2.7 Hydrology and Water Quality

This section of the Environmental Impact Report (EIR) discusses potential impacts to hydrology, water quality, and groundwater resources resulting from the implementation of the JVR Energy Park Project (Proposed Project). The analysis is based on the review of existing resources, technical data, and applicable laws, regulations, and guidelines, as well as the following technical reports prepared for this Proposed Project:

- Drainage Study - JVR Energy Park Project (Appendix I)
- Groundwater Resources Investigation Report - JVR Energy Park Project (Appendix J)
- Groundwater Monitoring and Mitigation Plan (Appendix A of the Groundwater Investigation Report)
- JVR Energy Park Project Revised Construction Water Demand Memorandum (Appendix B of the Groundwater Investigation Report)
- Stormwater Management Plan - JVR Energy Park Project (Appendix K)
- Proposed Project Revisions Technical Memorandum (Appendix R)
- Hydrology Issues – JVR Energy Park Project Memorandum (Appendix U)

These technical reports were prepared consistent with the County of San Diego (County) Guidelines for Determining Significance and Report Format and Content Requirements: Hydrology (Hydrology Guidelines; County of San Diego 2007a), Guidelines for Determining Significance and Report Format and Content Requirements: Surface Water Quality (Surface Water Quality Guidelines; County of San Diego 2007b), and Guidelines for Determining Significance and Report Format and Content Requirements: Groundwater Resources (County of San Diego 2007c).

Comments received in response to the Notice of Preparation (NOP) included concerns regarding groundwater overdraft, adverse effects of pumping on off-site wells, and the cumulative effects of groundwater extraction from other projects in the basin. These concerns are addressed in this section. A copy of the NOP and comment letters received in response to the NOP is included in Appendix A of this EIR.

The Proposed Project area has been revised by increasing the Project's setbacks and realignment of an existing water main, a net reduction of 17 acres (see Section 1.2 Project Description of Chapter 1 of the Final EIR). As described in Proposed Project Revisions Technical Memorandum (Appendix R to the Final EIR), these changes will not change any significance determinations in this Section 2.7 Hydrology and Water Quality. This Section has been revised to account for these Project changes.

2.7.1 Existing Conditions

This section describes the existing setting in the Proposed Project area and identifies the resources that could be affected by the Proposed Project. The scope of the hydrologic setting reflects the significance thresholds contained in the County's Hydrology, Surface Water Quality, and Groundwater Resources Guidelines (County of San Diego 2007a, 2007b, 2007c), which address issues such as surface and groundwater quality, stormwater drainage, and groundwater resources. Information in this section is derived from a variety of sources, including maps and surveys from the U.S. Geological Survey, the U.S. Department of Agriculture, the County General Plan (County of San Diego 2011), the aforementioned County significance guidelines, and the previously listed Project-specific technical reports.

Regional Climate

The Project area experiences warm summer months and cool winters. Average temperatures vary greatly within the region. Mean maximum temperatures in the summer months reach the high-80s to low-90s degrees Fahrenheit. Temperatures may fall below freezing in the winter, with snow levels occasionally below 2,500 feet (WRCC 2019). According to historical precipitation data recorded from 1963 to 2011 from the Jacumba rain gauge, the average annual precipitation is approximately 9.64 inches per year, with 85% of precipitation occurring between October and April (Allan 2013).

Regional Hydrology and Drainage

The Project site is located within the Jacumba Valley Hydrologic Subarea (HSA; 722.72) of the Jacumba Hydrologic Area (HA; 722.70), all within the Anza Borrego Hydrologic Unit (HU; 722.00) of the Colorado River Basin (RWQCB 2017). These RWQCB Hydrologic Units are shown in Figure 2.7-1 of this Hydrology and Water Quality section. The contributing subwatersheds to the Project site cover approximately 71,040 acres (111 square miles) in the Upper Carrizo Creek watershed, with 76% located in Baja California, Mexico (Kimley Horn 2020). These subwatersheds are shown in Figure 2.7-2 of this EIR. The majority of flow from Mexico north into the Jacumba Valley is derived from the Flat Creek subwatershed, which includes Blue Angel Peak and an unnamed subwatershed. The subwatersheds predominantly located in the United States are the Boundary Creek and Walker Canyon-Carrizo Creek subwatersheds.

Surface water flows into the Jacumba Valley from the west through Boundary Creek and from the east through the Carrizo Wash (USGS 2018). Both Boundary Creek and Carrizo Wash are ephemeral waterways, which have mapped extents terminating on the Project site (USGS 2018). Surface water flows north over the Project site where it eventually drains through a narrow constriction at the north terminus of the Jacumba Valley (USGS 1979). After exiting the Jacumba

Valley, surface water flows by way of Carrizo Creek through Carrizo Gorge where it eventually drains onto the desert flood plain in Carrizo Valley and terminates at the Salton Sea (USGS 1979). Surface water flows either as sheet flow or through ephemeral drainages or channels, which convey runoff during and/or shortly after rain events (Kimley Horn 2020) (Appendix I).

For purposes of the drainage study completed for the Proposed Project (Appendix I), the 111 square-mile watershed was broken into four distinct subbasins referred to as the south, west, east, and mid basins (Appendix I). Subbasins are defined by the drainage areas contributing to off-site streams that eventually make it onsite. Basin #1 (South) contains the drainage area that is contributing from Mexico. This flow would concentrate and then sheet flow across the southern portion of the Project site. Basin #2 (West) contains the drainage area from Boundary Creek. Basin #3 (East) contains the drainage area for runoff traveling from the east. Basin #4 (Mid) contains the west and north drainage areas, along with additional on-site drainage area (Kimley Horn 2020). These drainage areas are shown in Figure 2.7-3 of this Hydrology and Water Quality section.

Surface Water Quality

The beneficial uses of the surface water bodies in the Project area have been designated by the Colorado River Regional Water Quality Board (RWQCB) in the Water Quality Control Plan for the basin (otherwise known as the Basin Plan). The beneficial uses provide the basis for determining appropriate water quality objectives that are needed to maintain the beneficial uses of these water bodies and are discussed further under Section 2.7.2, Regulatory Setting. The beneficial uses for water bodies affected by the Proposed Project are shown in Table 2.7-1, Beneficial Uses of Waters within the General Vicinity of the Proposed Project, and definitions are provided in Table 2.7-2, Definitions of Beneficial Uses of Surface Waters. The Basin Plan for each region also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make up the water quality standards for the region.

The objective of the federal Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." Under CWA Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. There are no water bodies occurring within the Proposed Project area that are listed on the CWA 303(d) List (impaired water bodies) (SWRCB 2016). The Project is not in a watershed with a high receiving water risk, as defined in the Construction General Permit (CGP) Guidance (SWRCB 2018). High risk watersheds are mapped Hydrologic Unit Code (HUC) Level 12 watersheds that drain to waterbodies that are either 1) CWA 303(d) listed as being impaired for sediment/siltation, 2) have a U.S. Environmental Protection Agency-approved,

sediment-related Total Maximum Daily Load, or 3) have the existing beneficial uses of SPAWN, MIG, and COLD according to the Basin Plan (RWQCB 2019).[1]

Groundwater Resources

The Proposed Project lies outside of the San Diego County Water Authority in a region consisting of small communities, large-lot rural residences, tribal lands, and public open space (e.g., California State Park and federal Bureau of Land Management). Water service in the region consists exclusively of groundwater wells—either private, tribal, state, federal, or part of small community water districts. Groundwater is the primary source of water supply for land uses in the Proposed Project area, and most residences rely on Jacumba Community Services District (JCSD) groundwater wells for their source of water. Groundwater users in the area of the Project site include the JCSD, Jacumba Valley Ranch Water Company (formerly the Ketchum Ranch Water Company), domestic users, and the Jacumba Valley Ranch (the location of the current Project site). Groundwater extraction has varied based on need and land use.

The Project site is located within the Department of Water Resources (DWR) Bulletin-118-defined Jacumba Valley Groundwater Basin (Basin), DWR Basin No. 7-47 (DWR 2016). This groundwater basin is shown in Figure 2.7.4 of this Hydrology and Water Quality section. DWR has designated the Basin as very low priority (DWR 2019). No groundwater management agency currently oversees groundwater management in the Basin.

The Basin consists of two primary aquifer units. The upper alluvial aquifer unit (Jacumba Valley alluvial aquifer) reaches up to 175 feet in thickness and consists of Holocene-age gravels, sands, and clays (Dudek 2016; DWR 2016). In some areas, this aquifer unit is underlain by the Jacumba volcanics, which reportably act as a semi-confining to confining unit to the lower aquifer. The lower aquifer consists of the Tertiary-age Table Mountain Formation, described as medium- to coarse-grained sandstone and conglomerate, and may reach up to 600 feet in thickness (Swenson 1981). The Table Mountain Formation lies unconformably on top of crystalline basement (DWR 2016). Groundwater in the region is also extracted from fractures within the crystalline basement rock.

The proposed source of groundwater for the Project is the Jacumba Valley alluvial aquifer, which underlies the majority of the Project site (Figure 2.7-4). The Jacumba Valley alluvial aquifer extends across the United States border into Mexico. This unconfined aquifer has been estimated to have specific yields ranging from 5% to 10% (Swenson 1981) and 15% to 20% (Roff and Franzone 1994). Production wells screened in the Jacumba Valley alluvial aquifer have been reported to produce more than 1,000 gallons per minute (gpm) (Roff and Franzone 1994).

[1] The Water Quality Control Plan for the Colorado River Basin only lists COLD beneficial uses. Cold Freshwater Habitats (COLD) are uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Groundwater in storage has been estimated to range from 3,200 to 6,400 acre-feet (AF) by Swenson (1981) and 9,600 to 16,000 AF by Roff and Franzone (1994). The Proposed Project would use two on-site groundwater wells, which were previously used as agricultural wells for the Jacumba Valley Ranch and Bornt Farms (Dudek 2019). These wells are identified as Well #2 and Well #3 on Figure 2.7.4. Both wells have been tested and documented to produce adequate water supply for the Project (see Appendix J). The impacts to groundwater resources from Project groundwater use are discussed in Section 2.7.3.4.

Groundwater Quality

The availability of groundwater quality data from the major unconfined alluvial aquifers of San Diego County vary based on use. Existing water quality data for large highly utilized unconfined alluvial aquifers is continually collected by state and local water agencies as well as the California Department of Public Health and the DWR. Of California's approximately 16,000 public-supply wells, 80% are in groundwater basins designated by the DWR and characterized as unconfined alluvial aquifers (USGS 2011). The County's Groundwater Resources Guidelines do not identify the Project area as being within a specific groundwater problem area (such as an overdrafted basin or areas with high levels of naturally occurring radioactive elements) (County of San Diego 2007c).

Groundwater quality data for the aquifer underlying the Proposed Project and surrounding region is available from a number of sources, including a June 2020 sampling effort for wells to be used to supply the Proposed Project (i.e., Well #2 and Well #3), as well as routine submittals of groundwater quality data to the State Water Resources Control Board (SWRCB) by off-site potable water systems such as JCSD (i.e., Park and Highland Center Wells, and Wells #7 and 8). The Jacumba Valley Ranch Water Company samples groundwater in accordance with requirements set forth by the County of San Diego Department of Environmental Health for a Transient Non-Community water system. In addition, less frequent or one-time groundwater quality sampling has occurred near the Project site for leaking underground storage tank cleanup sites (SWRCB 2019).

JCSD currently supplies non-potable water from the Park and Highland Center Wells, and potable water from Wells #7 and #8. A water quality sample collected from the Highland Center Well in 2016 had a measured total dissolved solids concentration of 400 milligrams per liter (mg/L). A wide range of constituents, including general minerals, inorganic minerals, and volatile organic compounds, were analyzed. Laboratory results indicated that no volatile organic compounds were detected and that groundwater produced from the Highland Center Well is suitable for construction water supply.

As discussed above, the Project proposes to use water from Well #2 and Well #3. Since the Project would use groundwater for non-potable use, water quality samples were not collected from on-site wells as part of the Groundwater Resources Investigation Report but were sampled in June 2020 to verify suitability for non-potable use. Well #2, the Central Irrigation Well and Well #3 had measured total dissolved solids concentrations of 760 mg/L, 630 mg/L and 950 mg/L, respectively.

Flood Hazards

The Project site and the surrounding area is identified by the Federal Emergency Management Agency (FEMA) as being within Zone D, which indicates that flood risk is undetermined because the agency has not conducted a flood hazard analysis (FEMA 2012). The Project site is not downstream of a dam and thus would not be subject to inundation in the event of a dam failure; nor is the site subject to seiche or tsunami (due to the great distance to the ocean or large body of water). In addition, the Project site is not within any County-identified flood hazard areas (e.g., alluvial fan flooding area) (County of San Diego 2007a).

The Drainage Study of the Project site prepared by Kimley Horn (2020; see Appendix I) has estimated flood depths during a 100-year flood event of greater than of six feet concentrated primarily between Stations 20 and 68, and average flood depth of two feet to three feet across the portion of the Project site subject to flooding.

2.7.2 Regulatory Setting

Federal

The following federal regulations pertaining to hydrology and water quality would apply to the Proposed Project.

Clean Water Act

Increasing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (33 USC 1251 et seq.). The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The CWA established basic guidelines for regulating discharges of pollutants into waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA.

The California Legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Resources Control Board (SWRCB) and its nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The RWQCB adopts and implements a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives

for all waters addressed through the plan (California Water Code, Sections 13240–13247). The Proposed Project area is located within the jurisdiction of the Colorado River RWQCB.

Beneficial Use and Water Quality Objectives (CWA Section 303)

The Colorado River RWQCB is responsible for the protection of the beneficial uses of waters within the Proposed Project area of eastern San Diego County. The RWQCB uses its planning, permitting, and enforcement authority to meet its responsibilities adopted in the Basin Plan to implement plans, policies, and provisions for water quality management.

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan for Colorado River region has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. The existing and potential beneficial uses designated in the Basin Plan for the surface water bodies in or downstream from the Project area are identified in Table 2.7-1. The existing uses of groundwater in the vicinity of the Proposed Project area, which includes the Anza-Borrego Hydrologic Unit, include municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); Groundwater Recharge (GWR); Water Contact Recreation (REC-1); Non-Water Contact Recreation (REC-2); Warm Freshwater Habitat (WARM); Wildlife Habitat (WILD); and Rare, Threatened, or Endangered Species (RARE) (Colorado River RWQCB 2019). These uses are defined in Table 2.7-2. The Basin Plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make up the water quality standards for the region.

