Appendix F

Jurisdictional Delineation

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Jessie Fan, ENV SP
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Via email: Jessie.Fan@Kimley-horn.com

Subject: Jurisdictional Delineation for the Proposed Lear Avenue Solar Project County of San Bernardino, California

Dear Ms. Fan:

This Jurisdictional Delineation (JD) Report has been prepared by Rincon Consultants, Inc. (Rincon) to assist with project planning and permitting for the proposed Lear Avenue Solar Project (Project) located in unincorporated San Bernardino County (County), California. This JD Report has been prepared and is suitable for use by the United States Army Corps of Engineers (USACE) to confirm extent of potential jurisdiction under Section 404 of the Clean Water Act (CWA), the Colorado River Regional Water Quality Control Board (RWQCB) to confirm extent of potential jurisdiction pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act and by the California Department of Fish and Wildlife (CDFW) to confirm jurisdiction pursuant to California Fish and Game Code (CFGC) Section 1600 et seq.

This JD Report identified one ephemeral stream complex and one isolated ephemeral stream within the Project site that are potentially subject to Colorado River RWQCB and CDFW jurisdictions.[1]

Project Summary

RPCA Solar 15, LLC (Applicant) is proposing to construct and operate the Project, which would include a single-axis tracker ground-mounted photovoltaic (PV) community solar and battery energy storage system (BESS) with up to 9.9 megawatts of alternating current (MWac) in capacity. Project construction is anticipated to be completed over a period of approximately nine months, beginning as early as January 2025 and ending as early as October 2025.

The Project is in southern San Bernardino County and is approximately 0.75 mile north of the city of Twentynine Palms (Attachment 1, Figure 1). The Project would occupy 66 acres of an 80-acre privately owned parcel (Project site; Assessor Parcel Number [APN] 0612-131-01)[2] and is generally located at the southeast corner of the intersection of Mesa Drive and Lear Avenue. The 80-acre Project site is bordered by Mesa Drive to the north, Shoshone Valley Road to the east, Cove View Road to the south, and Lear Avenue to the west (Attachment 1, Figure 2). It is within the *Sunfair, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle and the Public Land Survey System

[1] The findings and conclusions presented in this report, including the location and extent of areas subject to regulatory jurisdiction, represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary and at final discretion of the applicable resource agency.
[2] The literature review and field delineation were completed within the entire 80-acre privately owned parcel, which encompasses more area than what will actually be developed.

depicts the Project site in Township 01N, Range 08E, Section 16, San Bernardino Baseline and Meridian. The center point is located at 34°10'36.82"N, 116° 8'44.04"W.

Methods

A literature review and a field delineation were conducted to identify, describe, and map all potential jurisdictional waters within the Study Area (i.e., the Project site plus a 100-foot buffer). The literature review and field delineation were conducted in accordance with USACE, RWQCB, and CDFW procedures as outlined below and presented in Attachment 2.

Literature Review

Prior to the field delineation, Rincon reviewed aerial imagery (Google Earth Pro 2024) of the Study Area, the *Sunfair, California* USGS 7.5-minute topographic quadrangle (USGS 2024), the Web Soil Survey (United States Department of Agriculture, Natural Resources Conservation Service [USDA, NRCS] 2024a), and the National Hydric Soils List by State (USDA, NRCS 2024b). These resources were reviewed to better characterize the site and its surroundings from a hydrologic, geologic, and topographic perspective and to determine if any soil units mapped in the Study Area were classified as hydric. Additionally, the National Wetlands Inventory (NWI; United States Fish and Wildlife Service [USFWS] 2024) and the National Hydrography Dataset (NHD; USGS 2024) were reviewed to determine if any potential jurisdictional waters were mapped within the Study Area.

Field Delineation

On January 23, 2024, Rincon Biologists, Casey Clark and Kevin Gugerty, surveyed the Study Area on foot to delineate potential jurisdictional waters. Current federal and State policies, methods, and guidelines were used to identify and delineate potential jurisdictional waters and are summarized in the subsections below and in detail in Attachment 2. A rain event producing 0.81 inches of rain occurred the day before the field delineation (Weather Underground 2024).

During the field delineation, Rincon took photographs of potential jurisdictional waters and the surrounding areas (Attachment 3). General site characteristics were noted, and vegetation present on-site was documented. Data collection was focused on potential jurisdictional waters and sample points were taken in areas that best represented the conditions of that feature.

The extent of potential jurisdictional waters and ordinary high water mark (OHWM) sample points were mapped in the field with the use of a Global Positioning System unit capable of sub-meter accuracy. The extent of the vegetation communities and land cover types were identified in the field and mapped using the most recent aerial photography (Google Earth Pro 2024).

Wetland Waters of the U.S.

Potential wetland features were evaluated for the presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedure within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The USACE Arid West 2020 Regional Wetland Plant List was used to determine the indicator status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL; Lichvar et al. 2020). If a potential wetland is present within the Study Area, representative sample points would be taken in the areas most likely to exhibit wetland characteristics (i.e., the prevalence of hydrophytic vegetation, hydrology, and suitable topography) and examined in the field to determine if it meets all three wetland parameters.

Sample points were not conducted in areas with an obvious prevalence of upland vegetation or in areas where the topography would not support wetland features. Adjacent wetlands are "waters of the U.S" only if there is a continuous surface connection between the potential wetland and a navigable or relatively permanent water body (Environmental Protection Agency [EPA] 2023).

Non-Wetland Waters of the U.S.

The lateral limits of USACE jurisdiction for non-wetland waters were determined by the presence of physical characteristics indicative of the OHWM. The OHWM was identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR 328.4) and Regulatory Guidance Letter 05-05 (USACE 2005), as well as in reference to various relevant technical publications, including, but not limited to, 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 regulations were also reviewed in the determination of non-jurisdictional features (e.g., roadway ditches excavated in uplands). 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) was completed for all potential non-wetland waters of the U.S. within the Study Area.

Additionally, Rincon evaluated sources of water, streamflow period, connections to Navigable Waters or Traditional Navigable Waters (TNWs), and other factors that affect whether waters qualify as "waters of the U.S." under current USACE regulations (33 CFR 328.3), including, but not limited to, the recent *Sackett v. EPA* Supreme Court ruling and the conforming *Revised Definition of Waters of the United States* (conforming rule, United States Environmental Protection Agency [USEPA] 2023). A more detailed regulatory definition of USACE jurisdiction is provided in Attachment 2.

Waters of the State

The limits of "waters of the state," as defined under the Porter-Cologne Water Quality Control Act, are any surface water or groundwater, including saline waters, within the boundaries of the state. The OHWM was determined to represent the limits of waters of the state based on current interpretation of jurisdiction by the Colorado River RWQCB.

