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4.15 Water Resources

This section discusses the existing water resources near the Project site, assesses the potential effects of construction and operations on water resources, and provides mitigation strategies to address the potential effects. This section discusses the potential effects related to the following areas:

- Water supply
- Wastewater management
- Stormwater discharge
- Flooding

Section 4.15.1 discusses the existing hydrologic environment. Potential environmental effects of the Project construction and operation on water resources are presented in Section 4.15.2. A discussion of cumulative project effects is presented in Section 4.15.3. Section 4.15.4 discusses proposed mitigation measures that will minimize significant impacts. Section 4.15.5 presents applicable laws, ordinances, regulations, and standards (LORS) related to water resources. Section 4.15.6 describes permits that relate to water resources, lists contacts with relevant regulatory agencies, presents a schedule for obtaining permits. Section 4.15.7 provides the references used to prepare this subsection.

The following section is based on the Preliminary Drainage and Hydrology Study (Attachment 4.15A) and the Water Quality Management Plan (Attachment 4.15B) prepared for the Project. The Preliminary Drainage and Hydrology Study describes the proposed stormwater management plan and analysis in accordance with the requirements set forth by the Technical Guidance Document (TGD) (Reference 6.1) for South Orange County, the Orange County Local Drainage Manual (Reference 6.2) and the City of San Juan Capistrano. The Water Quality Management Plan has been prepared to comply with the requirements of the local NPDES Stormwater Program.

4.15.1 Affected Environment

4.15.1.1 Water Features, Climate, and Drainage

The Project site is located at an elevation of approximately 200 feet above mean sea level (AMSL). A bluff to the west causes the Project site to gently slope to the east to Oso Creek. Oso Creek originates approximately 7 miles upstream of the City of Mission Viejo in the foothills of the Santa Ana Mountains at an elevation of 1,610 feet. The creek flows south-southeast until its confluence with Trabuco Creek about 2 miles upstream of downtown San Juan Capistrano. Trabuco Creek then flows south for 2 miles until it meets with San Juan Creek which then flows into the Pacific Ocean.

Oso Creek is located east of the Project site. In the vicinity of the BESS area, Oso Creek is an unmodified meandering gully. In this area the creek exhibits channel stabilization concerns, however, there are no flood control issues (USACE and OCFCD 2002). In the vicinity of the offsite access road to the north of the BESS area, Oso Creek has been modified and is a rectangular open concrete channel. Based on a watershed management study prepared in 2002, there were no identified flood control of channel stabilization issues in this area and because of its heavily channelized nature, there is no ecosystem value (USACE and OCFCD 2002).

The Project site is located in the Aliso-San Onofre Cataloging Unit of the Southern Coastal Subregion (USGS HUC 18070301). The Aliso-San Onofre Cataloging Unit begins in the Santa Ana Mountains of southern California and terminates at the Pacific Ocean. The Unit has a drainage area of 498 square miles (USGS 2019). The Project site is approximately five miles inland from the Pacific Ocean and experiences a cold semi-arid climate (Koppen climate classification: BSk). The average annual precipitation is approximately twelve inches, with most of the annual precipitation occurring from November through April (Western Regional Climate Center 2023). August is the warmest month, with mean daily temperatures ranging from 60° to 78°F, and January is the coolest month, with mean daily temperatures ranging from 43° to 65°F.

The Project site is located in the Santa Margarita Water District. Santa Margarita Water District is almost entirely reliant on imported water from the Metropolitan Water District of Southern California, which receives its water from northern California and the Colorado River via a system of pipes and aqueducts. While the Project site is within Santa Margarita Water District boundaries, Saddleback Church directly to the north is serviced by Moulton Niguel Water District. The applicant intends to use water from Moulton Niguel Water District for the Project.

4.15.1.2 Groundwater

The Project site is in the San Juan Valley Groundwater Basin (SJGWB) of the South Coast Hydrologic Region (Figure 4.15-1). The SJGWB is designated Basin Number 9-01 and covers a surface area of approximately 26 square miles in the San Juan Valley and other tributary valleys in Orange County, California (DWR 2004). The basin is bounded on the west by the Pacific Ocean and otherwise by tertiary semi-permeable marine deposits. The primary water-bearing unit within the SJGWB is quaternary alluvium. This alluvium ranges from a heterogeneous mixture of sand, silt, and gravel in the eastern portion of the basin, to coarse sand near the center, to fine-grained lagoonal sediments in the western portion of the basin (DWR 1972). Wells in the SJGWB typically yield from 450 to 1,000 gallons per minute (CDM 1987).

The total storage capacity in the SJGWB has been estimated to range from 63,220-acre feet (af) (NBS/Lowry 1994) to 90,000 af (DWR 1972; 1975; 1988). Recharge of the basin is from flow in San Juan Creek, Oso Creek, and Arroyo Trabuco and precipitation to the valley floor. Water from springs flows directly from Hot Spring Canyon into San Juan Creek, adding to recharge (DWR 1972).