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." Under CWA Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. There are no impaired waters within or near the Project vicinity, although surface waters would eventually discharge indirectly to the Salton Sea, which has several identified impairments. CWA Section 303(d) impairments associated with the Salton Sea include arsenic, selenium, nutrients, salinity, chlorpyrifos, DDT, and enterococcus; these are impairments typically associated with agricultural activities, ranching, and/or surface mining (SWRCB 2016). A total maximum daily load defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. No total maximum daily loads have been established for the aforementioned pollutants/stressors (SWRCB 2016).

Water Quality Certification (CWA Section 401)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers (ACOE) Section 404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 of the CWA requires a permit from the ACOE prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404. For the Project area, the Colorado River RWQCB must provide the water quality certification required under Section 401 of the CWA. As discussed in Section 2.3, Biological Resources, there are no direct impacts to federally regulated waters an ACOE Section 404 permit is not expected to be required for the Proposed Project site. Water quality certification under Section 401 of the CWA, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

National Pollutant Discharge Elimination System Program (CWA Section 402)

The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. In November 1990, the U.S. Environmental Protection Agency (EPA) published final regulations that also establish stormwater permit application requirements for discharges of stormwater to waters of the United States from construction projects that encompass 5 or more acres of soil disturbance. Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES Program to address stormwater discharges from construction sites that disturb land equal to or greater than 1 acre and less than 5 acres (small construction activity). The regulations also require that stormwater discharges from small municipal separate storm sewer systems (MS4s) be regulated by an NPDES permit.

On September 2, 2009, the SWRCB issued a new NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), that became effective July 1, 2010. For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (i.e., CGP) in order to avoid and minimize water quality impacts attributable to such activities.[2] The CGP applies to all projects

[2] SWRCB Order 2009-0009-DWQ (as amended by SWRCB Order 2010-0014-DWQ), NPDES Permit No. CAS000002, National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.

where construction activity disturbs 1 or more acres of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The CGP requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify best management practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the CGP. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the Section 303(d) list for sediment (which the Project site does not).

The Colorado River RWQCB has permitting authority over the Proposed Project site. Because the Colorado RWQCB has not adopted a municipal permit for the Project area, the Proposed Project would be subject to the Post Construction Standards in the CGP, as well as the County of San Diego's Jurisdictional Urban Runoff Management Plan.

In either case, dischargers are required to submit a Notice of Intent in order to obtain coverage under the CGP, at the discretion of the SWRCB and the applicable RWQCB. Dischargers are responsible for notifying the relevant RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

The CGP requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. To ensure compliance and protection of water quality, the permit implements monitoring, reporting, and training requirements for management of potential stormwater pollutants. The permit contains several compliance items, including (1) mandatory BMPs to reduce erosion and sedimentation, which may include incorporation of vegetated swales, setbacks and buffers, impervious surface disconnection, bioretention cells, implementation of pollution/sediment/spill control plans, training, and other structural and nonstructural actions; (2) sampling and monitoring for non-visible pollutants; (3) effluent monitoring and annual compliance reports; (4) development and adherence to a Rain Event Action Plan; (5) requirements for the post-construction period; (6) numeric action levels and effluent limits for pH and turbidity; (7) monitoring of soil characteristics on site; and (8) mandatory training under a specific curriculum.

The Proposed Project would disturb more than 1 acre of soil and would thus be subject to the provisions and requirements of the CGP. The applicant would submit a Notice of Intent to the SWRCB and obtain coverage under, and comply with, the CGP. As summarized previously, the preparation of a SWPPP would be required in accordance with the CGP. The SWPPP would include, but not be limited to, relevant measures, conditions, and obligations, which would reduce or eliminate the impacts of construction activities on stormwater and receiving water quality and

quantity. The CGP also contains requirements for the post-construction period. The Proposed Project would need to obtain approval for their post-construction plans from both the County and the Colorado RWQCB. The Project is not classified as facility requiring coverage under the General Permit for Storm Water Discharges Associated With Industrial Activities.

Federal Antidegradation Policy

The Federal Antidegradation Policy (40 CFR 131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the federal regulation, state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

Safe Drinking Water Act

The Federal Safe Drinking Water Act (SDWA), established in 1974, sets drinking water standards throughout the country and is administered by the EPA. The drinking water standards established in the SDWA, as set forth in the Code of Federal Regulations, are referred to as the National Primary Drinking Water Regulations (Primary Standards, Title 40, CFR Part 141) and the National Secondary Drinking Water Regulations (Second Standards, 40 CFR Part 143).

National Flood Insurance Program

The National Flood Insurance Program (NFIP) is administered by FEMA, a component of the U.S. Department of Homeland Security. The NFIP is a federal program enabling property owners in participating communities to purchase insurance protection against losses from flooding. In support of the NFIP, FEMA identifies flood hazard areas throughout the United States and its territories by producing flood hazard boundary maps, flood insurance rate maps, and flood boundary and floodway maps.

Executive Order 11988, Floodplain Management. Executive Order (EO) 11988 directs all federal agencies to avoid the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct or indirect support of floodplain development wherever there is a practical alternative.

EO 11990, Protection of Wetlands. EO 11990 directs all federal agencies to avoid to the maximum extent possible the long-term and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practical alternative.

State

The following state regulations pertaining to hydrology and water quality would apply to the Proposed Project.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (codified in the California Water Code, Section 13000 et seq.) is the basic water quality control law for California. As mentioned above, it is implemented by the SWRCB and the nine RWQCBs. The SWRCB establishes statewide policy for water quality control and provides oversight of the RWQCBs' operations. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state could cause pollution or nuisance, including impacts to public health and the environment. Evident from the preceding regulatory discussion, the Porter-Cologne Act and the CWA overlap in many respects, as the entities established by the Porter-Cologne Act are, in many cases, enforcing and implementing federal laws and policies. However, there are some regulatory tools that are unique to the Porter-Cologne Act, as described below.

Dredge/Fill Activities and Waste Discharge Requirements

Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under Section 401 of the CWA (e.g., if a federal permit is being sought or granted) and/or waste discharge requirements (WDRs) under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (California Water Code, Sections 13260–13274), states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as isolated wetlands), WDRs are required and are issued exclusively under state law. WDRs typically require many of the same BMPs and pollution control technologies as required by NPDES-derived permits. Further, the WDRs' application process is generally the same as for CWA Section 401 water quality certification, though in this case it does not matter whether the particular project is subject to federal regulation.

General WDRs for Discharges to Land with a Low Threat to Water Quality in the Colorado RWQCB Region

In SWRCB Order 2003-0003-DWQ, the SWRCB adopted General Waste Discharge Requirements (General WDRs) for discharges to land that are considered to be a low threat to

water quality and are of low volume with minimal pollutant concentrations. All WDRs must implement the Basin Plan and require dischargers (e.g., the applicant) to comply with all applicable Basin Plan provisions and water quality objectives. The General WDRs establish minimum standards and monitoring requirements with respect to a few specific categories of discharge, including boring waste discharge, small dewatering projects (e.g., temporary dewatering during construction excavation activity), and miscellaneous discharges such as small, inert solid waste disposal operations.

As discussed in the environmental setting, the Proposed Project is unlikely to encounter shallow groundwater. However, the actual presence or absence of shallow groundwater is dependent on local geologic and climatic conditions, and thus it is possible that locally perched groundwater could be encountered. In this case, any dewatering activity that would discharge to the land surface would need to comply with the provisions of these General WDRs (or, alternatively, the applicant and/or its contractor would need to obtain an individual WDR). Accordingly, to obtain coverage under these General WDRs and ensure compliance with the applicable Basin Plan, the applicant and/or its contractor would submit the following to the RWQCB: a Notice of Intent to comply with these General WDRs, which include, but may not be limited to a Project map, evidence of California Environmental Quality Act (CEQA) compliance, the requisite fee, a discharge monitoring plan, and any additional information requested by the applicable RWQCB. RWQCB staff would determine whether coverage under the applicable General WDRs is appropriate and, if so, would notify the applicant by letter of coverage. In the event of any conflict between the provisions of the General WDRs and the Basin Plan, the more stringent provision would prevail.

State Maximum Contaminant Levels

As part of the California Safe Drinking Water Act, the State Department of Health Services sets primary and secondary standards for drinking water supplies. Maximum contaminant levels set by the Department of Health Services are either as stringent as or more stringent than federal maximum contaminant levels.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) is intended to achieve sustainable management of groundwater resources for long-term reliability for multiple benefits while avoiding undesirable results. The SGMA directed the DWR to assign priority ratings to groundwater basins throughout the state. All counties and cities that draw water from basins identified as “high” or “medium” priority must comply with the SGMA. The SGMA identifies two compliance options for “high” or “medium” priority basins: form a groundwater sustainability agency and adopt a groundwater sustainability plan, or submit a groundwater sustainability plan alternative if basin conditions demonstrate that the basin has operated under sustainable yield for

the past 10 years. While the Proposed Project site does overlie a DWR Bulletin 118–defined groundwater basin, the Jacumba Valley Groundwater Basin (DWR 7-047), this basin has been designated a very low priority basin (DWR 2019). Based on this determination, a groundwater sustainability agency is not required to be formed and a groundwater sustainability plan is not required (per SGMA) to be prepared for the Jacumba Valley Groundwater Basin.

Local

The following local/regional regulations pertaining to hydrology and water quality would apply to the Proposed Project.

County of San Diego Code of Regulatory Ordinances Sections 67.801–67.821, Watershed Protection, Stormwater Management, and Discharge Control Ordinance

The County's Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) was adopted in March 2008 and revised in February 2016. The purpose of the WPO is to protect water resources and improve water quality by controlling the non-stormwater discharges to the stormwater conveyance system and receiving waters, to cause the use of management practices by the County and its citizens that would reduce the adverse effects of polluted run-off discharges on waters of the state, to secure benefits from the use of stormwater as a resource, and to ensure the County is compliant with state and federal law. The WPO establishes standards and requirements that are legally enforceable by the County within the County's jurisdiction. Projects that require a permit (e.g., administrative permit, major use permit, grading permit) are required to demonstrate compliance with the WPO. Section 67.804, for example, specifically addresses waste discharge and prohibits the discharge of pollutants to the stormwater system unless they are permitted through the NPDES program. Section 67.806 identifies minimum required construction and post-construction water quality BMPs applicable to all dischargers.

County of San Diego BMP Design Manual

The County's 2019 BMP Design Manual provides guidance for land development projects to comply with the 2013 MS4 Permit. It is focused on project design requirements and related post- construction requirements, not on the construction process itself. The BMP Design Manual addresses, and provides guidance for complying with, updated post-construction stormwater requirements for Standard Projects and Priority Development Projects (PDPs), and provides updated procedures for planning, preliminary design, selection, and design of permanent stormwater BMPs based on the performance standards presented in the MS4 Permit and the County WPO. The Proposed Project is located east of the Pacific/Salton Divide. Because of this, the Proposed Project is exempt from classification as a priority development project. Requirements apply to all projects including Standard Projects include implementation of source control and site design BMPs as described in

Chapter 4 of the BMP Design Manual. Detailed submittal requirements including documentation of each selected BMP are provided in Chapter 8 of the BMP Design Manual.

County of San Diego Grading Ordinance

The County Code Title 8, Division 7, Grading, Clearing and Watercourses,[3] echoes protections at the federal level by prohibiting any actions or development that would impede water flows, and addresses grading and clearing near watercourses. The Grading Ordinance requires that projects involving more than 200 cubic yards of grading, clearing, and/or removal of natural vegetation obtain a grading permit (see Section 1.5.1, Project Approvals/Permits). Grading permits are discretionary and require compliance with CEQA. Additional information specific to grading permit requirements is discussed in Section 2.5, Geology, Soils, and Seismicity.

Chapter 6 of the ordinance exists to protect persons and property against flood hazards by prohibiting the alteration of the surface of land so as to reduce the capacity of a watercourse and prohibit any action that impairs, impedes, or accelerates the flow of water in a watercourse in such a manner that adversely affects adjoining properties. The ordinance prohibits any land alteration or construction of structures in, upon, or across a watercourse without first obtaining a permit. Enforcement occurs at the time that grading plans or improvement plans are reviewed during the grading permit process. The County Official shall not approve the grading plans or improvement plans unless he or she determines that the proposed grading does not create an unreasonable hazard of flood or inundation to persons or property. Even though the Project site is not within an identified flood hazard area, as defined by either FEMA or the County, the provisions of this ordinance would apply to the Proposed Project because they would result in land alteration and construction of structures within a watercourse as defined in the ordinance.

San Diego County Groundwater Ordinance

The County adopted the San Diego County Groundwater Ordinance in 1991; it was last amended in 2013. The ordinance establishes regulations for the protection, preservation, and maintenance of groundwater resources. The purpose of the ordinance is to ensure that development would not occur in groundwater-dependent areas of the County unless adequate supplies are available to serve both existing and proposed uses. Section 67.722 (All Other Projects) regulates all areas within the unincorporated County outside Borrego Valley. For applicable discretionary permit applications, the following findings must be made: (1) For projects using greater than 20 AF per year or 20,000 gallons per day, that groundwater resources are adequate to meet the groundwater

[3] The ordinance defines a watercourse as any surface water body (including any arroyo, canal, channel, conduit, creek, culvert, ditch, drain, gully, ravine, reservoir, river, stream, wash, waterway, or wetland), in which waters from a tributary drainage area of 100 acres or larger flow in a definite direction or course, either continuously or intermittently, and any area adjacent thereto which is subject to inundation from a 100-year flood.

demands both of the project and the groundwater basin if the basin were developed to the maximum density and intensity permitted by the General Plan, and (2) for all other projects, that groundwater resources are adequate to meet the groundwater demands of the project.

San Diego County General Plan

Updated (and adopted) in August 2011, the San Diego County General Plan guides future growth in the unincorporated areas of the County and considers projected growth anticipated to occur within various communities.