Additionally, potential state wetland features were evaluated pursuant to *State Wetland Definition and Procedures for Discharges of Dredged or Fill* (State Water Resources Control Board [SWRCB] 2019) which acknowledges that waters of the state should be delineated using the standard USACE wetland delineation procedures and proclaims that the SWRCB takes jurisdiction over isolated wetlands.

CDFW Streambed

The extent of potential streambeds, streambanks, and riparian habitat subject to CDFW jurisdiction under Section 1600 et seq. of the CFGC was delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features.

In addition to delineating features using standard CDFW top of bank and/or riparian habitat methodologies, larger systems would be evaluated using the guidance provided in the *Mesa Field Guide, Mapping Episodic Stream Activity* (MESA; Brady and Vyverberg 2013) and the *A Review of stream Processes and Forms in Dryland Watersheds* (CDFW 2010). However, no larger episodic stream systems or riparian vegetation were observed within the Project site; therefore, CDFW jurisdiction was delineated based on the top of bank.

Existing Site Conditions

Climate, Topography, and Land Use

The Study Area is located within the southern Mojave Desert. The Mojave Desert is characterized as arid with strong fluctuations in daily temperatures. The average rainfall is approximately 6 inches per year and occurs primarily between the months of January and March. Wind is also a strong feature of this climatic regime, with dry winds in excess of 25 miles per hour in the late winter and early spring.

A modest hill is located within the eastern portion of the Study Area. The crest of the hill is the highest point of the Study Area and is approximately 2,265 feet above mean sea level (amsl). The hill contains gentle slopes on all aspects with the greatest decrease in elevation occurring to the west, where the lowest elevation in the Study Area is located at its northwestern boundary, at 2,195 feet amsl (Google Earth Pro 2024).

The land within the Study Area is undeveloped except for the paved and unpaved access roads that border and bisect the Project site. Signs of offroad highway vehicle (OHV) use is apparent throughout the Study Area along with the evidence of what appears to be a previous staging area in the southwestern corner of the Project site.

Hydrology

The Study Area is located within the Copper Mountain Subwatershed (Hydrologic Unit Code [HUC] 12-181001001801). No NHD or NWI features are identified within the Study Area. However, one ephemeral stream complex (ESC) was observed within the northwestern portion of the Study Area, and one isolated ephemeral stream (IES) was observed within the southwestern portion of the Study Area during the field delineation. Both features convey flow down the gentle slopes of the Study Area's hill. Descriptions of these features are provided in the Results section below and their completed Episodic Stream Indicator Datasheet and OHWM datasheets are provided in Attachment 4.

Soils

No USDA, NRCS soil survey data is available for the Study Area or its vicinity. Therefore, the nearest soil map units in areas of similar topography, elevation, and landform were referenced in combination with site specific observations and the Project's geotechnical report (Salem 2023) to provide a summary of the soil observed on site. A formal soil survey was not conducted within the Study Area and the soil observations are on a broad scale, at surface level, and do not match the level of detail or refinement that a soil survey would provide.

The topsoil throughout the Study Area is a gravelly coarse sand that occurs on the flanks and crest of hills with gentle slopes. The subsurface soil encountered during the Project's geotechnical surveys appears to be typical of those found in the geologic region of the site. In general, the subsurface soil contained silty sands to depths of approximately 10 to 15 feet below site grade (bsg) and was underlain by poorly graded silty sands to the maximum depth explored of 21.5 feet (bsg; Salem 2023). Available water storage is likely very low, and the runoff class high. The soil does not appear to be prone to flooding or ponding, nor does it appear to be hydric. Additionally, a moderate degree of OHV disturbance is present along and adjacent to the dirt roads that dissect the Project site, and desert pavement was observed on the soil surface along the crest of the hill within the Study Area.

Vegetation Communities/Land Cover Types

One vegetation community and one land cover type were documented within the Study Area during the field delineation. Brief descriptions of the vegetation community and land cover type are provided in the subsections below. Attachment 1, Figure 3 depicts the locations of each vegetation community and land cover type within the Study Area.

Creosote Bush Scrub (Larrea tridentata Shrubland Alliance)

Creosote bush scrub is a desert scrub vegetation community that occurs on alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained and sometimes contain desert pavement. Creosote bush (*Larrea tridentata*) is the dominant species where it must exceed all other shrubs in cover and must contain greater than three times the cover of burrobush (*Ambrosia dumosa*) or brittlebush (*Encelia farinosa*) if present. Other common associates include goldenheads (*Acamptopappus* spp.), saltbushes (*Atriplex* spp.), and Mormon teas (*Ephedra* spp.). The shrub canopy is generally open, and the herbaceous layer is open to intermittent and is typically dominated by annual invasive grasses, when present.

This vegetation community is located throughout the entirety of the Project site and within the remaining undeveloped portions of the Study Area. Creosote bush is the dominant species and burrobush is present as a common associate at less than three times the cover of creosote bush. Other common associates include white rhatany (*Krameria bicolor*) and pencil cholla (*Cylindropuntia ramosissima*). Desert pavement was observed throughout portions of the understory, along with open to sparse coverage of mediterranean grass (*Schismus* spp.) in the more disturbed portions of the Project site.

Developed

Developed land includes areas that have been developed or otherwise physically altered to the extent that they no longer support most vegetation. Developed land is characterized by the presence of permanent or semi-permanent structures, gravel lots, pavement, dirt roads, and hardscape. This land cover type may also contain areas that are sparsely vegetated, primarily with ornamental and/or invasive species. This land cover type is located within the paved and unpaved roads that transect the Study Area.

Results

ESC is an approximately 0.2-mile long and 500 feet wide (at its widest point) network of narrow and shallow single thread ephemeral streams that converge into a shallow compound channel in the northwestern corner of the Project site. Based on the environmental site conditions observed and as summarized in the OHWM datasheet (e.g., lack of supported hydrophytic vegetation, shallow stream channel, discontinuous nature, location within a dry climate with mild topography, mild OHWM indicators) ESC only flows during and immediately following rain events. The single thread ephemeral streams are located throughout the northwestern quadrant of the Project site where they convey flow from east to northwest. All single thread ephemeral streams contain a continuous surface connection to the compound channel except for the most northern stream, which was discontinuous due to OHV disturbance. The single thread ephemeral streams OHWMs were observable through a change in average sediment texture and a break in bank slope (OHWM sample point [SP]1; Attachment 4). The OHWM width ranged from one to five feet, averaging two feet. The average top of bank width extends approximately three inches on either side of the OHWM channel, with an average width of 2.5 feet. The average depth of the streams is one to two inches.