4.15.1.2.1 Groundwater Use

Groundwater in this basin is primarily used for domestic water supply (San Juan Basin Authority 2011). Based on a review of the California Water Board: Groundwater Ambient Monitoring and Assessment Program (GAMA), three wells are located within the Project site and are listed as “Water Supply, Other.” Within 0.5 miles of the Project site, there are seven “Water Supply, Other” wells and three “Municipal” wells. Among the three wells located within the Project site, well 07S08W25N002S has the most up to date data, with the last recordings of water quality information in 1977. The depth and current status of these three wells are unknown (GAMA 2023).

4.15.1.2.2 Groundwater Level and Flow

The closest identified USGS monitoring well to the Project site is Well No. 333147117401901, which is located approximately 0.5 miles to the south. The well depth is reportedly 130 feet, and the land surface elevation is 207 feet amsl. The depth to groundwater has been measured in this well once, in 2014. The reported measurement was a depth to water level of 72.04 feet on April 30, 2014 (USGS 2014).

In general, groundwater flow within the study area follows the surface topography: from areas of recharge in the surrounding highlands towards the central axis of the basin and then southwesterly along the axis of the basin before exiting into the Pacific Ocean (SJBA 2013). Given the geology of the basin, subsidence is not a concern for the management of this basin.

The Project does not propose groundwater pumping or well use.

4.15.1.3 Water Quality

The Regional Water Quality Control Boards (RWQCBs) make critical water quality decisions for their designated regions, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. Federal regulations require that the Total Maximum Daily Loads (TMDL), at a minimum, account for contributions from point sources (federally permitted discharges) and contributions from nonpoint sources. TMDLs are established at the level necessary to implement the applicable water quality standards. In California, the State Water Resources Control Board (SWRCB) has interpreted state law (Porter-Cologne Water Quality Control Act, California Water Code Sections 13000 et. seq.) to require that implementation be addressed when TMDLs are incorporated into water quality control plans (Basin Plans). The Porter-Cologne Act requires each RWQCB to formulate and adopt Basin Plans for all areas within its region. It also requires that a program of implementation be developed that describes how water quality standards will be attained. TMDLs can be developed as a component of the program of implementation, thus triggering the need to describe the implementation features, or alternatively as a water quality standard. When the TMDL is established as a standard, the program of implementation must be designed to implement the TMDL.

The Project site is within the jurisdictional boundaries of the San Diego RWQCB. The San Diego RWQCB Basin Plan establishes water quality objectives to ensure the reasonable protection of beneficial uses and a program of implementation for achieving water quality objectives. For those waters not attaining water quality standards, the RWQCB establishes TMDLs and a program of implementation to meet the TMDL. Section 303(d) of the Clean Water Act (CWA) requires that the states make a list of waters that are not attaining water quality standards. For waters on this list, the states are to develop TMDLs.

Several waters of the SJGWB are listed as impaired per Section 303(d) of the CWA. Oso Creek, which runs adjacent to the Project site, is listed as impaired due to elevated concentrations of selenium, chloride, nitrogen, phosphorus, sulfates, total dissolved solids (TDS), and toxicity (WRCB 2022).

Seawater intrusion threatens the SJGWB, which has limited hydrology and water in storage; both natural and anthropogenic degradation sources; and very high concentrations of iron and manganese (SMWD 2014). TDS, an indicator of overall total salts and mineral content, are present in the groundwater at an average concentration of 2200 milligrams per liter (mg/L), which is above the California Upper Secondary maximum contaminant level (MCL) of 1000 mg/L for drinking water (SMWD 2014). Seawater intrusion, which elevates TDS and chloride levels in groundwater, is a constant concern in the SJGWB.

4.15.1.4 Flooding Potential

The Project site (BESS area) does not overlap with a Federal Emergency Management Agency (FEMA) 100-year floodplain area and would not be subject to inundation by a 1% annual chance flood (Figure 4.15-2). A portion of the Project's offsite access road would be located within a FEMA 100-year floodplain area (Zone A, no base flood

elevations determined). A permit is required before construction or development begins within any Special Flood Hazard Area (SFHA). FEMA Zone A is considered a SFHA per FEMA.

The Project is not located within a tsunami hazard area (DOC 2023).

4.15.1.5 Water Supply

4.15.1.5.1 Construction Phase

During construction of the proposed project, water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the energy storage equipment. A sanitary water supply will not be required during construction because restroom facilities will be provided by portable units serviced by licensed providers. The water used is anticipated to be supplied by purchase from the local water purveyor. Construction of the Project is expected to require approximately 35 af of water.

4.15.1.5.2 Operations Phase

Water during the operation of the Project will be limited to water necessary for landscape irrigation and to supply on-site fire hydrants. The water used is anticipated to be supplied by purchase from the local water purveyor. Operation and maintenance water demand for the Project is assumed to be non-existent because it would be operated remotely and would not have any permanent on-site staff.

4.15.1.6 Wastewater Collection, Treatment, Discharge and Disposal

4.15.1.6.1 Construction Phase

Sanitary waste, stormwater runoff, equipment washdown water, and dewatering activities from general construction activities will be potential wastewater waste streams. Wastewaters will be collected and managed based on the type and levels of contamination. Depending on water quality, wastewater could be considered nonhazardous or hazardous. Nonhazardous wastewater will be collected in aboveground storage tanks and piped to an existing water pond located north of the project site. All hazardous wastewater will be collected and disposed of offsite.