Land Use Element

The Land Use Element includes a requirement to encourage sustainable use of groundwater and properly manage groundwater recharge areas (LU-8). Specifically, Goal LU-8 includes the following policies:

- **Policy LU-8.1:** Require land use densities in groundwater dependent areas to be consistent with the long-term sustainability of groundwater supplies, except in the Borrego Valley.
- **Policy LU-8.2:** Require development to identify adequate groundwater resources in groundwater dependent areas, as follows:
  - In dependent areas within currently identified groundwater overdrafted basins, prohibit new development from exacerbating overdraft conditions, and
  - In areas without current overdraft groundwater conditions, evaluate new groundwater- dependent development to assure a sustainable long-term supply of groundwater is available that will not adversely impact existing groundwater users.
- **Policy LU-8.3:** Discourage development that would significantly draw down the groundwater table to the detriment of groundwater-dependent habitat.

Conservation and Open Space Element

The Conservation Element identifies and describes the natural resources of the County of San Diego and includes policies and action programs to conserve those resources. The Conservation and Open Space Element identifies policies necessary to achieve (a) long-term viability of the County's water quality and supply through a balanced and regionally integrated water management approach (Goal COS-4), and (b) protection and maintenance of local reservoirs, watersheds, aquifer-recharge areas, and natural drainage systems to maintain high-quality water resources (Goal COS-5).

Public Safety Element

The Public Safety Element was developed to introduce safety considerations into the planning and decision-making processes in order to reduce the risk of injury, loss of life, and property damage associated with the hazards identified in the element. The Public Safety Element identifies policies necessary to (a) minimize personal injury and property damage losses resulting from flood events (Goal S-9), and (b) ensure that floodways and floodplains that have acceptable capacity to accommodate flood events (Goal S-10). These goals are achieved through policies encouraging the improvement and development of floodplain maps, regulating the types of development that can occur in floodplains, and ensuring that development outside of floodplains employ proper stormwater design and management practices necessary to increase the volume of stormwater entering waterways. The element also proposes policies and recommendations aimed at hazard mitigation, disaster preparedness, and emergency response. Chapter 3 of the element, Geologic Hazards, addresses non-seismic hazards, specifically slope instability/erosion and landslides, which can cause flooding.

2.7.3 Analysis of Project Effects and Determination as to Significance

The Proposed Project consists of a solar energy generation and storage project in southeastern San Diego County. For the purposes of this EIR, the Proposed Project is analyzed at a project level to discuss potential impacts as determined in the Initial Study.

The Proposed Project includes the ~~a switchyard~~ Switchyard Facilities that would be transferred to SDG&E once constructed. For the purposes of this analysis, the ~~switchyard~~ Switchyard Facilities (as described in Chapter 1.2.2 of this EIR) ~~is~~ are a component of the project and ~~has~~ have been analyzed as part of the whole of the action. However, the EIR highlights the specific analysis of the ~~switchyard~~ Switchyard Facilities under each threshold of significance in the event that responsible agencies have CEQA obligations related to the ~~switchyard~~ Switchyard Facilities.

The County's Guidelines for Determining Significance are generally intended to address the questions posed in Appendix G of the CEQA Guidelines. In 2018, the CEQA Guidelines were updated and several of the questions listed in Appendix G were revised, deleted or modified. The County's Guidelines for Determining Significance have yet to be updated to address these amendments. Accordingly, this EIR analyzes the impacts from the Project using the County's Guidelines for Determining Significance and the questions posed in Appendix G. Where the questions in Appendix G have not been revised, only the County's Guidelines for Determining Significance are identified and analyzed. Where the questions in Appendix G have been significantly altered or additional questions have been posed, the Project's impacts are analyzed as against the questions in Appendix G and, to the extent they remain consistent with Appendix G, the County's Guidelines for Determining Significance.

2.7.3.1 Hydrology and Drainage Patterns

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Hydrology Guidelines (County of San Diego 2007a) apply to both the direct impact analysis and the cumulative impact analysis. These significance guidelines have been developed by the County to address question (c) in the CEQA Guidelines, Appendix G (14 CCR 15000 et seq.). A significant impact would result if:

- The project would increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, 2/10 of a foot or more in height.
- The project would result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.
- The project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.

Question (c) of Appendix G, Hydrology and Water Quality, of the 2019 CEQA Guidelines determines whether the project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would (i) result in a substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or, (iv) impede or redirect flood flows.

Analysis

To analyze the potential impacts of the Proposed Project in relation to the hydrology and drainage patterns threshold, watershed hydrologic run-off calculations were performed for the 100-year storm event using the San Diego County Unit Hydrograph Program (SDUH). Additionally, an analysis of the 100-year flood level was conducted using the ACOE Hydrologic Engineering Centers River Analysis System (HEC-RAS) software (Appendix I).

The contributing watershed, which flows from south to north, includes the Boundary Creek subwatershed, Blue Angels Peak subwatershed, an unnamed subwatershed in Mexico, and portions of the Walker Canyon – Carrizo Creek subwatershed, with approximately 2/3 of the watershed

being located in Mexico. Rainfall for the Project area was determined to be 3 inches for the 100-year, 6-hour (P6) storm and 5 inches for the 100-year, 24-hour (P24) storm based on the San Diego County Hydrology Manual (County of San Diego 2003).

Contributing watershed soils were determined to be composed of approximately 65% Hydrologic Soil Group D (least-permeable), 29% Group A (most-permeable) and 1% Group B and 5% Group C. Major existing watershed land cover includes desert shrub/scrub, field crops, herbaceous grassland, and woody wetlands to the north. Project conditions following construction are estimated to increase impervious surface by approximately ~~1.9~~ 6.65 acres (of the 60,200 acres in the contributing watershed). Grading on the Project site would not change the overall drainage pattern. Stormwater runoff would flow overland across the Project site in a similar manner as it does in the pre-developed state.

The only element of the project that might locally alter drainage patterns and/or block or redirect flood flows is the perimeter fencing, which would cross ephemeral washes at a perpendicular angle, and potentially trap sediment and detritus during heavy rainfall. Sediment, detritus and/or other debris that becomes trapped on one side of the perimeter fencing during high flows could cause flow to back-up behind the impediment, potentially redirecting and/or concentrating flow outside the boundaries of currently mapped washes. It could result in additional scour and/or sedimentation that would not have otherwise occurred absent the perimeter fencing. For this reason, the impact of the Proposed Project (perimeter fencing element) with respect to alteration of drainage patterns **would be potentially significant (Impact HYD-1)**.

The 100-year inundation flood limit would remain unaltered by development of the Proposed Project (Appendix I). Flow and flooding of the 100-year storm was modeled using existing and Project conditions to compare the effects of construction of the Project facilities upon drainage and flooding. The current land cover consists primarily of undeveloped land. Project construction would involve clearing and grubbing of the existing vegetation within the 643-acre development footprint. Grading would be required throughout the development footprint. Grading is expected to be balanced on site, with approximately ~~264,000~~ 280,000 cubic yards of cut redistributed across the site. It was determined that the Project would add ~~1.9~~ 6.65 acres (~~0.0030~~ 0.1004 square miles) of impervious surface, an amount not large enough to significantly affect runoff. Impervious surface calculations are discussed further in Appendix U to the Final EIR. Grading on the Project site would not change the overall drainage pattern (Appendix I). There are no proposed site improvements to pass the 100-year storm, and thus the flow pattern of runoff would maintain its current state. For these reasons, the Proposed Project would not increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile and would not result in increased velocities and peak flow rates exiting the Project site.

Per the Construction General Permit (CGP), a ~~Storm Water Pollution Prevention Plan (~~SWPPP~~)~~ must be prepared and implemented during the construction phase. The SWPPP would include the Proposed Project risk determination, identification of site run-off sampling locations, discussion of potential site pollutants, minimum best management practices (BMPs), construction site monitoring plan and the water pollution control drawings. The exact location and type of temporary BMPs to be installed during construction would depend on site-specific conditions, the construction schedule, and proposed activities, all of which would be outlined in the construction SWPPP. Typical BMPs for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sandbags, construction road stabilization, and stabilized construction entrances. As the project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP would ensure that site-specific conditions are taken into consideration when developing the construction SWPPP, that personnel developing and implementing the construction SWPPP are qualified, and that BMPs are adequately monitored and maintained.

Permanent water quality BMPs to be installed and maintained on the Project site, per the County of San Diego's BMP Design Manual, are also identified in the Project Standard Storm Water Quality Management Plan (SWQMP) (Appendix K). Private development projects are required to implement measures to ensure that pollutant discharges and runoff flows from development are reduced to the maximum extent practicable; and receiving water quality objectives are not violated throughout the life of the Project. The Standard SWQMP includes details of construction and post-construction BMPs to address potential and anticipated water quality impacts. Control measures to reduce the discharge of stormwater pollutants to the maximum extent practicable would include:

- Implementation of site design and source control BMPs
- Inclusion of low-impact development features that conserve natural features, set back development from natural water bodies, minimize imperviousness, maximize infiltration, and retain and slow runoff
- Compliance with requirements for construction-phase controls on sediment and other pollutants
- Outlet protection (e.g., energy dissipaters and velocity dissipation devices)
- Inclusion of infiltration swales where feasible to reduce localized increases in peak runoff

Velocity dissipaters would include lining the outlet of ditches and swales with coarse rocks and boulders, to protect the natural banks from scour and increase the roughness of the channel to slow the velocity of flows exiting the site. In addition, infiltration swales may be installed within certain sub- basins within the Project site to accommodate small, localized increases in peak flow under a 100-year storm event. Further, the portions of the Project site not overlain by roads, inverters,

battery storage containers, the substation, and the Switchyard Facilities shall be reseeded with a native hydroseed mix to provide vegetation cover during Project operations in accordance with Project Design Feature **PDF-HYD-3**. These measures would be effective at minimizing the potential adverse effects of all Project-related increases in localized peak flow rates (i.e., around the base of solar panels).

Stormwater runoff would flow overland across the Project site after construction just as it does in the pre-developed state. The 100-year inundation flood limit and elevation would remain unaltered by implementation of the Proposed Project (Appendix I). As such, impacts to water surface elevation in a watercourse are **less than significant**.

The existing condition and proposed condition peak flows calculated for the 100-year, 24-hour storm event using the SDUH for each of the Project subbasins previously described indicates that there would not be an increase in peak discharge or peak velocities (Appendix I). As such, impacts that result from increased velocities and peak flow rates exiting the Project site that would cause flooding downstream or exceed the stormwater drainage system capacity are **less than significant**.

Because implementation of the Standard SWQMP (and the construction and operational BMPs described therein) is a condition of the major use permit, adverse impacts associated with hydrology would be **less than significant.**

Switchyard Facilities

The ~~switchyard~~ Switchyard Facilities ~~is~~ are located adjacent to the on-site collector substation. Consistent with the other solar facilities, the ~~switchyard~~ Switchyard Facilities would be subject to rainfall of 3 inches for the 100-year, 6-hour (P_6) storm and 5 inches for the 100-year, 24-hour (P_{24}) storm based on the San Diego County Hydrology Manual. The ~~switchyard~~ Switchyard Facilities would be located outside of the 100-year flood inundation limits. Drainage from the ~~switchyard~~ Switchyard Facilities would flow overland to an existing channel located north of the ~~switchyard~~ Switchyard Facilities. Energy dissipating devices would be used to prevent erosion where drainage from the ~~switchyard~~ Switchyard Facilities flows into the channel. Project conditions following construction of the ~~switchyard~~ Switchyard Facilities are estimated to increase impervious surface by approximately 0.1 acre (of the 60,200 acres in the contributing watershed). On-site grading would not change any of the existing flow patterns and stormwater runoff would flow overland across the Proposed Project site just as it does in the pre- developed state. The 100-year inundation flood limit would remain unaltered by the Proposed Project (Appendix I).

As previously described, a SWPPP would be implemented during the construction phase of the ~~switchyard~~ Switchyard Facilities that would include construction and permanent water quality BMPs to control erosion and sedimentation. Permanent water quality BMPs would be

installed and maintained on the ~~switchyard~~ Switchyard Facilities site, per the County of San Diego's BMP Design Manual, and would also be identified in the Project Standard SWQMP developed for the ~~switchyard~~ Switchyard Facilities. The SWQMP would include all BMPs and measures to ensure that pollutant discharges and runoff flows from development are reduced to the maximum extent practicable; and receiving water quality objectives are not violated throughout the life of the Project.

The ~~switchyard~~ Switchyard Facilities ~~has~~ have been located outside of the 100-year flood inundation limits which would remain unaltered as a result of Project construction. (Appendix I). As such, impacts to water surface elevation in a watercourse would be **less than significant** for the ~~switchyard~~ Switchyard Facilities.

The existing condition and proposed condition peak flows calculated for the 100-year, 24-hour storm event using the SDUH for each of the Project subbasins previously described indicates that there would not be an increase in surface runoff onsite (Appendix I). An individual analysis was not performed specifically for the ~~switchyard~~ Switchyard Facilities. Based on the Project-level analysis, impacts that result from increased velocities and peak flow rates exiting the ~~switchyard~~ Switchyard Facilities site that would cause flooding downstream or exceed the stormwater drainage system capacity are **less than significant**.

The drainage facilities constructed at the ~~switchyard~~ Switchyard Facilities would include armoring of surfaces and swales to protect critical infrastructure from erosion but not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.

Because implementation of the Standard SWQMP and the construction and operational BMPs would be provided for the ~~switchyard~~ Switchyard Facilities, and the ~~switchyard~~ Switchyard Facilities ~~has~~ have been designed to maintain existing drainage patterns, adverse impacts associated with hydrology and drainage patterns would be **less than significant**.

2.7.3.2 Flood Hazards

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Hydrology Guidelines (County of San Diego 2007a) apply to both the direct impact analysis and the cumulative impact analysis. These significance guidelines have been developed by the County to address question (d) in the CEQA Guidelines, Appendix G. No projects within the existing unincorporated County are likely to be inundated by a tsunami or seiche. Therefore, the County has not adopted guidelines for tsunami or seiche, and the project can be considered to have no impact with respect to seiche or tsunami.