The shallow compound channel flows from south to north and begins at the terminal convergence of the southern, continuous, ephemeral stream network. It is approximately 110 feet long and travels along a dirt road, which appears to introduce vehicular disturbance. Its OHWM channel ranges from three to 12 feet wide, averaging six feet wide. The compound channel contains a low flow channel and an active floodplain. The low flow channel contains a bed and bank and the active floodplain was observable through benches, ripples, and surface relief; the average sediment texture of both floodplain units is sand (OHWM SP2; Attachment 4). The top of bank of the compound channel extends approximately three inches on either side of the OHWM channel, with an average width of 6.5 feet. The average depth is three to four inches. The compound channel terminates at the intersection of Lear Avenue and Mesa Drive, where ESC also terminates. Water appears to sheet flow northwest across the intersection and continue down Mesa Drive along a non-definable berm where it is eventually lost through infiltration and/or evaporation. ESC does not support hydrophytic or wash endemic vegetation, and the vegetative coverage along ESC was uniform with the coverage throughout the remainder of the Study Area.

IES is located within the southwestern corner of the Project site and is a discontinuous ephemeral stream, which was determined through an assessment of environmental site conditions and as summarized in the OHWM datasheet (e.g., lack of supported hydrophytic vegetation, shallow stream channel, discontinuous nature, location within a dry climate with mild topography, mild OHWM indicators), only flows during and immediately following rain events. IES is approximately 110 feet long and flows from northeast to southwest. The OHWM width is two feet wide on average, only contains a low flow channel, and was observable through a break in bank slope and a change in average sediment texture (OHWM SP3; Attachment 4). The top of bank extends approximately three inches on either side of the OHWM channel, with an average width of 2.5 feet. The average depth of IES is four inches. The upstream extent of the stream appears to have been disturbed by vehicle traffic. The stream terminates at Cove View Road where the water sheet flows onto the road and infiltrates into the soil and/or evaporates. IES does not support hydrophytic vegetation and the coverage adjacent to the stream was uniform with the coverage throughout the remainder of the Study Area.

Assessment of Jurisdictional Waters and Wetlands

Based on the field delineation, ESC and IES are potentially subject to the jurisdictions of the Colorado River RWQCB and the CDFW. A summary of their potentially jurisdictional extents is provided below, the locations of their potentially jurisdictional extents are depicted in Attachment 1, Figure 4, the measurements of their potential jurisdictional extents are summarized in Table 1, and representative photographs are included in Attachment 3.

Table 1 Summary of Jurisdictional Areas

	USACE Jurisdiction		RWQCB Jurisdiction		CDFW Jurisdiction
Jurisdictional Area	Non-Wetland Waters of the U.S. (acres/lin. ft.)	Wetland Waters of the U.S. (acres)	Non-wetland Waters of the State (acres/lin. ft.)	Wetland Waters of the State (acres)	CDFW Jurisdictional Streambed (acres/lin. ft.)
ESC	–/–	–/–	0.21/3,426	–/–	0.25/3,426
IES	–/–	–/–	0.009/97	–/–	0.010/97
Total	**–/–**	**–/–**	**0.22/3,426**	**–/–**	**0.26/3,426**

Since ESC and IES only flow during and immediately following significant rain events, the streams do not meet the USACE's definition of a relatively permanent water (i.e., the stream flows seasonally, at least three months out of the year) and therefore the features are not likely to be considered non-wetland waters of the U.S. However, the stream will likely be considered non-wetland waters of the state subject to the regulation of the Colorado River RWQCB pursuant to the Porter-Cologne Water Quality Control Act. In addition, the streams meet the definition of CDFW-jurisdictional streambeds and the extent of the top of bank (since riparian habitat is absent) will likely be subject to CDFW jurisdiction pursuant to Section 1600 et seq. of the CFGC.

Conclusions and Recommendations

Project-related impacts to ESC and IES are likely subject to regulation by the Colorado River RWQCB pursuant to the Porter-Cologne Water Quality Control Act and the CDFW pursuant to Section 1600 et seq. of the CFGC.

Impacts to jurisdictional waters should be considered and avoided during project design to the extent feasible, including discharge of dredged or fill material or otherwise modifying potentially jurisdictional features. Permanent Project features and temporary construction activities would avoid the jurisdictional waters, and no impacts to jurisdictional waters are anticipated. Therefore, waters permitting with the Colorado River RWQCB and the CDFW will not be required.

Thank you for the opportunity to assist with this project. Please contact us with questions.

Sincerely,
Rincon Consultants, Inc.

Casey Clark
Biologist

Angie Harbin
Director of Natural Resources

Attachments

Attachment 1 Figures
Attachment 2 Regulatory Framework
Attachment 3 Representative Photographs
Attachment 4 Datasheets

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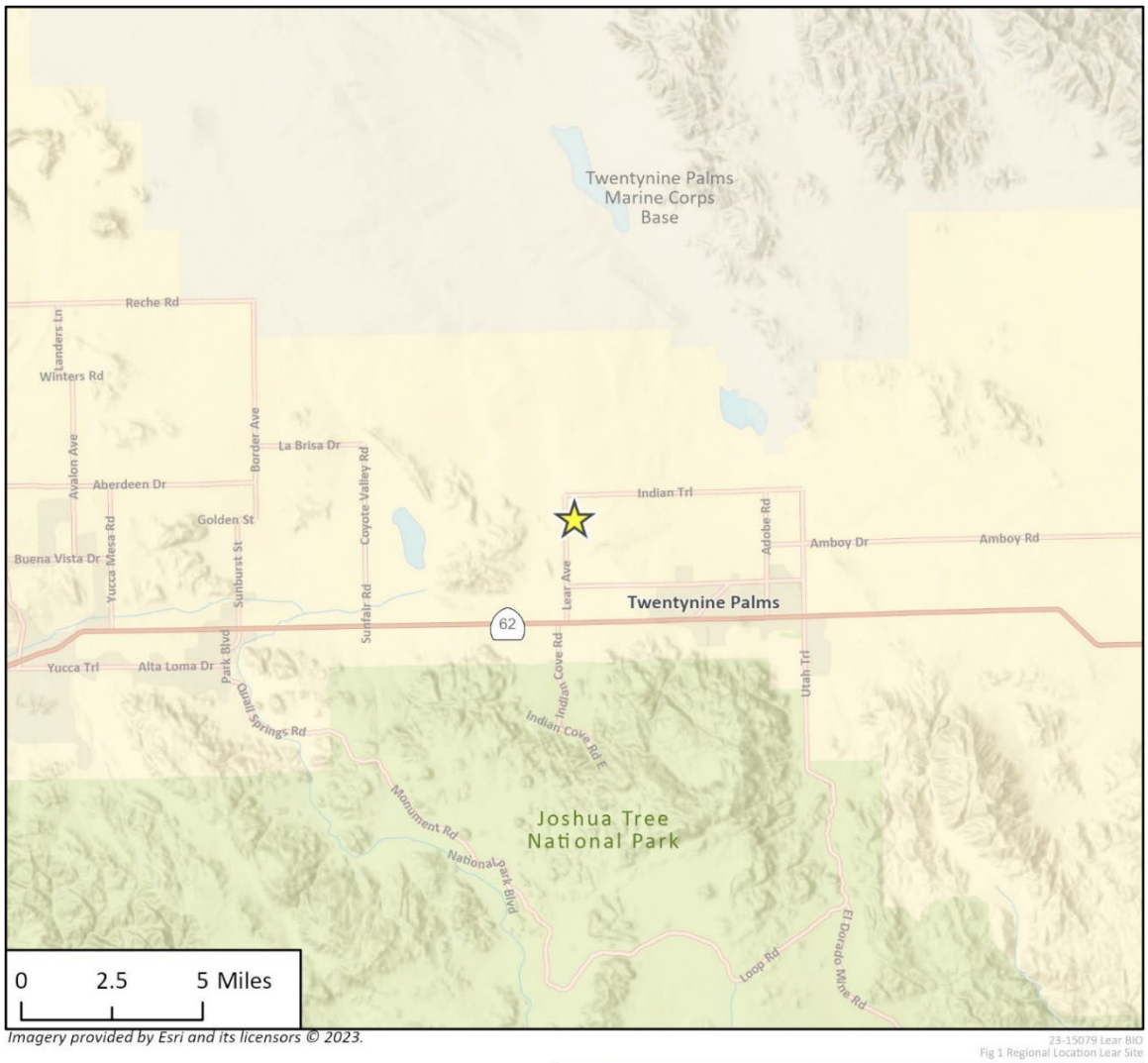
Attachment 1

