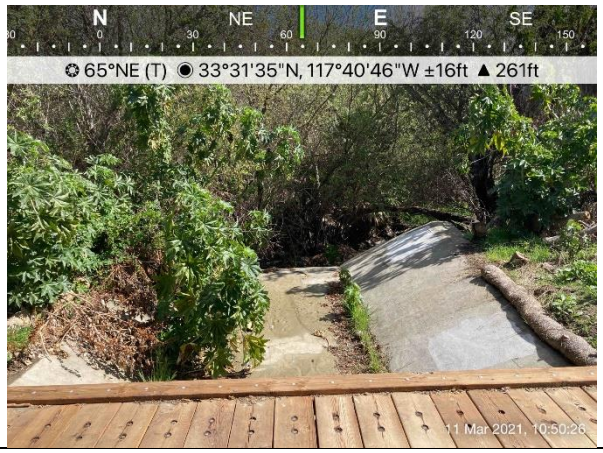


Photo 11: View of Stream 1 passing beneath pedestrian and flowing onto site.

Photo 12: View of thick riparian vegetation around Stream 1.

Photo 13: View of incised area of Stream 1 channel as it flows through riparian area.

Photo 14: View of heavily incised area where Stream 1 falls over vertical drop before flowing towards Oso Creek.

Photo 15: View of branch of Stream 1 that dead ends at dirt road.

Photo 16: View of poison hemlock occupying portion of riparian area near Stream 1.

	
Photo 17: View of area around DP-01.	**Photo 18:** View of area around DP-02.
	
Photo 19: View of area around DP-02.	

Attachment D

Species Compendium

Plants

Eudicots

Vascular Species

ANACARDIACEAE—SUMAC FAMILY

* *Rhus integrifolia*—lemonade berry
* *Schinus mole*—Peruvian pepper tree
* *Schinus terebinthifolius*—Brazilian pepper tree

APIACEAE—CARROT FAMILY

* *Conium maculatum*—poison hemlock

ASTERACEAE—SUNFLOWER FAMILY

* *Artemisia californica*—California sagebrush
* *Baccharis salicifolia*—mulefat
* *Baccharis pilularis*—coyote brush
* *Centaurea melitensis*—Tocalote
* *Cynara cardunculus*—artichoke thistle
* *Erigeron* sp.—horseweed
* *Helianthus annuus*—common sunflower
* *Heterotheca grandiflora*—telegraphweed
* *Isocoma menziesii—Menzies'* goldenbush
* *Lactuca serriola*—prickly lettuce
* *Xanthium strumarium*—cocklebur

BORAGINACEAE-FORGET ME NOT FAMILY

* *Brassica nigra*—black mustard
* *Amsinckia menziesii* — fiddleneck

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*— black mustard
* *Sisybrium irio*—London rocket

EUPHORBIACEAE—SPURGE FAMILY

* *Croton setiger*—turkey mullein
* *Ricinus communis*—castorbean

FABACEAE—LEGUME FAMILY

* *Trifolium repens*—white clover
* *Melitlotus indicus*—sweetclover

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—red stemmed filaree

OXALIDACEAE—WOOD SORREL FAMILY

* *Oxalis californica*—California wood sorrel

POLYGONACEAE—BUCKWHEAT FAMILY

* *Eriogonum fasciculatum*—California buckwheat

ROSACEAE—ROSE FAMILY

* *Rosa californica*—California wild rose
* *Rubus ursinus*—California blackberry

RUBIACEAE—COFFEE FAMILY

* *Gallium* sp.—cleavers

SALICACEAE—WILLOW FAMILY

* *Populus fremontii*—Fremont's cottonwood
* *Salix lasiolepis*—arroyo willow
* *Salix lucida*—Pacific willow

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—French tamarisk

Monocots

ARECACEAE—PALM FAMILY

* *Washingtonia robusta*—Washington fan palm

CYPERACEAE—GRAMINOID FAMILY

* *Cyperus eragrostis*—Washington fan palm

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed
* *Avena fatua*—wildoats
* *Cortaderia selloana*—pampas grass

* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft chess
* *Bromus madritensis*—red brome
* *Echinochloa crus galli*—barnyard grass
* *Festuca perennis*—Italian rye grass
* *Polypogon monspeliensis*—Annual beard grass
* *Sorghum halpense*—Johnson grass

Wildlife

Bird

Crow and Ravens

CORVIDAE—CROW, RAVENS, AND ALLIES

Corvux corax—common raven

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe
Tyrannus vociferans—Cassin's kingbird

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk
Buteo lineatus—red-shouldered hawk

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

New World Warblers

PARULIDAE—NEW WORLD WARBLER

Setophaga palmarum—palm warbler

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Columba livia—rock pigeon

Zenaida macroura—mourning dove

Sparrows

PASSERIDAE—SPARROWS

Passer dosmesticus—house sparrow

Zenaida macroura—mourning dove

Mammals

Rabbits

LEPORDIAE—RABBITS

Sylvilagus bachmani—brush rabbit

Squirrels

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) *beecheyi*—California ground squirrel

* signifies introduced (non-native) species

Attachment E

Aquatic Resources Upload Sheet
(files submitted separately)