A significant impact would result if:

- The project would result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM [Flood Insurance Rate Map], a County Flood Plain Map, or County Alluvial Fan Map, which would subsequently endanger health, safety, and property due to flooding. Flooding includes mudflows and debris flows.
- The project would place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following: a) alter the Lines of Inundation resulting in the placement of other housing in a 100-year flood hazard, or b) increase water surface elevation in a watercourse with a watershed equal to or greater than 1 square mile by 1 foot or more in height and, in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, 2/10 of a foot or more in height.

Question (d) of Appendix G, Hydrology and Water Quality, of the 2019 CEQA Guidelines determines whether the project would risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.

Analysis

Flood hazard analysis has not been conducted by FEMA for the Project site and thus, a federally established flood risk has not been determined. Flow and flooding related to the Project developed upon existing conditions were modeled in relation to the 100-year flood using the SDUH and HEC-RAS (Appendix I). On-site flood depths estimated for a 100-year flood event are greater than six feet for an area concentrated primarily between Stations 20 and 68, with an average depth of two to three feet across the portion of the Project site subject to flooding. Due to the lack of significant Project alterations of existing hydrological conditions as discussed above, Project development is not projected to substantially increase site nor downstream flooding as documented by the Drainage Study (Appendix I). Furthermore, the project does not propose housing, habitable structures, or public access that would place occupants or the general public at any increased risk of flooding. Thus, **no impacts** would occur.

The Project site is not downstream of a dam and thus would not be subject to inundation in the event of a dam failure; nor is the site subject to seiche or tsunami (due to the great distance to the ocean or large body of water). In addition, the Project site is not within any County-identified flood hazard areas (e.g., alluvial fan flooding area) (County of San Diego 2007a). Thus, **no impacts** would occur.

A Project Design Feature (**PDF HYD-1**), as described in Section 2.7.6, has been be incorporated into the Proposed Project design to ensure that solar panel structures, inverter/transformer platforms, battery storage containers and other electrical components would not be impediments to flow. This Project Design Feature would also avoid damage to Project components.

The only element of the Proposed Project that might locally alter drainage patterns and/or block or redirect flood flows is the perimeter fencing, which would cross ephemeral washes at a perpendicular angle, and potentially trap sediment and detritus during heavy rainfall. Sediment, detritus and/or other debris that becomes trapped on one side of the perimeter fencing during high flows could cause flow to back-up behind the impediment, potentially redirecting and/or concentrating flow outside the boundaries of currently mapped washes. Project Design Feature **PDF-HYD-4** describes the types of perimeter flood fencing that would be installed. ~~It~~ Installation of the perimeter fencing could result in additional scour and/or sedimentation that would not have otherwise occurred absent the perimeter fencing. For this reason, the impact of the Proposed Project (perimeter fencing element) with respect to altering drainage patterns and/or blocking or redirecting flood flows **would be potentially significant (Impact HYD-1)**.

Switchyard Facilities

The ~~switchyard~~ Switchyard Facilities would be located adjacent to the on-site collector substation on the solar facility outside the area identified as being subject to inundation under the 100-year, 24-hour storm. The ~~switchyard~~ Switchyard Facilities site covers approximately ~~3.2~~ 8.1 acres. On-site flood depths estimated for a 100-year flood event are greater than six feet for an area concentrated primarily between Stations 20 and 68, with an average depth of two to three feet across the site. The ~~switchyard~~ Switchyard Facilities has been specifically located outside of areas on the Project site subject to inundation. Based on the Project-level analysis, the ~~switchyard~~ Switchyard Facilities would not result in significant alterations of existing hydrological conditions. The ~~switchyard~~ Switchyard Facilities' development is not projected to increase site nor downstream flooding. As described in **PDF-HYD-1**, the components of the ~~switchyard~~ Switchyard Facilities have been located above or outside of the 100- year inundation flood limit, and on-site electrical equipment would be placed above or outside this limit. No habitable structures are proposed for the ~~switchyard~~ Switchyard Facilities. The ~~switchyard~~ Switchyard Facilities are not downstream of a dam and thus would not be subject to inundation in the event of a dam failure; nor are the ~~switchyard~~ Switchyard Facilities site subject to seiche or tsunami (due to the great distance to the ocean or large body of water). In addition, the ~~switchyard~~ Switchyard Facilities are not within any County-identified flood hazard areas (e.g., alluvial fan flooding area) (County of San Diego 2007a). Therefore, the ~~switchyard~~ Switchyard Facilities component of the Project would not result in the alteration of a floodway or an increase flood depth, nor would it place any habitable structures nor unanchored impediments to flow in a 100-year floodplain area. Therefore, with the implementation of **PDF-HYD-1** the ~~switchyard~~ Switchyard Facilities impacts would be **less than significant**.

2.7.3.3 Surface Water and Groundwater Quality

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Surface Water Quality Guidelines and Groundwater Resources Guidelines (County of San Diego 2007b, 2007c) apply to both the direct impact analysis and the cumulative impact analysis. The following significance guidelines have been developed by the County to address question (a) in the CEQA Guidelines, Appendix G. A significant impact would result if:

- The project is a development project listed in County of San Diego, Code of Regulatory Ordinances (Regulatory Ordinances), Section 67.804(g), as amended and would not comply with the standards set forth in the County Stormwater Standards Manual, Regulatory Ordinances Section 67.813, as amended, or the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.
- The project would drain to a tributary of an impaired water body listed on the CWA Section 303(d) List, and would contribute substantial additional pollutant(s) for which the receiving water body is already impaired.
- The project would drain to a tributary of a drinking water reservoir and would contribute substantially more pollutant(s) than would normally run off from the project site under natural conditions.
- The project would contribute pollution in excess of that allowed by applicable state or local water quality objectives or would cause or contribute to the degradation of beneficial uses.
- The project would not conform to applicable federal, state, or local "Clean Water" statutes or regulations including but not limited to the federal Water Pollution Control Act; California Porter-Cologne Water Quality Control Act; and the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance.
- The project would exceed the primary state or federal maximum contaminant levels in groundwater for applicable contaminants.

Question (a) of Appendix G, Section X. Hydrology and Water Quality, of the 2019 CEQA Guidelines determines whether the project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Analysis Construction

Construction of the Project would have the potential to result in substantial additional sources of polluted runoff that would have short-term impacts on surface water quality through activities such

as clearing and grading, stockpiling of soils and materials, concrete pouring, painting, and asphalt surfacing. Typically, solar facility construction includes equipment such as bulldozers, graders, water trucks, rollers, backhoe/trenching machine, excavator, heavy-duty rock trench, truck-mounted drilling rig, concrete trucks/concrete pumps, cranes, dump trucks, flatbed and low-bed trucks, pickup trucks, small hydraulic cranes, and rough-terrain cranes/forklifts. Pollutants associated with these construction activities that would substantially degrade water quality include soils, debris and other materials generated during clearing, fuels and other fluids associated with the equipment used for construction, paints, concrete slurries, asphalt, and other hazardous materials.

Pollutants associated with construction would degrade water quality if they are mobilized by stormwater or non-stormwater flows into surface waters. Sediment is often the most common pollutant associated with construction sites because of the associated earth-moving activities and areas of exposed soil. Sediment that is washed off site can result in turbidity in surface waters, which can impact aquatic species. In addition, when sediment is deposited into receiving water it can smother species, alter the substrate and habitat, and alter the drainage course. Hydrocarbons such as fuels, asphalt materials, oils, and hazardous materials such as paints and concrete slurries discharged from construction sites could also impact aquatic plants and animals downstream. Debris and trash could be washed into existing storm drainage channels to downstream surface waters and could impact wildlife and aesthetic value. However, as stated in Section 2.7.1 Existing Conditions, the average annual precipitation for the Project area is low at 9.64 inches per year. Therefore, runoff from the Project site is anticipated to be minimal during construction and would likely be concentrated in the ephemeral Boundary Creek, where planned construction is minimal. Though it is recognized that infrequent floods have the potential to inundate portions of the Project site.

Under the NPDES CGP permit program, SWPPPs are prepared and the BMPs identified in the SWPPPs are implemented for construction sites greater than 1 acre to reduce the occurrence of pollutants in surface water. In compliance with applicable construction permits, the Project would implement BMPs that minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff.

The Project's grading plans shall include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide CGP), and permanent BMPs to be installed and maintained (per the County SWQMP). The exact location and type of temporary BMPs to be installed during construction depend on site-specific conditions, construction schedule, and proposed activities, all of which are outlined in the construction SWPPP that has been prepared for the Project. Typical temporary BMPs used for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sand bags, construction road stabilization, and stabilized construction entrances. As the Project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of

reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP ensure that site-specific conditions are taken into consideration when developing construction SWPPPs, that personnel developing and implementing construction SWPPPs are qualified, and that BMPs are adequately monitored and maintained.

As stated above, private development projects are required to implement permanent water quality BMP measures to ensure that pollutant discharges and runoff flows from development are reduced to the maximum extent practicable, and receiving water quality objectives are not violated throughout the life of the Project. The Proposed Project's SWQMP would include details of construction and post- construction BMPs to address potential and anticipated water quality impacts. By implementing the pollution control measures to be included in the SWPPP and SWQMP, as well as the appropriate monitoring program included there within, the Proposed Project would limit the possibility of contributing contaminants that might exceed local water quality objectives or contribute to the degradation of beneficial uses. The Project would comply with County Stormwater Standards Manual, Regulatory Ordinances Section 67.813, as amended, and the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.

Impaired Water Body

As discussed in Section 2.7.2, Regulatory Setting, there are no impaired water bodies in the vicinity of the Project site. However, the Project is within the watershed of the Salton Sea, which is an impaired water under CWA Section 303(d). CWA Section 303(d) impairments associated with the Salton Sea include chloride, low dissolved oxygen, nitrogen/ammonia, toxicity, arsenic, nutrients, salinity, chlorpyrifos, DDT, and enterococcus. These are impairments typically associated with agricultural activities, ranching, and/or surface mining (SWRCB 2016). Stormwater runoff and non-stormwater discharges associated with construction and operation of the Project are unlikely to cause or contribute to water quality impairments related to these impairments as listed on the CWA 303(d) List of Water Quality Limited Segments.

Conceptually, the Project site is hydrologically connected to the Salton Sea because it is within its watershed. However, due to the arid climate and the site's distance away from the Salton Sea (approximately 40 miles), stormwater runoff from the Project site is unlikely to reach these features before infiltrating into the ground or evaporating. The Project would also not likely contribute to sediment loads since the stormwater and authorized non-stormwater discharges from the Project site would represent a negligible fraction of the watershed. Release of trash, sediment, and other construction-related pollutants from the Project site would be controlled and minimized through preparation and implementation of a construction SWPPP and a Standard SWQMP, as previously described.

Drinking Water Reservoirs

The Project site does not drain into a drinking water reservoir. As discussed above, the Project would implement measures to minimize adverse effects to water quality runoff exiting the Project site. Regardless, the amount of water discharged from the Project site in response to local rainfall is negligible when considered in the context of the total discharge from the entire watershed. Therefore, the Project's contribution of pollutants to a hypothetical drinking water reservoir, if any, would not be substantial enough to exceed primary state or federal maximum contaminant levels.

Stormwater Quality

As discussed under Section 2.7.2, the "Regional Hydrology and Drainage" subheading, a range of state and local water quality regulations and ordinances apply to the Project that require the applicant to submit and implement a Project-specific SWPPP during construction and a Standard SWQMP for operation and maintenance activities.

Because the Project would consist of more than one acre, the applicant would be required to submit a Notice of Intent to the SWRCB to obtain approval to carry out construction activities under the CGP. This permit would include a number of design, management, and monitoring requirements for the protection of water quality and the reduction of construction-phase impacts related to stormwater (and some non-stormwater) discharges. Permit requirements would include preparation of a SWPPP, implementation and monitoring of BMPs, implementation of best available technology for toxic and non-conventional pollutants, implementation of best conventional technology for conventional pollutants, and periodic submittal of performance summaries and reports to the Colorado River RWQCB. The SWPPP would apply to the Project as a whole and would include reference to the major construction areas, temporary materials staging areas, access roads, and work associated with generation tie-line facilities. BMPs to be implemented in accordance with the SWPPP and the Standard SWQMP would address alteration of drainage patterns, velocity and peak flow rates, and erosion control.

Non-stormwater Discharges

Non-stormwater discharges during construction would include periodic application of water for dust control. Since the practice of dust control is necessary during windy and dry periods to prevent wind erosion and dust plumes, water would be applied in sufficient quantities to wet the soil, but not so excessively as to produce runoff from the construction site. Water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. This means that water applied for dust control is unlikely to appreciably affect groundwater or surface water features, and thus would not cause or contribute to exceedances of water quality objectives contained in the Basin Plan. The proposed use of water from on-site Well #2 and #3 for dust control and grading

would occur on an as-needed basis. The majority of the demand would be required during site clearing and grading. The Project is not classified as facility requiring coverage under the General Permit for Storm Water Discharges Associated With Industrial Activities.

Operation and Maintenance

During operations and maintenance activities, non-stormwater discharges would mainly include solar panel washing as well as occasional water application for dust suppression and irrigation of proposed landscaping. As previously described, water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. Similarly, water applied for panel washing would be sufficient to remove accumulated dust from the Project panels. At a rate of 3 AF, four times per year, applied over the solar facility's approximate 643 developed acres, however, this would amount to less than a thousandth of an inch of wash water that might reach the soil. Such a small quantity would most likely not be sufficient to infiltrate to groundwater and would, instead, evaporate from the wetted soil. Landscaping would include native and drought-resistance plants, irrigated by an automated drip irrigation system to limit excess water use. Thus, water applied for panel washing, dust control and irrigation is unlikely to appreciably affect groundwater or surface water features, and thus would have little to no potential to cause or contribute to exceedances of water quality objectives.

The Standard SWQMP prepared as part of the Project includes a description of these activities, their potential to generate non-stormwater discharges, and measures to ensure compliance with the Colorado River Basin Plan, and would be part of obtaining required coverage under WDRs. Therefore, these activities would not violate Basin Plan standards, or otherwise cause a significant threat to water quality.

U.S. Army Corps of Engineers Section 404 Waters

Issues regarding land disturbance within jurisdictional waters and wetlands (i.e., requiring an ACOE Section 404 permit) are discussed in Section 2.3, Biological Resources, of this EIR.