Figures

Figure 1 Regional Location



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23-15079 Lear BIO
Fig 1 Regional Location Lear Site

Project Location

N

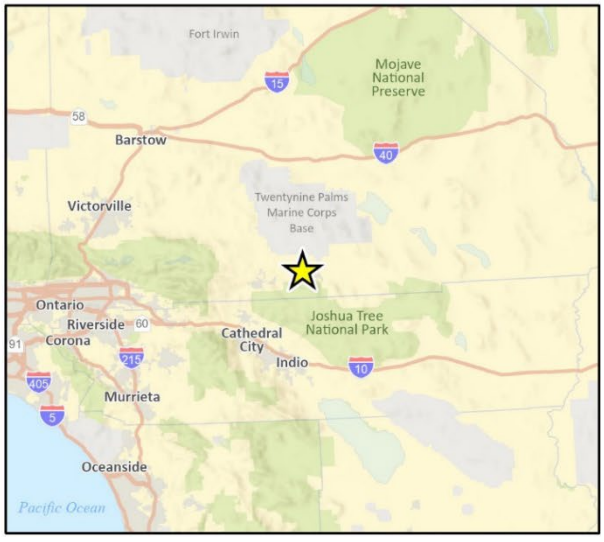

Figure 2 Project Location and Study Area

Figure 3 Vegetation Communities/Land Cover Types

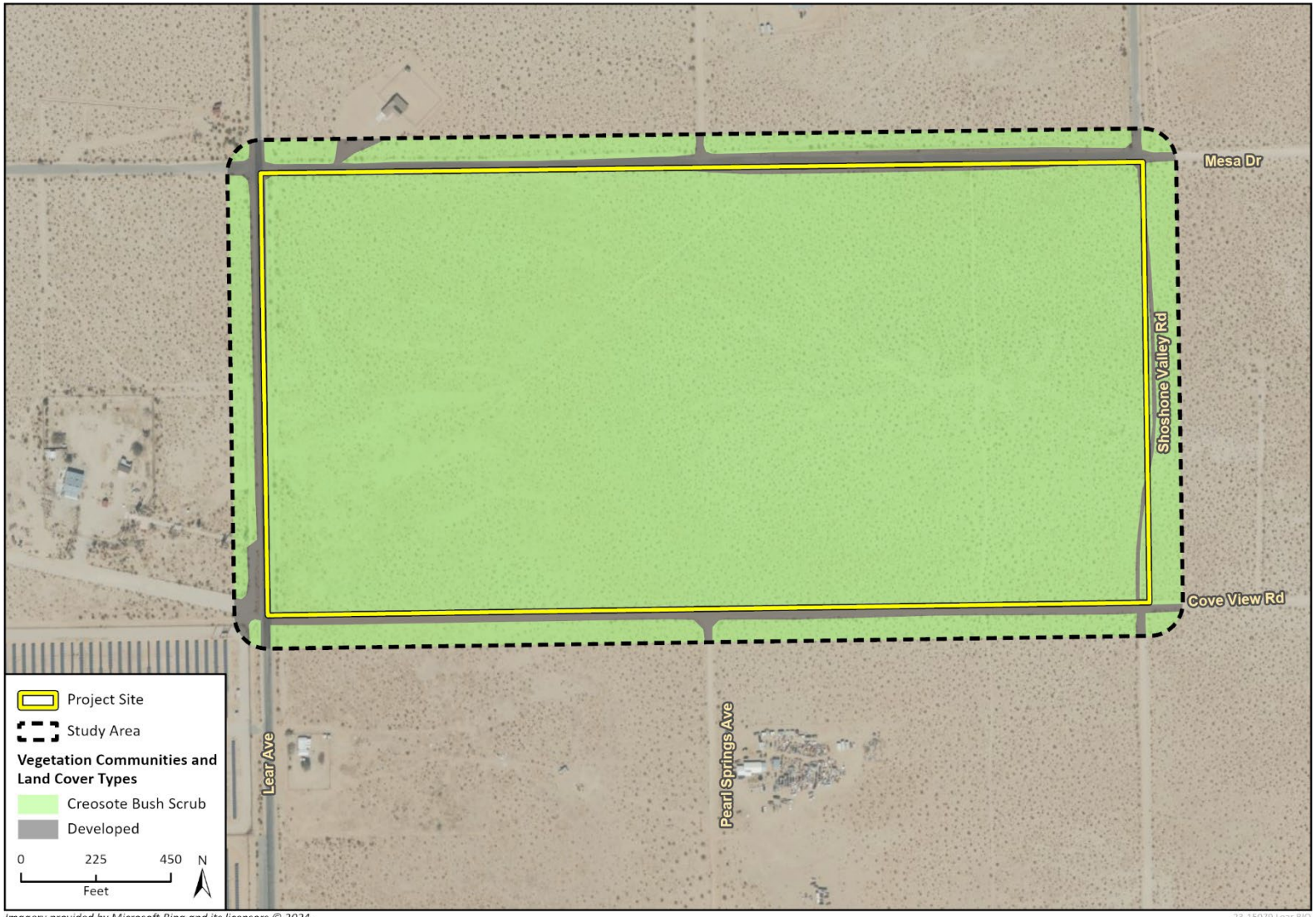

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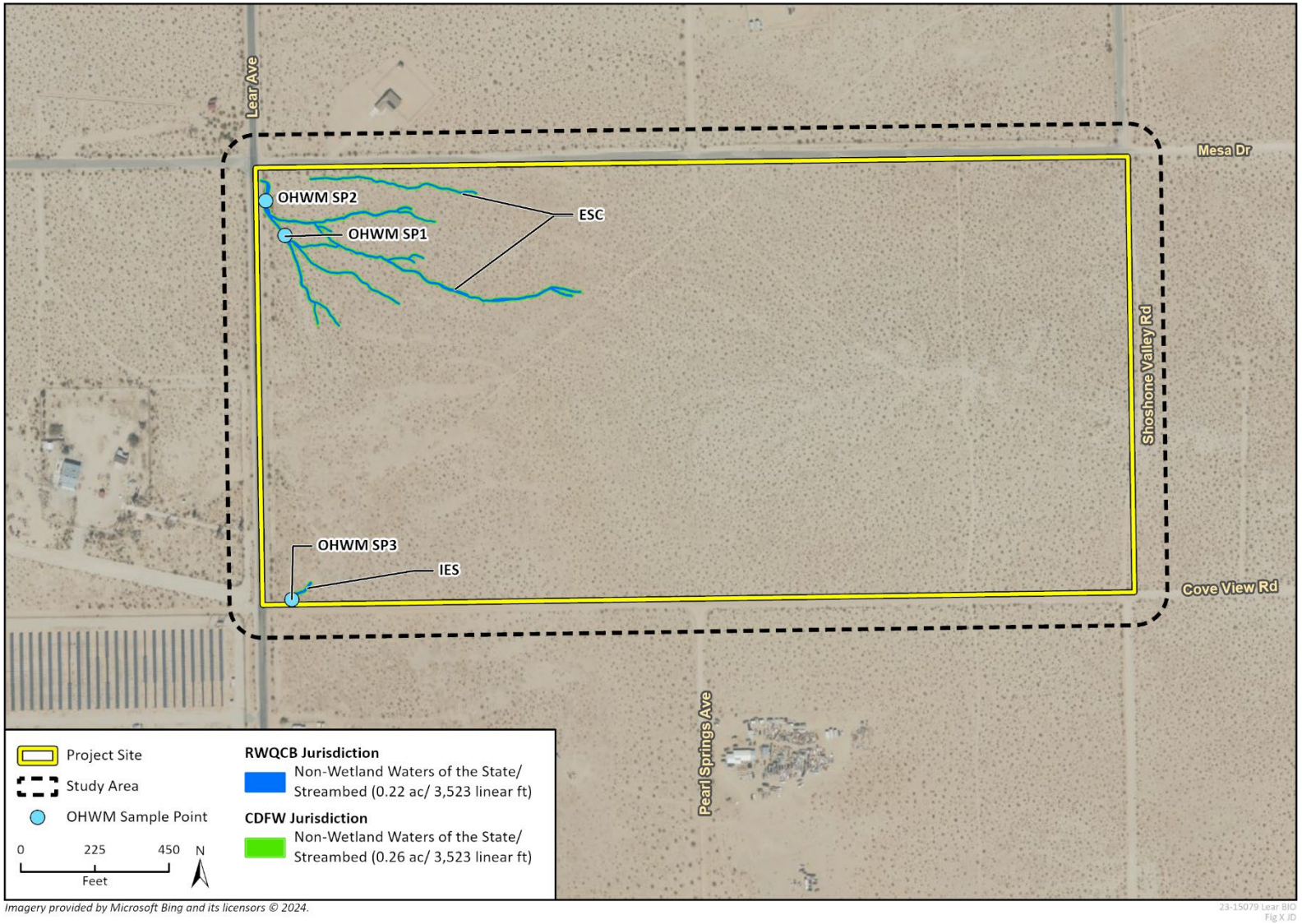
Fig X Vegetation

Figure 4 Jurisdictional Delineation



Attachment 2

Regulatory Framework

Regulatory Framework

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, State, and local levels. A number of federal and state statutes provide a regulatory structure which guide the protection of jurisdictional features. Agencies with the potential responsibility for protection of jurisdictional features within the project site include:

- United States Army Corps of Engineers (non-wetland waters and wetlands of the United States)
- Regional Water Quality Control Board (waters of the State)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes)

United States Army Corps of Engineers Jurisdiction

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable, tidal, and interstate waters and certain impoundments, tributaries, and wetlands. The agencies' most recent regulatory definition of the term was promulgated in January 2023, following failed attempts in prior years that had been frustrated by legal challenges. However, in May 2023 the U.S. Supreme Court issued its ruling in *Sackett v. Environmental Protection Agency,* which invalidated portions of the updated regulations. To address this ruling, in September 2023 the agencies issued a "conforming rule" (88 FR 61964-61969) modifying their definition of "waters of the United States" to comport with the Court's ruling. This definition is described in detail below.

Waters of the U.S.

Current USACE and USEPA regulations, reflecting of the January 2023 definition as modified by the September 2023 Conforming Rule, define "waters of the United States" as follows (33 CFR 328.3; see also 88 FR 61964-61969):

(1) Waters which are:
  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
  (ii) The territorial seas; or
  (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:
   (i) Waters identified in paragraph (a)(1) of this section; or
   (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

The definition specifies that the following features are not "waters of the United States" even where they otherwise meet the terms of provisions (2) through (5) above:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;
(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(c)(1)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

Wetlands

The USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(c)(1)). The USACE's delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than 50 percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the United States Fish and Wildlife Service's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least five percent vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Limitations on Jurisdiction based on Sackett v. USEPA Supreme Court

On May 25, 2023, the Supreme Court issued its decision on the petition from the Sacketts, a family in Idaho that was subject to a compliance order from the USEPA for backfilling their lot near Priest Lake, which the USEPA claimed contained federally regulated wetlands. The wetlands in question were adjacent to a ditch that fed a creek that ultimately drained into Priest Lake, a navigable water body. The USEPA asserted that the Sacketts had violated the law by filling the wetlands on their property without a permit. The Court's decision addressed controversy over whether, and under what conditions, the CWA reaches navigable waters' tributaries or adjacent wetlands. The Supreme Court's decision in *Sackett* provides definitive guidance to the agencies in determining the limits of their Clean Water Act authority. Major tenets of the decision have been incorporated into the agencies' current regulations through the September 2023 Conforming Rule.

The Court decided:

- "Adjacent wetlands" are WOTUS only if there is a continuous surface connection between the wetland and a navigable or relatively permanent water body, such that it is difficult to determine the boundary between the wetland and the water body. The opinion notes that "temporary interruptions to surface connection may sometimes occur because of phenomena like low tides or dry spells." The agencies addressed this element by defining the term "adjacent" to mean "having a continuous surface connection" in the Conforming Rule.
- The Significant Nexus Standard, introduced by the Court in prior decisions, is not mentioned in the Clean Water Act and should not be used. The Court determined that the standard applies ecological factors whose use in determining jurisdiction is not supported by the statute. The Conforming Rule removed significant nexus considerations from the definition.
- Although jurisdiction over tributaries was not addressed by the Court, the decision stated that "…the [Clean Water Act's] use of "waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." The Conforming Rule makes clear that only relatively permanent tributaries qualify as "waters of the United States."