Conclusion

For the previously stated reasons, the Proposed Project would not violate applicable water quality objectives or WDRs, and would comply with all federal, state, and local laws addressing water quality in stormwater and non-stormwater discharges. Therefore, the Project would not exceed the significance thresholds identified earlier, and impacts would be **less than significant**.

Switchyard Facilities

Construction of the ~~switchyard~~ Switchyard Facilities would have the potential to result in substantial additional sources of polluted runoff that would have short-term impacts on surface water quality through activities such as clearing and grading, concrete pouring, painting, and asphalt surfacing. Construction equipment would include bulldozers, graders, water trucks, rollers, backhoe/trenching machine, excavator, heavy-duty rock trench, truck-mounted drilling rig, concrete trucks/concrete pumps, cranes, dump trucks, flatbed and low-bed trucks, pickup trucks, small hydraulic cranes, and rough-terrain cranes/forklifts. Pollutants associated with these construction activities that would substantially degrade water quality include soils, debris and other materials generated during clearing, fuels and other fluids associated with the equipment used for construction, paints, concrete slurries, asphalt, and other hazardous materials. Pollutants associated with construction would degrade water quality if they are washed by stormwater or non-stormwater into surface waters. Sediment that is washed off site can result in turbidity in surface waters, which can impact aquatic species. In addition, when sediment is deposited into receiving water it can smother species, alter the substrate and habitat, and alter the drainage course. Hydrocarbons such as fuels, asphalt materials, oils, and hazardous materials such as paints and concrete slurries discharged from construction sites could also impact aquatic plants and animals downstream. However, as stated in Section 2.7.1, Existing Conditions, the average annual precipitation for the Project area is 9.64 inches per year. Therefore, runoff from the ~~switchyard~~ Switchyard Facilities site is anticipated to be minimal during construction and would be concentrated in the ephemeral Boundary Creek, where planned construction is minimal.

The ~~switchyard~~ Switchyard Facilities ~~site is~~ are included as a component of the SWPPP prepared for the Project site. The SWPPP identifies all BMPs for the construction that would be implemented to minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff.

The ~~switchyard~~ Switchyard Facilities ~~site is~~ are also included in the grading plans prepared for the larger Project site. The grading plans include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide CGP), and permanent BMPs to be installed and maintained (per the County SWMP). Permanent water quality BMP measures would ensure that the development of the ~~switchyard~~ Switchyard Facilities ~~component~~ would not produce pollutant discharges and runoff flows to the maximum extent practicable, and receiving water quality objectives are not violated throughout the life of the Project. The Proposed Project's SWQMP would include details of construction and post-construction BMPs to address potential and anticipated water quality impacts on the ~~switchyard~~ Switchyard Facilities site.

As discussed in Section 2.7.2, Regulatory Setting, there are no impaired water bodies in the vicinity of the Project site. However, the ~~switchyard~~ Switchyard Facilities site is within the watershed of the Salton Sea, which is an impaired water under CWA Section 303(d). Stormwater runoff and non-stormwater discharges associated with construction and operation of the ~~switchyard~~ Switchyard Facilities component of the Project are unlikely to cause or contribute to water quality impairments related to these impairments as listed on the CWA 303(d) List of Water Quality Limited Segments. Also, due to the arid climate and the site's distance away from the Salton Sea (approximately 40 miles), stormwater runoff from the site is unlikely to reach these features before infiltrating into the ground or evaporating.

The ~~switchyard~~ Switchyard Facilities site does not drain into a drinking water reservoir and would implement measures to minimize adverse effects to water quality runoff exiting the site. Therefore, the ~~switchyard's~~ Switchyard Facilities' contribution of pollutants to a hypothetical drinking water reservoir, if any, would not be substantial.

As discussed above, the applicant would submit and implement the project-specific SWPPP during construction and a Standard SWQMP for operations and maintenance activities for the Proposed Project. The ~~switchyard~~ Switchyard Facilities component of the Project is included in the SWPPP and Standard SWQMP and would be part of the required Notice of Intent to the SWRCB that the applicant would submit to obtain approval to carry out construction activities under the CGP. This permit would include a number of design, management, and monitoring requirements for the protection of water quality and the reduction of construction-phase impacts related to stormwater (and some non-stormwater) discharges, implementation and monitoring of BMPs, implementation of best available technology for toxic and non-conventional pollutants, implementation of best conventional technology for conventional pollutants, and periodic submittal of performance summaries and reports to the SWRCB. BMPs to be implemented in accordance with the SWPPP and the Standard SWQMP would address alteration of drainage patterns, velocity and peak flow rates, and erosion control ~~on~~ for the ~~switchyard~~ Switchyard Facilities ~~site~~.

Non-stormwater discharges during construction would include periodic application of water for dust control. Water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. This means that water applied for dust control is unlikely to appreciably affect groundwater or surface water features, and thus would have little to no potential to cause or contribute to exceedances of water quality objectives contained in the Basin Plan. The proposed use of water from on-site Wells #2 and #3 for dust control and grading would occur on an as-needed basis. The majority of the demand would be required during site clearing and grading.

During operational and maintenance activities, non-stormwater discharges would include occasional water application for dust suppression. As previously described, water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. The Standard

SWQMP prepared for the Proposed Project would include the ~~switchyard~~ Switchyard Facilities component of the Project and would include a description of these activities, their potential to generate non-stormwater discharges, measures to ensure compliance with the Colorado River Basin Plan, and would be part of obtaining required coverage under WDRs. Therefore, these activities would not violate Basin Plan standards, or otherwise cause a significant threat to water quality. The impacts would be **less than significant**.

2.7.3.4 Groundwater Resources

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Groundwater Resources Guidelines (County of San Diego 2007c) apply to both the direct impact analysis and the cumulative impact analysis. The following significance guidelines have been developed by the County to address question (b) in the CEQA Guidelines, Appendix G.

A significant impact would result if:

- The project would reduce the level of groundwater in storage to 50% or less as a result of groundwater extraction, as shown using a soil moisture balance, or equivalent analysis, conducted using a minimum of 30 years of precipitation data, including drought periods.
- For wells installed within an alluvial aquifer, the project would result in a decrease in water level of 5 feet or more in off-site groundwater wells after a 5-year projection of drawdown. If site-specific data indicates alluvium exist which substantiate a saturated thickness greater than 100 feet in off-site wells, a decrease in saturated thickness of 5% or more in the off-site well(s) would be considered a significant impact.
- To evaluate impacts to groundwater-dependent habitat, the project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.
- Question (b) of Appendix G, Hydrology and Water Quality, of the 2019 CEQA Guidelines determines whether the project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Groundwater resources for proposed projects requiring a potable water source must not exceed the Primary State or Federal maximum contaminant levels for applicable contaminants.

The County's significance guidelines applicable to residential projects or subdivision projects involving multiple owners are not included in the analysis below because the Project is a nonresidential project. Furthermore, the Project does not require a potable water source; therefore,

the potable groundwater quality guidelines are not applicable. Finally, the Jacumba Valley Groundwater Basin has not been demonstrated to be in overdraft condition; therefore, significance thresholds related to groundwater overdraft conditions are not applicable to the Proposed Project.

Analysis

The total water demand for Project construction is expected to be approximately ~~140~~ 141.4 AF. Annual Project operating demand, post-construction, would be up to 11 acre-feet per year (AFY), with an operational life of 38 years for purposes of the water demand analysis only. As discussed in Chapter 1 of the EIR, the operational life of the Proposed Project under the Major Use Permit is estimated to be 35 years. Additionally, Project decommissioning would require 50 AF at the end of the useful life for dust abatement, equipment washing and compaction.

The source of Project water would be on-site groundwater Well #2 and Well #3 (see Figure 9, Onsite and Offsite Wells in the Groundwater Investigation Report), which produce groundwater from the alluvial aquifer within the Jacumba Valley Groundwater Basin, as discussed in the Project's Groundwater Resources Investigation (Appendix J). Water-bearing formations in the Jacumba Valley include alluvium and the underlying Table Mountain Formation (DWR 2016). The alluvial material consists of unconsolidated gravel, sand, and clay deposits; and the Table Mountain Formation consists of medium to coarse-grained sandstone and conglomerate overlying crystalline bedrock (DWR 2004; Swenson 1981). The main sources of recharge to the Basin are stream recharge, rainfall recharge, and applied water return flows. Recharge from runoff in Flat Creek and Boundary Creek was calculated to be approximately 2,700 AFY by Swenson (1981).

JCSD relies solely on groundwater as a source of water supply and is responsible for the community of Jacumba's domestic water system, which currently provides service to approximately 239 homes and commercial properties. At present, JCSD's potable water system has two existing domestic water supply wells in use, Well #7 and Well #8. Based on the number of connections and an estimated 0.5 AFY per connection, JCSD potable water demand is estimated to be 119.5 AFY. This estimate roughly coincides with average historical water demand from 1991 to 1995 (average 119 AFY), and conservatively overestimates more recent production data from 2013, 85 AF. In addition to JCSD potable water demand, the Groundwater Resources Investigation assumed a consumptive use of 3 AFY for unidentified private domestic wells located in the basin (Appendix J).

JCSD also supplies non-potable water for commercial sale. Historically, JCSD has supplied non-potable water from Well #6, a fractured rock well not screened in the Jacumba Valley alluvium. Beginning in 2016, JCSD began supplying non-potable water from the Highland Center Well and the Park Well, both screened in the Jacumba Valley alluvium. Maximum annual groundwater extraction from the Jacumba Valley alluvial aquifer by JCSD for non-potable water use is 53.6 AFY.

Based on a constant rate pumping test conducted by Dudek in December 2018, the estimated production rate for Well #2 is approximately 317 gpm (Appendix J). A constant rate pumping test conducted by Geosyntec in 2012 estimated the production rate for Well #3 at approximately 350 gpm (Geosyntec 2012).

County Threshold of 50% Reduction in Groundwater Storage

An updated estimate of groundwater in storage was completed, based on previous work conducted by Roff and Fanzone (1994) and Swenson (1981). The updated analysis including methodology, calculations and results are presented in greater detail in the Groundwater Resources Investigation Report for the Proposed Project prepared by Dudek in 2020 (Appendix J to this EIR). Based on these calculations in Appendix J, current groundwater in storage within the Jacumba Valley alluvial aquifer is estimated to be 9,005 AF. This falls between the estimates of Roff and Fanzone (2004; 9,600 to 16,000 AF) and Swenson (1981; 3,200 to 6,400 AF). This shows that, even in a year with no recharge, the total depletion in groundwater in storage as a result of Project construction would be 1.6% of total storage, which is substantially less than the 50% reduction in storage County threshold. The maximum estimated demand of all known groundwater extractors, including the Proposed Project, from the alluvial aquifer is ~~442~~ 443.4 AF, or 4.9% of estimated storage. This would be a one-time amount, which includes the construction water for the Proposed Project. Future ongoing water demand from the alluvial aquifer is estimated to be only 30.3 AFY following Project construction since the completion of JCSD Wells No. 7 and 8 which will draw from the fractured rock aquifer.

Assuming a Project water use horizon of 40 years (1 year of construction, 38 years of operations and maintenance, and 1 year of decommissioning), the Proposed Project would use ~~619~~ 620.4 AF of water. This equates to a 6.~~8~~9% reduction in storage from Project groundwater extraction over 40 years, conservatively assuming no recharge to the aquifer, which would not exceed the County threshold of 50% reduction in groundwater storage (Appendix J).

Well Interference and Groundwater-Dependent Ecosystems

A pumping rate of 317 gpm from the Well #2 aquifer test and of 350 gpm from the Well #3 aquifer test were used to predict Project drawdown using each well's maximum pumping rate (Appendix J) These pumping rates equate to maximum annual production of approximately 511 AFY from Well #2 and 564 AFY from Well #3, which are significantly greater than the Project water demand of ~~140~~ 141.4 AF of water during Project construction (1 year), 11 AFY for ongoing operations and maintenance (conservatively assumed to be 38 years), and 50 AF for decommissioning and dismantling (1 year).

To assess the potential for Project groundwater extraction to draw down the groundwater table to the detriment of nearby groundwater-dependent habitat, or to cause well interference, projected

drawdown within a 0.5-mile radius of Well #2 and Well #3 was estimated using the Theis equation. Periods of 90 days, 1 year, and 5 years were used to calculate the potential long-term impacts to nearby groundwater dependent habitats and domestic and public pumping wells. Pumping rates for each well were adjusted to reach total Project construction demand at the end of 90 days, 1 year, and 5 years.

Based on the drawdown calculations performed, drawdown at the closest off-site groundwater well to Well #2 , the Highland Center Well, after 90 days, 1 year, and 5 years of pumping is predicted to be 1.0~~8~~9 feet, 0.34 feet, and 0.08 feet, respectively. Drawdown at the nearest groundwater dependent habitat to Well #2 (located approximately 1,820 feet south) after 90 days, 1 year, and 5 years of pumping is predicted to be 1.0~~8~~9 feet, 0.34 feet, and 0.08 feet, respectively.

No groundwater wells are located within a 0.5-mile radius of Well #3. The nearest off-site production well is Well KM, located 3,548 feet (greater than 0.5 miles) southwest of Well #3. The projected drawdown at Well KM from Well #3 pumping after 90 days, 1 year, and 5 years is predicted to be 0.15 feet, 0.17 feet, and 0.08 feet, respectively. Drawdown at the nearest groundwater-dependent habitat to Well #3 (located approximately 140 feet west) after 90 days, 1 year, and 5 years of pumping is predicted to be 3.66 feet, 0.17 feet, and 0.08 feet, respectively.

Current groundwater levels near Well #2 and Well #3 are at least 12 feet higher than the historical low groundwater level recorded in the Jacumba Valley alluvial aquifer (see Appendix J, specifically Exhibit 2, Well K3). Drawdown related to pumping from Well # 2 and Well #3 is not expected to exceed 3 feet from the historic low.

Based on these methods, the effects of Project pumping on nearby groundwater-dependent vegetation and off-site domestic and public pumping wells are anticipated to be less than significant. Project pumping is not anticipated to adversely impact nearby groundwater-dependent vegetation or cause well interference. Additionally, the analysis performed is a conservative approach, since it likely overestimated predicted drawdown. This is because the calculations assumed no rainfall recharge to occur over the time periods tested. Recharge would offset groundwater-level decline related to groundwater extraction during periods of above-average annual rainfall (non-drought conditions).