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board Jurisdiction

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant requests a pre-application meeting with the RWQCB, waits no less than 30 days, and then submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. Under current regulations, once initiated, the reasonable period of time cannot be stopped or paused. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 *et seq*.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

1. The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
2. The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
3. The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

California Department of Fish and Wildlife Jurisdiction

California Fish and Game Code section 1602 states that it is unlawful for any person to "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" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFG determines that the activity may substantially adversely affect an

existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"

- **Applicable court decisions,** in particular *Rutherford v. State of California* (188 Cal App. 3d 1276); 1987), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation

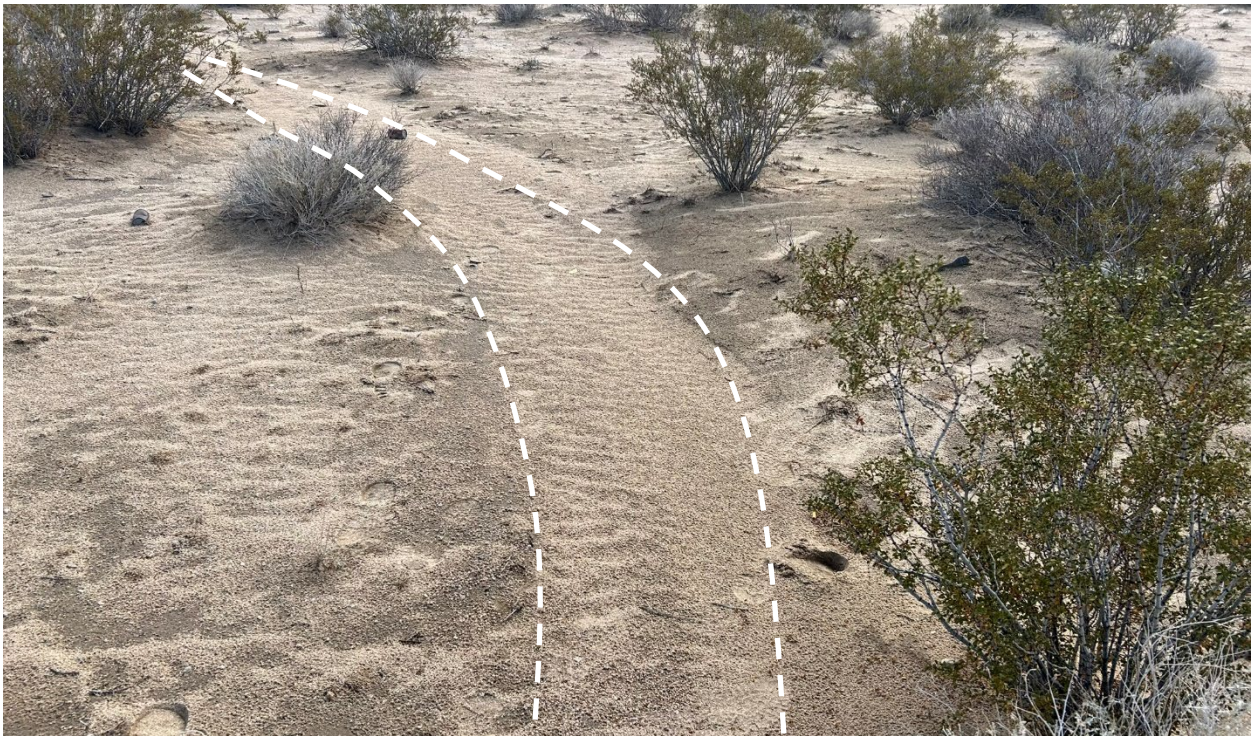
- **Guidance documents,** including A Field Guide to Lake and Streambed Alteration Agreements (CDFG 1994) and Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)

- Width of a stream course can reasonably be identified by physical or biological indicators
- A stream may have one or more channels (single thread vs. compound form)
- Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
- Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
- Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
- The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

Attachment 3

Representative Photographs



Photograph 1. Northwest facing photo of the single thread ephemeral stream at OHWM SP1. A significant rain event occurred a day prior to the field delineation; resulting in out of channel sheet flow.

Photograph 2. North facing photo of the compound channel at the northern terminus of ESC. A significant rain event occurred a day prior to the field delineation.

Photograph 3. Northeast facing photograph taken at the southern terminus of IES.

Photograph 4. East facing representative photo of the western portion of the Project site. A significant rain event occurred a day prior to the field delineation that resulted in a sheet flow down the slope.

Attachment 4

Datasheets

Episodic Stream Indicator Data Sheet

Site ID: Lear Ave Solar | Stream ID: Ephemeral 1 | Date: 1/23/24

Nearest Town: 29 palms | County: San Bernardino

Investigators: K. Gugerty, Casey Clark

Base Map

Aerial Photo #: 1 Google Earth | Date: 5/8/23 | Topographic Map Name: USGS | Date:

GPS Data

GPS Name: | Datum: NAD83 | Transect Elevation: 2210 | Zone 10 / 11 | GPS Error: ± 3 (ft) / m

GPS co-ords start of transect: 34.178150 | GPS co-ords end of transect: -116.150503

Geomorphic Province (✓one): ☑ Mojave ☐ Sonoran/Colorado ☐ Great Basin ☐ Other:

Landform (✓ all that apply)

☑ Headwater ☐ Upper fan ☐ Middle fan ☐ Lower fan ☐ Alluvial plain ☐ Axial valley ☐ Playa

Channel Form (✓ one)

☑ Single thread ☐ Braided ☑ Compound ☐ Distributary ☑ Discontinuous ☐ Other:

Transect was selected to:

☑ Document fluvial activity & boundaries	☐ Document channel elevations & boundaries
☐ Document habitat associations	☐ Document a change in watercourse morphology
☐ Other:	

Date of most recent runoff event (if known): 1/22/24

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function: Creosote habitat, with low-moderate disturbance. Vehicular recreation tracks found throughout site. Paved roads adjacent to site.

slight slope from center with drainage.

- site has a small hill located ~~within its~~ within the eastern half that has a slight slope to the west.

OHV Disturbance throughout. Surrounded by paved & heavily trafficked dirt roads.

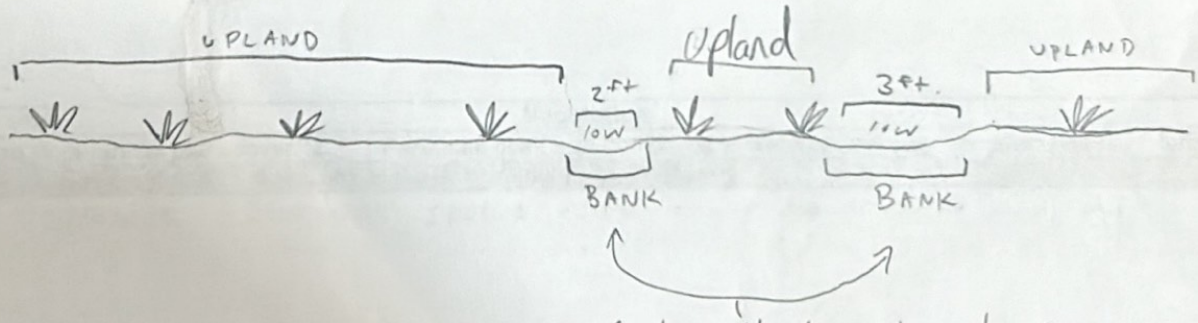
Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

dirt roads

transect throughout

Facing East

Left ——— Right



Single thread ephemeral streams w/ low flow channel only.

Site ID:	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	–	Relict bars & swales
–	Biotic soil crusts	–	Rock fractured in place
+	Bioturbation	–	Rock varnish
–	Caliche: coatings / layers / rubble	–	Rock weathering
–	Carbonate etching	–	Rubified rock undersides
–	Coppice dunes: active / relict	+	Soil development
–	Deflated surface	+	Surface rounding of landform
–	Pavement	+	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

Ø	% Bedrock / Cemented substrate	
Ø	% Boulder	≥ 256 mm
Ø	% Cobble	≥ 64 – 256mm
10	% Pebble	≥ 4 – 64 mm
5	% Granule	≥ 2 – 4 mm
85	% Sand	≤ 2 mm
Ø	% Silt/Clay	Fines

Fluvial Indicators

–	Bars: sand / gravel	+	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
+	Cut banks	–	Organic drift	–	Vegetation-channel alignment
+	Drainage swales	–	Overturned rocks	–	Water-cut benches
+	Exposed roots	+	Scour	–	Wrack
+	First-order streams	–	Sediment ramps: sand / gravel	+	Wrinkle marks
–	Flow lineations	+	Sediment sorting		
	Other:				

Vegetation

Estimated % perennial plant cover: 25 | Perennial plant size compared to watercourse veg: smaller / same / larger

Estimate species composition of shrubs and perennial plants by % of total:

Creosote - Dominant species across channel watercourse & upland.

Site ID:	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

+	Bar forms: sand / gravel	+	Secondary channels	**Substrate Particle Size**		
+	Bifurcated flow	–	Sediment plastering	Estimated percentages		
+	Drainage swales	+	Sediment ramps: sand / gravel	Ø	% Bedrock / Cemented substrate	
–	Flow lineations	+	Sediment sheets: sand / gravel	Ø	% Boulder	≥ 256 mm
–	Imbricated gravel	+	Sediment sorting	Ø	% Cobble	≥ 64 – 256 mm
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel	10	% Pebble	≥ 4 – 64 mm
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments	5	% Granule	≥ 2 – 4 mm
+	Organic drift	–	Wrack	85	% Sand	≤ 2 mm
–	Overturned rocks	+	Wrinkle marks	Ø	% Silt/Clay	Fines
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain					
+	Ripples					
	Other:					

Erosion Indicators

+	Cut banks	+	Rills	+	Water-cut benches
+	Exposed roots	+	Scour	–	Water level mark
–	Headcuts	+	Secondary channels		
	Other:				

Vegetation

Estimated % perennial plant cover: 25 | Perennial plant size relative to uplands vegetation: smaller / same / larger

Estimate species composition of perennial plants by % of total:

creosote consistent throughout - Dominant sp.

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

–	Algal crusts	+	Sand-filled channels		
–	Beach ridges	–	Springs		
–	Coppice dunes: active / relict	–	Substrate staining		
–	Crusts: carbonate / salt / soda	–	Vegetation-landscape alignments		
–	Mud: cracks / curls / polygons				
	Other:				

OHWM SP1

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Lear Ave Solar
Project Number: 23-15079
Stream: Ephemeral Stream Complex, Single thread
Investigator(s): C. Clark, K Gugerty

Date: 1/23/24 **Time:** 1000
Town: 29 Palms **State:** CA
Photo begin file#: — **Photo end file#:** —

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

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: S.B. County, undeveloped land NW Corner of Site.

Projection: SPCS Zone 5 **Datum:** NAD 83
Coordinates:

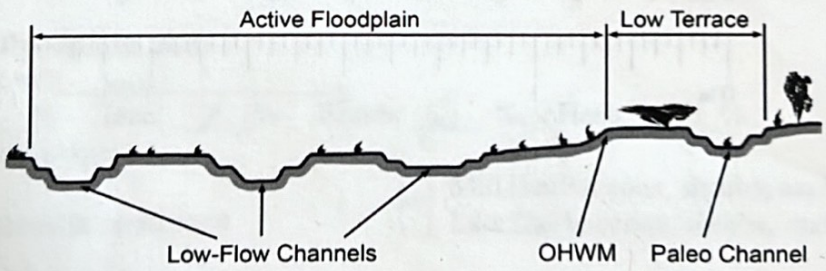
Potential anthropogenic influences on the channel system:
- vehicular/ATV tracks through the site & channel system. Dirt roads transect project site.
- paved roads adjacent to site.

Brief site description:
- uniform Creosote Dominant Habitat, relatively flat w/ slight slope draining West
- Shallow & narrow ephemeral channels traveling downslope and to the NW where they converge w/ a compound channel, which terminates at Lear Ave. & Mesa Dr.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: January 2024
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

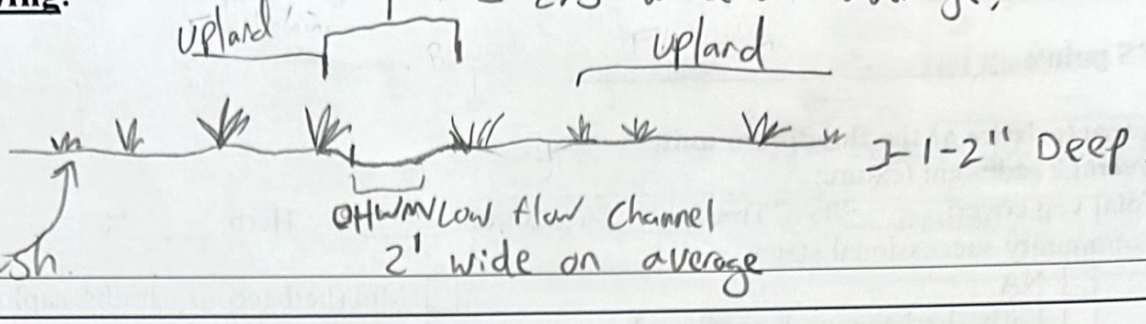


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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

Project ID: Lear Ave **Cross section ID:** OHWM Sp1 **Date:** 1/23/24 **Time:**

Cross section drawing:



OHWM

GPS point: 34.178110, -116.150277 / OHWM Sp1

Indicators:

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

Comments:

- , no vegetation within channel

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

GPS point: 34.177988, -116.150504 / OHWM Sp1

Characteristics of the floodplain unit:

Average sediment texture: sand

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

Community successional stage:

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

Indicators:

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

Comments:

- Bed & bench profile is low & not easily defined.
- Floodplain determined by berm @ road adjacent.
- ripples & surface relief present within Low flow Channel.