Since actual conditions during groundwater extraction may vary from theoretical analysis, a Groundwater Monitoring and Mitigation Plan (GMMP) is a typical condition of approval for by the County for utility scale renewable projects that are groundwater dependent. The GMMP ensures that pumping does not significantly impact existing well users and groundwater dependent habitat. Thus, the Proposed Project includes a GMMP as project design feature **PDF-HYD-2** (see Section 2.7.6 and Appendix A of the Groundwater Investigation Report). With the implementation of **PDF-HYD-2**, the total volume and rate of groundwater extracted from Well #2 and Well #3

would be monitored and documented throughout the duration of the Proposed Project pumping. The implementation of **PDF-HYD-2** would also provide for monitoring of the overall groundwater level in the Proposed Project area.

Groundwater Conclusion

During operation of the Project, water demand would not exceed the threshold of 50% reduction in groundwater storage, nor would the Project result in well interference above significance criterion or significantly impact groundwater-dependent ecosystems. In addition, a GMMP has been prepared and included in the Proposed Project as **PDF-HYD-2**. The GMMP details groundwater thresholds for off-site well interference and groundwater-dependent habitat, so with the implementation of **PDF-HYD-2**, groundwater-level monitoring would be performed in several wells to record groundwater levels during groundwater extraction. Therefore, impacts to groundwater as a result of the Proposed Project would be **less than significant**.

Switchyard Facilities

The ~~switchyard~~ Switchyard Facilities component of the Proposed Project would be constructed along with the other components of the Project; therefore, this component is part of the approximately ~~140~~ 141.4 AF that would be required for the Project's construction. As discussed above, the Groundwater Resources Investigation Report (Appendix J) found that the current groundwater in storage within the Jacumba Valley alluvial aquifer is estimated to be 9,005 AF, and that the total depletion in groundwater in storage as a result of the Proposed Project's construction would be substantially less than the 50% reduction in storage County threshold even assuming no recharge to the aquifer.

Annual ~~switchyard~~ Switchyard Facilities operating demand, post-construction, would be approximately 0.01 AF of water annually, which is such a minimal amount of AF that it would not exceed the County threshold of 50% reduction in groundwater storage assuming no recharge to the aquifer. The pumping rates from onsite wells equate to maximum annual production of approximately 511 AFY from Well #2 and 564 AFY from Well #3, which are significantly greater than the ~~switchyard~~ Switchyard Facilities' annual water demand of 0.01 AF of water for ongoing operations and maintenance. In addition, the effects of ~~switchyard's~~ Switchyard Facilities' operation on nearby groundwater-dependent vegetation and off-site domestic and public pumping wells is so minimal that it is anticipated that it would not interfere or impact groundwater-dependent ecosystems. Therefore, impacts to groundwater as a result of the proposed ~~switchyard~~ Switchyard Facilities component of the Project would be **less than significant**.

2.7.3.5 Water Planning

Guidelines for the Determination of Significance

The 2019 updates of the CEQA Guidelines contain an additional threshold in the Hydrology and Water Quality section that did not exist at the time of the establishment of the County of San Diego Guidelines. Thus, for the purpose of this EIR, question (e) of Appendix G of the 2019 CEQA Guidelines shall be applied to both the direct impact analysis and the cumulative impact analysis. Question (e) of Appendix G, of the 2019 CEQA Guidelines determines whether the Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Analysis

The Project site overlies the Jacumba Valley Groundwater Basin, DWR Basin No. 7-47 (DWR 2016). DWR, however, has designated the Basin as very low priority (DWR 2019). Thus, the Basin and groundwater extracted from the Basin would not be subject to a groundwater sustainability plan, mandated by the Sustainable Groundwater Management Act for DWR basins determined to be of medium to high priority.

As noted above, the Project is not expected to violate any water quality standards and measures would be taken both during construction and throughout operation to prevent potential contaminants from leaving the site by runoff. Through compliance with RWQCB requirements and a NPDES permit, implementation of a SWPPP, and coordination with the ACOE for any applicable permits, the Project would not conflict with or obstruct implementation of the Colorado River Basin Water Quality Control Plan (Basin Plan). Impacts would be **less than significant**.

Switchyard Facilities

The ~~switchyard~~ Switchyard Facilities component of the Project overlies the Jacumba Valley Groundwater Basin, DWR Basin No. 7-47 (DWR 2016). As discussed above, DWR has designated the Basin as very low priority (DWR 2019). Thus, the Basin and groundwater extracted from the Basin would not be subject to a groundwater sustainability plan, mandated by the Sustainable Groundwater Management Act for DWR basins determined to be of medium to high priority. The ~~switchyard~~ Switchyard Facilities component of the Project is not expected to violate any water quality standards and measures would be taken both during construction and throughout operation to prevent potential contaminants from leaving the site by runoff. Through compliance with RWQCB requirements and a NPDES permit, and implementation of a SWPPP, the ~~switchyard~~ Switchyard Facilities would not conflict with or obstruct implementation of the Colorado River Basin Water Quality Control Plan (Basin Plan). Impacts from the ~~switchyard~~ Switchyard Facilities would be **less than significant**.

2.7.4 Cumulative Impact Analysis

The geographic scope of cumulative effects on hydrology and water quality differs somewhat depending on the issue being addressed. The geographic scope for surface water quality and hydrology is typically watershed-based, whereby projects contributing flow to the same water bodies as the Proposed Project would be considered. For groundwater impacts, the geographic scope of cumulative effects would be the groundwater aquifer affected by the Proposed Project.

Project impacts to both surface water and groundwater resources were found to be less than significant. In the cumulative context, for wells within the same sub-basin, each well's extraction adds to the cumulative drawdown of the basin as a whole, even if the volume relative to total basin storage is negligible or minor. Projects considered in the cumulative scenario include other known utility-scale renewable energy projects supplied non-potable water by JCSD.

2.7.4.1 Hydrology, Drainage Patterns, and Water Quality

In the absence of regulatory controls, the primary impact of the Proposed Project in the cumulative scenario would be alteration of the natural hydrology of the region through increases in the area covered by impervious surfaces, development of access driveways and utility corridors, and the release of non-point-source pollutants (e.g., motor fuels, trash, sediment). The typical impact of substantial increases in impervious surfaces is that peak flows within the watershed's drainages are greater in magnitude, shorter in duration, and more responsive to storm events, since a greater portion of precipitation is carried by surface runoff rather than percolated into the soil. New roads and/or transmission line corridors can often block or redirect stormwater flows if improperly designed. These impacts are undesirable with respect to flood hazards, water quality, and habitat quality.

However, the Drainage Report (Appendix I in the Draft EIR) determined that the Proposed Project would produce approximately 1.9 acres (0.0030 square miles) of impervious area. Subsequent to public review of the Draft EIR, the impervious area calculation has been updated. The total impervious area is 6.65 acres (0.1004 square mile). The impervious area would include the proposed photovoltaic tracker pile areas, inverter/transformer skid platforms, the battery energy storage areas, ~~and~~ the additional substation and switchyard pads, and the all-weather access driveways/improvements. This represents a net gain of 4.75 acres from the total impervious area described in the Draft EIR. ~~The proposed all weather access road would remain pervious.~~ The ~~Drainage Report~~ Draft EIR determined that ~~the additional~~ an impervious area of 1.9 acres represents 0.0027% of the watershed that is contributing to the stream passing through the ~~proposed~~ Project site. An impervious area of 6.65 acres represents 0.09% of the watershed. Therefore, ~~T~~this increase in impervious area would have negligible impact on the existing watershed as a whole and constitutes a small enough area that would not change the overall drainage pattern. The water runoff would flow overland across the Project site in a similar manner

as it does in the pre-developed state. Thus, the additional impervious area would have minimal to no impact on existing watershed hydrologically ~~(Appendix I)~~. Appendix U of the Final EIR provides further discussion of the impervious area.

In addition, the Proposed Project, along with other projects occurring in the area, would be required to comply with applicable federal, state, and local water quality regulations. The Proposed Project, along with other projects of greater than one acre (which includes most of the projects in the cumulative scenario), would be required to obtain coverage under the NPDES CGP, which requires project proponents to identify and implement stormwater BMPs that effectively control erosion and sedimentation and other construction-related pollutants. Further, nearly all projects identified in the cumulative scenario would meet the definition of "new development and redevelopment projects" under the San Diego County MS4 Permit. Such projects are required to implement site design; source control; and, in some cases, treatment control BMPs to control the volume, rate, and water quality of stormwater runoff from the Project during long-term operations. This is implemented locally by the County by requiring new development projects to submit and implement a SWQMP. In addition, the only potential impact caused by the Proposed Project (potential alteration of drainage patterns and flood flows by the perimeter fence)) is localized in nature and would not compound any other watershed impacts.

Therefore, the hydrology, drainage patterns and water quality impacts **would not be cumulatively considerable**.

2.7.4.2 Flood Hazards

Flood hazard analysis has not been conducted by FEMA for the Project site, nor much of the surrounding areas, and thus, a federally established flood risk has not been determined. The Project site is not located within a 100-year floodplain area or other special flood hazard area as shown on a Flood Insurance Rate Map, a County Flood Plain Map, or County Alluvial Fan Map. In addition, no dams located upstream of the Proposed Project site nor surrounding project sites have been identified and thus these projects would not be subject to inundation in the event of a dam failure. Also, these sites would not be subject to seiche or tsunami (due to the great distance to the ocean or large body of water).

Flood hazard of the Proposed Project was evaluated in the Drainage Report (Appendix I) using SDUH and HEC-RAS to estimate on-site flood inundation limits and depths for a 100-year flood 24-hour storm. The report determined that depths for a 100-year flood event are greater than six feet for an area concentrated primarily between Stations 20 and 68, with an average depth of two to three feet across the portion of the Project site subject to flooding. The Proposed Project would implement **PDF-HYD-1** which avoids localized impediments to flow and damage to Project components by placing on-site electrical equipment above or outside the limit of the 100-year flood

hazard zone. Therefore, with the implementation of **PDF-HYD-1**, the Proposed Project would not contribute to any cumulative alteration of a floodway or increase flood depths and would not place any habitable structures nor unanchored impediments to flow in a 100-year floodplain area. In addition, the only potential impact caused by the Proposed Project (potential alteration of drainage patterns and flood flows by the perimeter fence)) is localized in nature and would not compound any other watershed impacts. Therefore, the Proposed Project, along with other projects occurring in the area, would not cumulatively contribute to the alteration of a floodway, nor increased flood depth, and impacts **would not be cumulatively considerable**.

2.7.4.3 Surface Water and Groundwater Quality

The various NPDES permits required are aimed at maintaining the beneficial uses of the water bodies discussed in the RWQCB Basin Plan, and meeting water quality objectives associated with specific pollutants of concern. Because adverse water quality and major hydrologic alterations are linked to large-scale development projects and industrial and agricultural land uses, the provisions within the various NPDES permits seek to address cumulative conditions. Additionally, depending on the location and nature of individual projects in the cumulative scenario, they would be required to comply with County ordinances, as described in the Regulatory Setting above. These federal, state, and local regulations would ensure that the Proposed Project's impacts to hydrologic resources and water quality **would not be cumulatively considerable**.

2.7.4.4 Groundwater Resources

According to the County Groundwater Guidelines, off-site well interference would be considered a significant impact if, after a 5-year projection of drawdown, the results indicate a decrease in water level of 5 feet or more in off-site wells (County of San Diego 2007c). As detailed in Appendix J of this EIR, the total estimated drawdown after 5 years with 1 year of construction pumping and 4 years of operations and maintenance pumping was estimated at 0.08 feet at the nearest off-site well to Well #2 and 0.08 feet for Well #3. Therefore, groundwater extraction interference with off-site wells **would not be cumulatively considerable**

The analysis completed in the Groundwater Resource Investigation Report to evaluate the cumulative impacts of pumping to supply construction water included all current and future projects with an appreciable water demand within the watershed study area, and therefore constitutes a cumulative impact analysis (Appendix J). The groundwater resources analysis incorporated historical climate data, which includes historical periods of increased rainfall and periods of extended drought. The results of this analysis concluded that reduction in groundwater storage, well interference impacts, and impacts to groundwater-dependent habitat and water quality would be less than significant. In addition, other renewable projects occurring in the area, would be required to prepare a GMMP similar to the Proposed Project that would ensure that

groundwater-level monitoring would be performed in groundwater wells and that groundwater levels would be recorded during groundwater extraction. Therefore, the Proposed Project, along with other projects occurring in the area, **would not be cumulatively considerable**.

2.7.4.5 Water Planning

The Project site overlies the Jacumba Valley Groundwater Basin, which would not be subject to a groundwater sustainability plan, mandated by the SGMA. As noted above, the Proposed Project is not expected to violate any water quality standards and measures would be taken both during construction and throughout operation to prevent potential contaminants from leaving the site by runoff. All projects in the general vicinity of the Proposed Project would equally be required to comply with these regulations and standards and thus, through compliance with RWQCB requirements and a NPDES permit, implementation of a SWPPP, and coordination with the ACOE for any applicable permits, the Project would cumulatively conflict with or obstruct implementation of the Colorado River Basin Water Quality Control Plan (Basin Plan).

For these reasons, impacts of the Project on applicable water planning document (i.e., Basin Plan and/or groundwater sustainability plan) **would not be cumulatively considerable**.

2.7.5 Significance of Impact Prior to Mitigation

Hydrology and Drainage Patterns

The Proposed Project would result in an increase of ~~1.9~~ 6.65 acres of impervious surfaces, and thus would not result in substantial changes to the rate, volume, and location of stormwater runoff. The Proposed Project would avoid the Carrizo Wash and Boundary Creek watercourses that run through the Project site. The Project would also implement **PDF-HYD-3** and the required Standard SWQMP, SWPPP, and requirements to obtain permits from the ACOE and RWQCB pursuant to the CWA.