OHWM SP2

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Lear Ave. Solar
Project Number: 23-15079
Stream: ESC, Compound Channel
Investigator(s): CClark, KGugerty
Date: 1/26/24
Town: 29-Palms
Photo begin file#: —
Time:
State: CA
Photo end file#: —

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

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: SB County, undeveloped land NW Corner of site.

Projection: SPCS V **Datum:** NAD83
Coordinates:

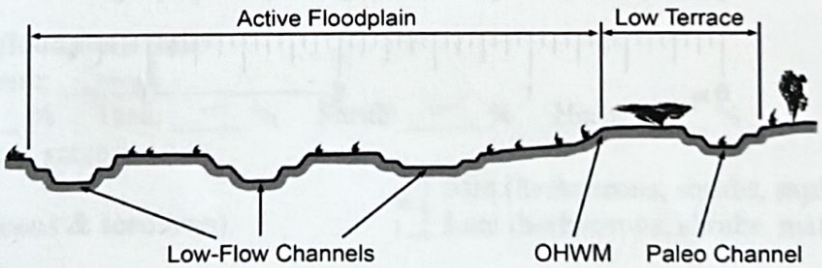
Potential anthropogenic influences on the channel system:
Dirt road cuts through the middle of the Compound Channel. Likely contributes to the extended width of the channel + lightly defined/shallow nature

Brief site description: Slight slope Drains to the west into slightly defined ephemeral channels which converge into the single thread Compound channel

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 1/2024
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

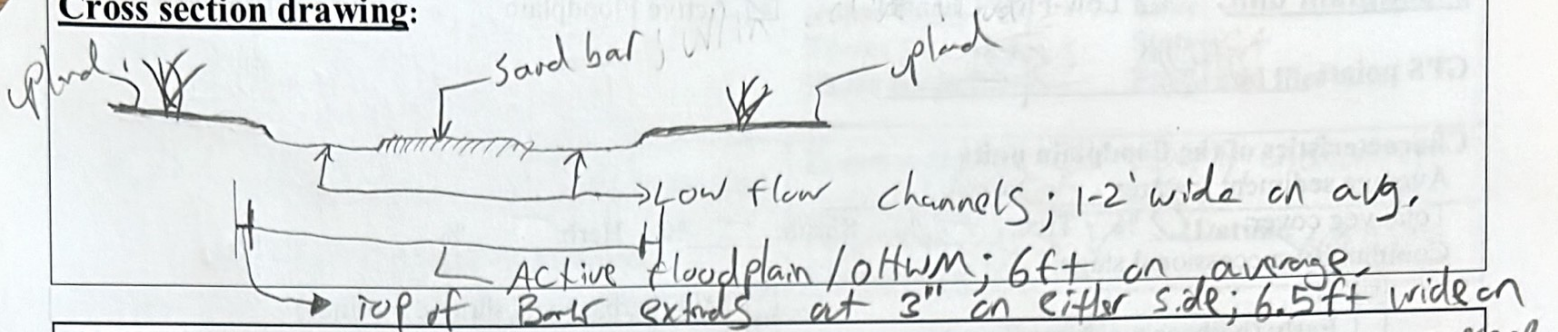


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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

Project ID: Lear Ave **Cross section ID:** OHWM SP2 **Date:** 1/23 **Time:**

Cross section drawing:



OHWM

GPS point: OHWM SP2

Indicators:

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

Comments:

Floodplain unit:

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

GPS point: OHWM SP2

Characteristics of the floodplain unit:

Average sediment texture: Sand

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

Community successional stage:

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

Indicators:

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

Comments:

Project ID: Leaf Ave **Cross section ID:** OHWM SP2 **Date:** 1/23 **Time:**

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

GPS point: OHWM SP2

Characteristics of the floodplain unit:

Average sediment texture: Sand

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

Community successional stage:

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

Indicators:

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

Comments:

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

Comments:

OHWM SP3

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Lear Ave Solar
Project Number: 23-15079
Stream: Isolated Ephemeral Stream
Investigator(s): C. Clark / K. Gogerty
Date: 1/23/24
Time:
Town: 29-Palms
State: CA
Photo begin file#: —
Photo end file#: —

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

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: undeveloped land, SW corner of site.

Projection: SPCS V
Datum: NAD83
Coordinates:

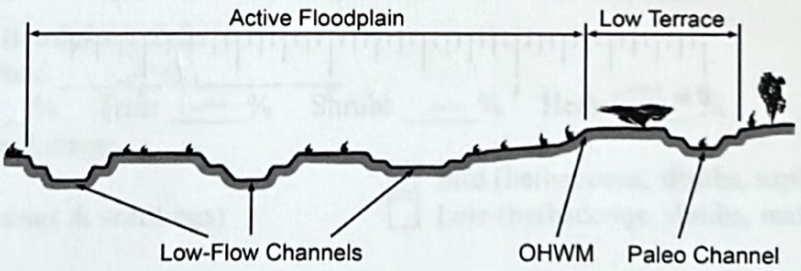
Potential anthropogenic influences on the channel system:
- Project site boundary includes paved + unpaved roads.
- Evidence of a aerials staging Area observed to East of Drainage. Unpaved roads to/from site. OHV Disturbance

Brief site description: Slight hill in the eastern half. Drains to the west, uniform Creosote bush scrub throughout.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 1/24
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

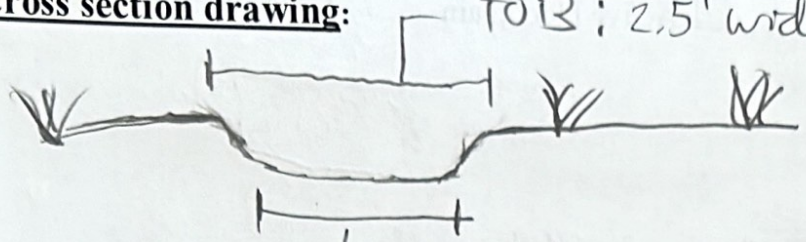


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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

Project ID: Lear Ave **Cross section ID:** OHWM sp3 **Date:** 1/23/24 **Time:**

Cross section drawing:



OHWM

GPS point: OHWM sp3

Indicators:

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

Comments:

Floodplain unit:

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

GPS point: OHWM sp3

Characteristics of the floodplain unit:

Average sediment texture: Sand

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

Community successional stage:

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

Indicators:

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

Comments:

May be an abandoned or relict channel due to previous Staging Area to the east.