Impacts to water surface elevation in a watercourse are **less than significant**. Impacts that result from increased velocities and peak flow rates exiting the Project site that would cause flooding downstream or exceed the stormwater drainage system capacity are also **less than significant**. Because implementation of the Standard SWQMP (and the construction and operational BMPs described therein) is a condition of the major use permit, adverse impacts associated with hydrology would be **less than significant.**

The only element of the Proposed Project that might locally alter drainage patterns, is the perimeter fence which would cross ephemeral washes at a perpendicular angle, and potentially trap sediment and detritus during heavy rainfall. Sediment, detritus and/or other debris that becomes trapped on one side of the perimeter fencing during high flows could cause flow to back-up behind the impediment, and potentially alter drainage patterns (**Impact HYD-1**).

Flood Hazards

The Project site is not located within a 100-year floodplain area or other special flood hazard area as shown on a Flood Insurance Rate Map, a County Flood Plain Map, or County Alluvial Fan Map. In addition, the Project site is not downstream of a dam or located in an area likely to be affected by mudflows or debris flows. The Project also does not propose any habitable structures. Thus, under this guideline, **no impacts** would occur.

A Project Design Feature (**PDF HYD-1**), as described in Section 2.7.6, has been be incorporated into the Proposed Project design to ensure that solar panel structures, inverter/transformer platforms, battery storage containers and other electrical components would not be impediments to flow. The only element of the Proposed Project that might locally alter drainage patterns and/or block or redirect flood flows is the perimeter fencing, which would cross ephemeral washes at a perpendicular angle, and potentially trap sediment and detritus during heavy rainfall. Sediment, detritus and/or other debris that becomes trapped on one side of the perimeter fencing during high flows could cause flow to back-up behind the impediment, potentially redirecting and/or concentrating flow outside the boundaries of currently mapped washes. It could result in additional scour and/or sedimentation that would not have otherwise occurred absent the perimeter fencing. For this reason, the impact of the Proposed Project (perimeter fencing element) with respect to altering drainage patterns and/or blocking or redirecting flood flows **would be potentially significant (Impact HYD-1)**.

Surface Water and Groundwater Quality

The Proposed Project would have a less than significant impact with respect to water quality because (1) the Proposed Project would not directly discharge to an impaired water body; (2) construction and operational sources of pollutants, including sediment, trash, and fuels, would be addressed through implementation of both a SWPPP and a Standard SWQMP for the Proposed Project; (3) the Project site does not drain to a drinking water reservoir in the United States; (4) the potential non-stormwater discharges associated with the Proposed Project would require approval from the Colorado River RWQCB or the SWRCB (General WDRs for Discharges to Land with a Low Threat to Water Quality); and (5) adverse effects to groundwater quality would not occur because potential threats to groundwater quality as a result of construction, operation, and maintenance of the Proposed Project would be addressed through compliance with a construction SWPPP during construction and an operational SWPPP during the operating life. Therefore, with compliance of existing regulations the Proposed Project would result in **less-than-significant impacts** to surface water and groundwater quality.

Groundwater Resources

During operation of the Project, water demand would not exceed the threshold of 50% reduction in groundwater storage, nor would the Project result in well interference above significance criterion or significantly impact groundwater-dependent ecosystems. In addition, a GMMP has been prepared and included in the Proposed Project as **PDF-HYD-2**. The GMMP details groundwater thresholds for off-site well interference and groundwater-dependent habitat, so with the implementation of **PDF-HYD-2**, groundwater-level monitoring would be performed in several wells to record groundwater levels during groundwater extraction. Therefore, impacts to groundwater as a result of the Proposed Project would be **less than significant**.

Water Planning

The Project site overlies the Jacumba Valley Groundwater Basin, DWR Basin No. 7-47 (DWR 2016). DWR, however, has designated the Basin as very low priority (DWR 2019). Thus, the Basin and groundwater extracted from the Basin would not be subject to a groundwater sustainability plan, mandated by the Sustainable Groundwater Management Act for DWR basins determined to be of medium to high priority.

The Project is not expected to violate any water quality standards and measures would be taken both during construction and throughout operation to prevent potential contaminants from leaving the site by runoff. Through compliance with RWQCB requirements and a NPDES permit, implementation of a SWPPP, and coordination with the ACOE for any applicable permits, the Project would not conflict with or obstruct implementation of the Colorado River Basin Water Quality Control Plan (Basin Plan). Impacts would be **less than significant**.

Cumulative Impacts

All cumulative impacts would **not be cumulatively considerable**.

2.7.6 Mitigation Measures and Project Design Features

Mitigation Measures

M-HYD-1 Prior to approval of final design plans, the applicant shall demonstrate to the satisfaction of the County DPW Flood Control through hydrologic and hydraulic analyses, acceptable to DPW Flood Control and performed by a California licensed engineer in accordance with standard engineering practice, that the design features for the perimeter fencing avoids the blockage and/or redirection of storm flows resulting from the accumulation of debris and/or detritus at wash crossings. This can be accomplished through a number of means such as a) use of breakaway

fencing perpendicular to flood flows, b) use of fencing that spans washes (without posts) above the anticipated peak flow depth, c) or an alternative design measure that would avoid accumulations of detritus at perimeter fence wash crossings, subject to County approval.

Documentation: The applicant shall show the proposed fencing design or alternative design measure on the Final Grading Plans. The associated Drainage Study shall contain hydrologic and hydraulic analyses, acceptable to DPW Flood Control and performed by a California licensed engineer in accordance with standard engineering practice, that model the proposed fencing and/or design measures and demonstrate that the fencing will not cause alteration of drainage patterns and/or flood hazards from pre-project conditions. The Drainage Study shall be in compliance with the County Hydrology Manual and the County Hydraulic Design Manual.

Timing: Prior to the approval of any grading and/or improvement plans and issuance of Grading or Construction Permits, the Drainage Study and Plans shall be approved.

Monitoring: The County DPW Flood Control shall review and approve the hydrologic and hydraulic analyses contained in the Drainage Study and the final fencing design and layout to ensure the flood flow is fully mitigated to pre-project conditions.

Project Design Features

PDF-HYD-1: Prior to approval of final design plans, the County DPW shall verify that all project components located within the 100 year floodplain shall comply with the County of San Diego Flood Damage Prevention Ordinance, County Hydrology Manual, and County Hydraulic Design Manual, which includes elevating all solar panels at maximum tilt, inverter/transformer platforms, battery storage containers, and all electrical components one (1) foot above base flood elevation.

PDF-HYD-2: Groundwater Monitoring and Mitigation Plan. During groundwater extraction for the Proposed Project's construction and operation, the applicant shall implement the groundwater production and groundwater-level monitoring, groundwater mitigation criteria and, if necessary, the groundwater-habitat monitoring procedures outlined in the Groundwater Monitoring and Mitigation Plan that has been prepared for the Proposed Project.

PDF-HYD-3 Vegetative Cover On-Site During Operation. In order to provide dust control and minimize erosion during Project operation, at least 70% vegetation cover shall be maintained during Project operation on the portions of the solar facility development footprint within the perimeter fencing not overlain by vehicle access driveways and internal access, inverter/transformer platforms, battery storage containers, the substation, and the Switchyard Facilities. These areas shall be reseeded with a native hydroseed mix that shall be approved by the County Landscape Architect prior to reseeding. A biologist shall also review the native hydroseed mix prior to reseeding for compatibility with native habitats in the Project area. The Project owner shall ensure that at least 70% of the hydroseeded area is covered with vegetation within one year of occupancy. If this coverage threshold is not met, additional native hydroseed applications must be conducted in order to meet the 70% threshold. The Project owner shall submit a written report with photographic evidence of the vegetative cover to the County Landscape Architect one year after occupancy. This report shall also include documentation of the date of hydroseeding and the type of native hydroseed mix. Subsequently a report with photographic evidence shall be submitted to the County Landscape Architect bi-annually (every other year) during Project operation.

PDF-HYD-4: Flood Fencing Types. Flood fencing shall be either breakaway fencing or flow through fencing, as described below:

- Where flood fencing is provided along Old Highway 80, breakaway type fencing should be used where feasible. Flow-through fencing may be used along Old Highway 80 if drainage conditions warrant its use. However, if flood depths exceed 12 inches, breakaway type fencing (not flow through) must be used along Old Highway 80.
- Where flood fencing is provided elsewhere (not along Old Highway 80), either flow-through or breakaway fencing may be used.

2.7.7 Conclusion

Hydrology and Drainage Patterns

Impacts to water surface elevation in a watercourse and impacts that result from increased velocities and peak flow rates would be **less than significant**. Because implementation of the Standard SWQMP (and the construction and operational BMPs described therein) is a condition of the Major Use Permit and the Project would implement Project Design Feature **PDF-HYD-3** (vegetative cover during Project operation), adverse impacts associated with hydrology would be **less than significant.**

Sediment, detritus and/or other debris that becomes trapped on one side of the proposed perimeter fencing during high flows could cause flow to back-up behind the impediment, and potentially alter drainage patterns (**Impact HYD-1**). With implementation of mitigation measure **M-HYD-1** (perimeter fence design), this impact would be reduced to **less than significant**.

Flood Hazards

The Project site is not located within a 100-year floodplain area or other special flood hazard area as shown on a Flood Insurance Rate Map, a County Flood Plain Map, or County Alluvial Fan Map. In addition, the Project site is not downstream of a dam or located in an area likely to be affected by mudflows or debris flows. The Project also does not propose any habitable structures. Thus, under this guideline, **no impacts** would occur.

A Project Design Feature (**PDF HYD-1**), as described in Section 2.7.6, has been be incorporated into the Proposed Project design to ensure that solar panel structures, inverter/transformer platforms, battery storage containers and other electrical components would not be impediments to flow. The only element of the Proposed Project that might locally alter drainage patterns and/or block or redirect flood flows is the perimeter fencing. The impact of the perimeter fencing element with respect to altering drainage patterns and/or blocking or redirecting flood flows would be potentially significant **(Impact HYD-1)**. With implementation of mitigation measure **M-HYD-1**, this impact would be reduced to **less than significant.**

Surface Water and Groundwater Quality

The Proposed Project would not violate applicable water quality objectives or WDRs, and would comply with all federal, state, and local laws addressing water quality in stormwater and non-stormwater discharges. Therefore, the Project would not exceed the significance thresholds identified earlier, and impacts would be **less than significant**.

Groundwater Resources

During operation of the Project, water demand would not exceed the threshold of 50% reduction in groundwater storage, nor would the Project result in well interference above significance criterion or significantly impact groundwater-dependent ecosystems. In addition, a GMMP has been prepared and included in the Proposed Project as Project Design Feature **PDF-HYD-2**. The GMMP details groundwater thresholds for off-site well interference and groundwater-dependent habitat, so with the implementation of **PDF-HYD-2**, groundwater-level monitoring would be performed in several wells to record groundwater levels during groundwater extraction. Therefore, impacts to groundwater as a result of the Proposed Project would be **less than significant**.

Water Planning

Through compliance with RWQCB requirements and a NPDES permit, implementation of a SWPPP, and coordination with the ACOE for any applicable permits, the Project would not conflict with or obstruct implementation of the Colorado River Basin Water Quality Control Plan (Basin Plan). Impacts would be **less than significant**.

Cumulative Impacts

All cumulative impacts would **not be cumulatively considerable**.

Table 2.7-1
Beneficial Uses of Waters within the General Vicinity of the Proposed Project

	MUN[a]	AGR	IND	GWR	REC 1	REC 2	WARM	WILD	RARE
Surface Water									
Carrizo Creek		X		X	X	X	X	X	X
Boundary Creek	P	X		X	X	X	X	X	
Unlisted Perennial and Intermittent Streams	P			I X	I PX	I X	I X	I X	[b]
Washes (ephemeral streams)				I	I	I	[c]	I	
Groundwater									
Anza-Borrego Hydrologic Unit	X[d]	X	X						

Source: Colorado River RWQCB 2017.

Notes: X = existing beneficial uses; P = potential uses; I = intermittent uses.

a Refer to Table 2.7-2 for definition of abbreviations.

b Rare, endangered, or threatened wildlife may exist in or utilize some of these waterways. If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by-case basis is upon the California Department of Fish and Wildlife on its own initiative and/or at the request of the applicable RWQCB; and such substantiation must be provided within a reasonable time frame as approved by the RWQCB.

c Use, if any, to be determined on a case-by-case basis.

d An "X" placed under the MUN in this table for a particular hydrologic unit indicates only that at least one of the aquifers in that unit currently supports a MUN beneficial use. For example, the actual MUN usage of the Anza-Borrego hydrologic unit is limited only to a small portion of that ground water unit.

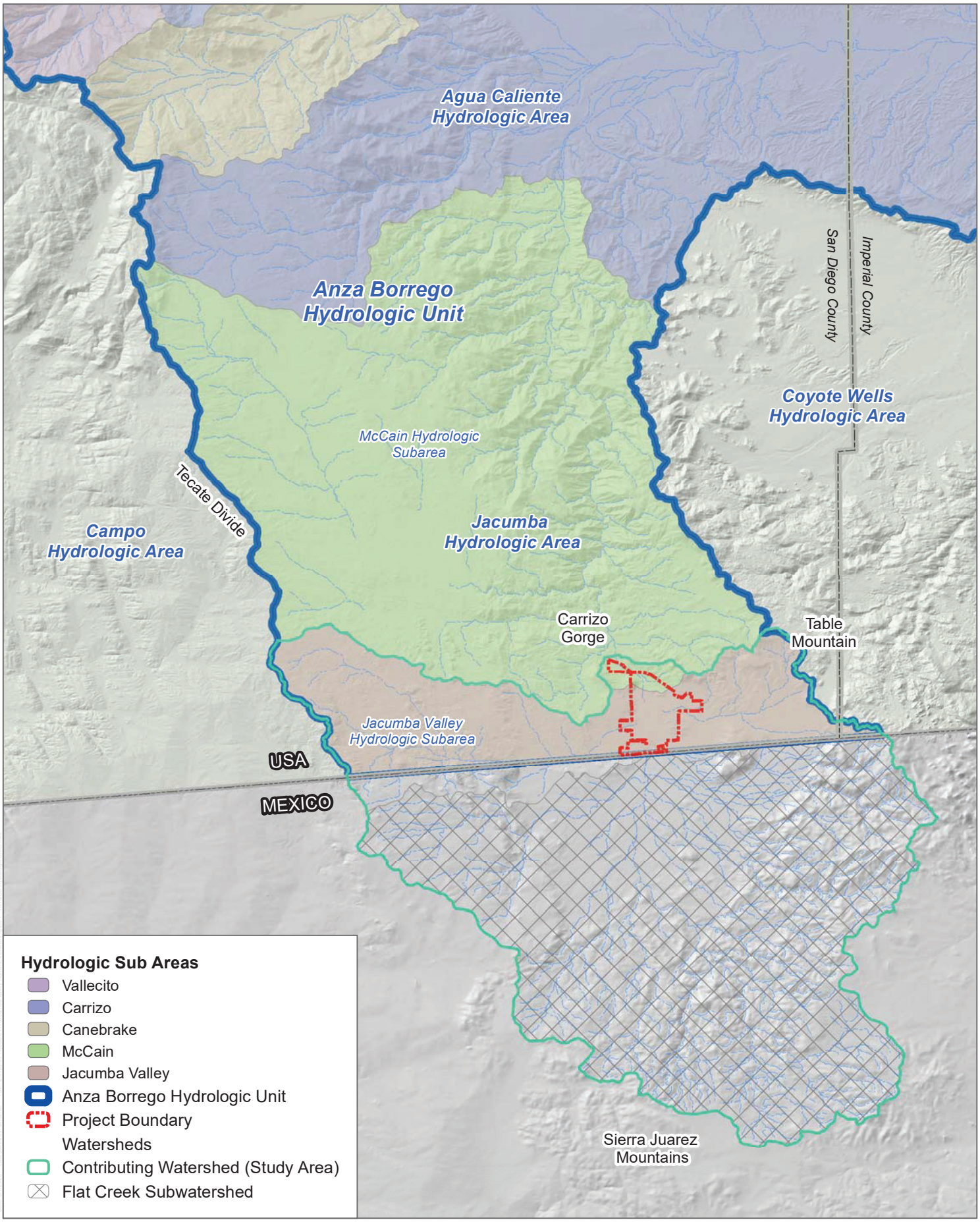
Table 2.7-2
Definitions of Beneficial Uses of Surface Waters

Beneficial Use	Description
Municipal and Domestic Supply (MUN)	Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge or groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
Water Contact Recreation (REC 1)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-contact Water Recreation (REC 2)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Table 2.7-2
Definitions of Beneficial Uses of Surface Waters

Beneficial Use	Description
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Rare, Threatened, or Endangered Species (RARE)	Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Source: Colorado River RWQCB 2017.



SOURCE: RWQCB

DUDEK

0 2 4 Miles

FIGURE 2.7-1

RWQCB Hydrologic Areas

Environmental Impact Report - JVR Energy Park

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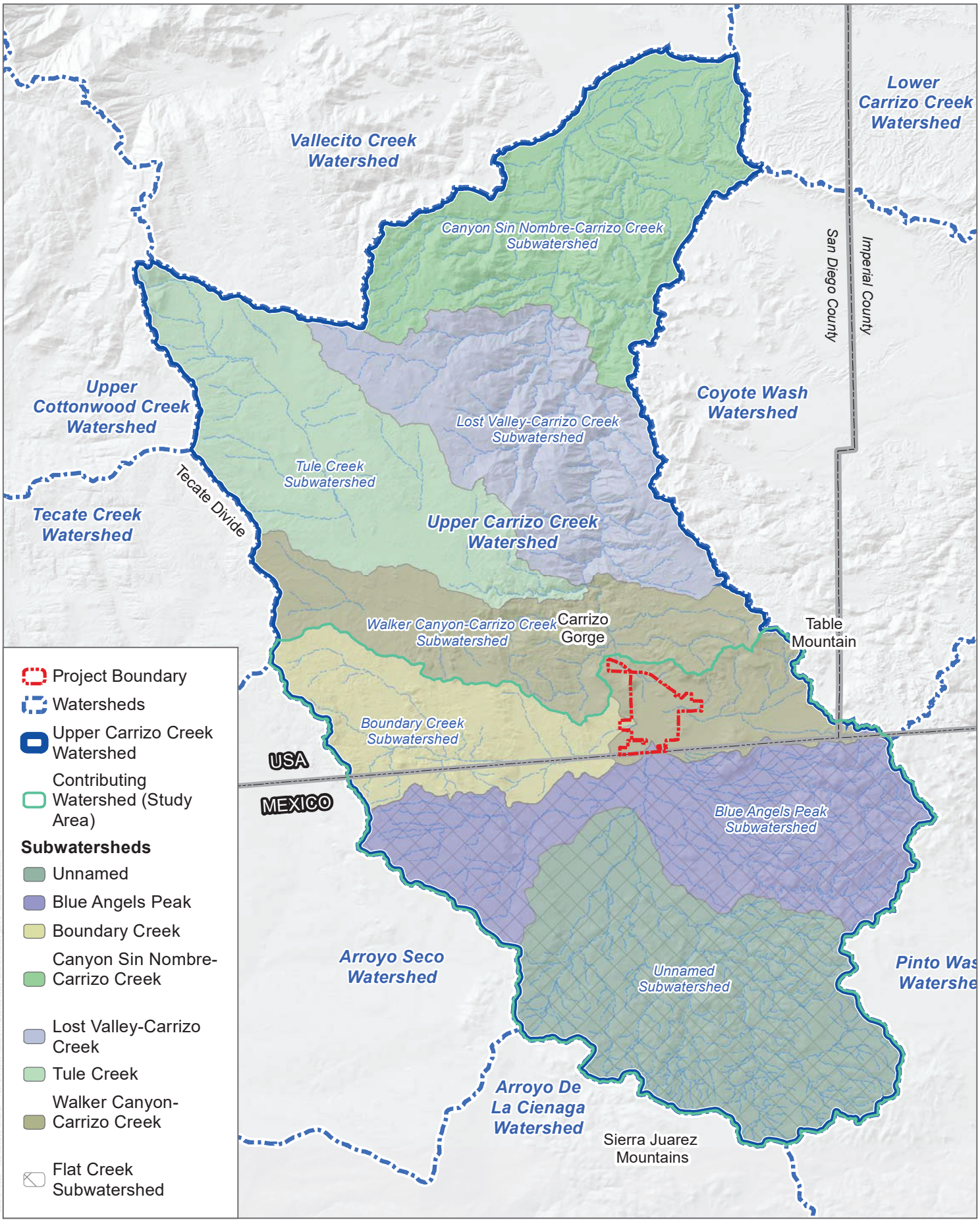

SOURCE: USGS

DUDEK

0 2 4 Miles

FIGURE 2.7-2

USGS Watersheds

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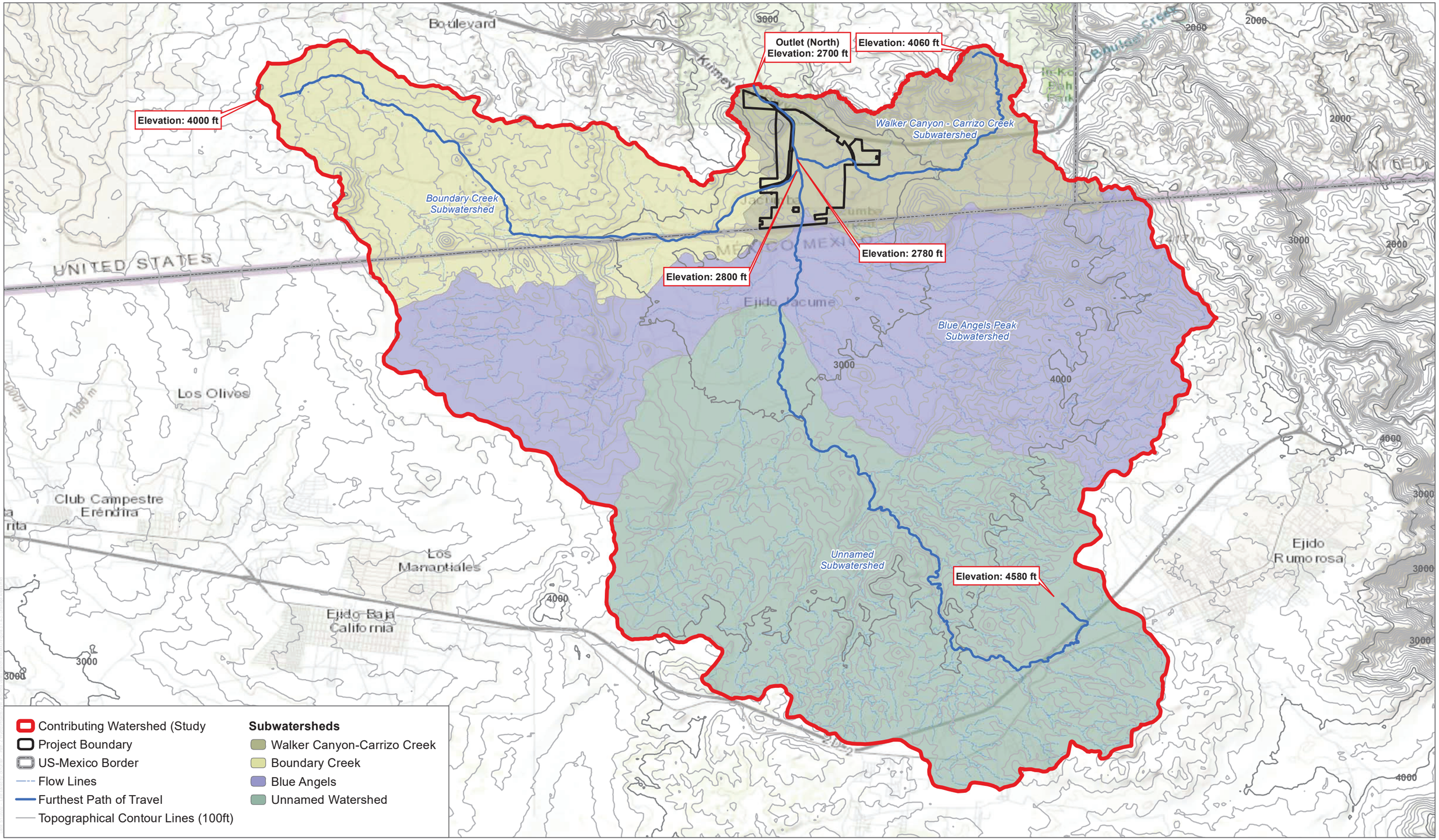

SOURCE: USGS

DUDEK

0 4,200 8,400 Feet

FIGURE 2.7-3

Drainage Areas

Groundwater Resources Investigation - JVR Energy Project

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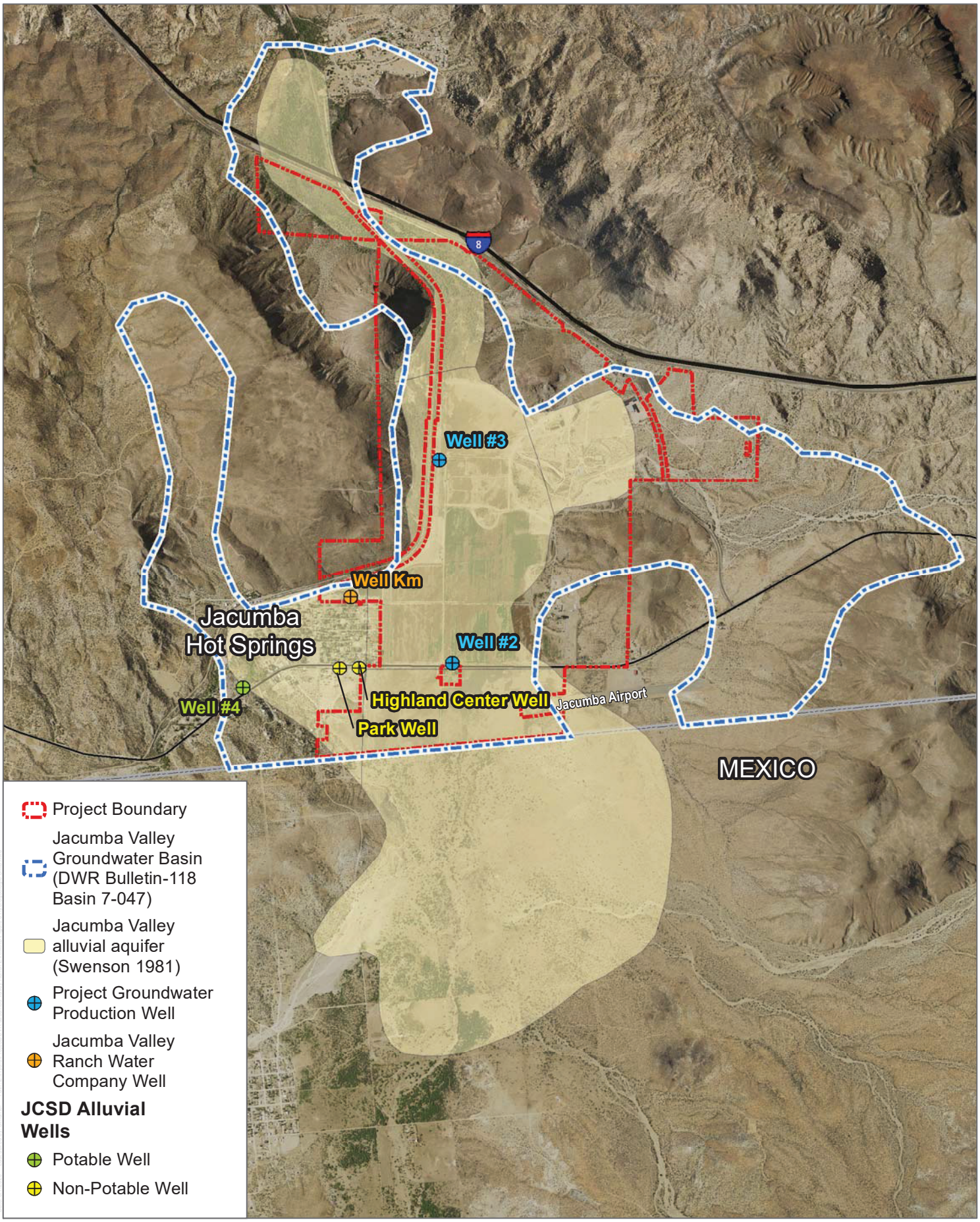

SOURCE: DWR, Swenson

DUDEK

0 0.5 1 Miles

FIGURE 2.7-4

Hydrogeologic Units

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