Sanitary Waste. Portable toilets will be housed on site during construction phase. Sanitary wastewater from portable toilets will be collected in the self-contained toilets. The vendor of the portable toilets will be responsible of proper handling and transporting sanitary waste offsite for disposal.

Stormwater. Prior to the start of construction, a stormwater permit will be obtained to outline best management practices for managing stormwater as noted in Section 4.15.5.2.3. Through the course of construction, stormwater will be controlled to prevent stormwater leaving the site. Stormwater will flow to aboveground storage tanks and pumped to an existing water pond to the north where the water will be allowed to evaporate or infiltrate.

Nonhazardous wastewater. For all other wastewater generated, it will be managed by source reduction techniques, water conservation and reuse measures.

5.15.1.6.2 Operations Phase

Following construction, no sanitary facilities will be located at the Project site. Stormwater will be controlled as described in Section 4.15.1.7 below.

4.15.1.7 Stormwater

Stormwater runoff from the Project site (BESS area) currently outflows to a unchannelized section of Oso Creek. Once the Project is complete the site will drain to existing Orange County Flood Control District (OCFCD) storm drainpipes/outfalls which are located the northeast of the Project site. The onsite stormwater runoff from the Project site would be detained in an underground storage chamber system located under or adjacent to the access roads and would be sized for the 100-year storm event. From here, the water will be pumped north to existing OCFCD outfalls. The buried underground detention design would be implemented in accordance with the South Orange County TGD (Reference 6.1) and the South Orange County WQMP checklist (Reference 6.4), to meet the stormwater management requirements for an underground detention basin. The below grade detention system would discharge into a sump and be pumped north to an existing outfall. Water pumped to the existing outfall would then discharge into a channelized segment of Oso Creek. The Project's onsite discharge pumped into the channelized portion of Oso Creek would be incorporated into, and consistent with the OCFCD's National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region (Order No. R9-2013-0001, NPDES No. CAS0109266, as amended by Order No. R9-2015-0001) authorized by the San Diego RWQCB MS4 authorization by the SWRCB and RWQCB.

With respect to offsite flows, based on the existing topography, an additional area of approximately 59 acres drains toward the project site from the west. A portion of the offsite flow (approximately 12.4 acres of the total 59 acres) would be collected in the same underground detention system discussed above for the onsite flows. The remaining portion of the offsite flows (approximately 45 acres) would be designed to reroute to a drainage ditch along the western and southern boundaries of the Project site to prevent these flows from draining through the site. The drainage ditches would be sized for the 100-year storm event. A high point in the drainage ditch would be used to separate flows into two areas. One area would collect flow in a portion of the drainage ditch and would route into a double barrel box culvert that runs at grade underneath the center portion of the site. The double barrel box culvert would then discharge into a riprap protected grass lined swale that terminates into the northern portion of the proposed level spreader. The other area would collect flow in the other portion of the drainage ditch and would wrap around the south of the site, discharging into the midpoint of the proposed level spreader. The proposed level spreader would receive flow from both drainage areas and would maintain offsite peak flow at or below predeveloped peak flow rates to prevent increased erosion caused by discharge into Oso Creek. To recreate existing flow conditions and mitigate erosive impacts associated with this discharge, the design ties both release points to the level spreader. The level spreader distributes the stormwater runoff evenly along the entire east edge of the site, promoting even and controlled release to the existing grade. This concept would reduce erosion from the current site conditions as it will both ensure the flow is spread over the entire north to south portion of the site. See Appendix 4.15A, Preliminary Drainage and Hydrology Study, for additional details including calculations, assumptions, and methodology.

4.15.2 Environmental Analysis

Project effects on water resources can be evaluated relative to significance criteria derived from the California Environmental Quality Act Appendix G checklist. The project is considered to have a potentially significant effect on water resources if it would do the following:

- Substantially alter the existing drainage pattern of the site or area, including the course of a stream or river, in a manner that will result in substantial erosion or siltation on- or offsite, or in flooding on- or offsite.
- Create or contribute runoff water that will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level that will not support existing land uses or planned uses for which permits have been granted).
- Place structures that will impede or redirect flood flows within a 100-year flood hazard area.
- Cause inundation by seiche, tsunami, or mudflow.

4.15.2.1 Water Quality

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters (Oso Creek).

Because construction of the proposed project would disturb greater than 1 acre of soil, the project is subject to the requirements of the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ) (Construction General Permit). Therefore, coverage under the Construction General Permit would be obtained for the proposed project. The Construction General Permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of construction Best Management Practices (BMPs) detailed in the SWPPP during construction activities. Potential water quality impacts from construction will be controlled through implementing a stormwater pollution prevention plan (SWPPP) and associated best management practices, and through practicing proper housekeeping at the construction site. The site grading and drainage will be designed to comply with all applicable LORS. Successful implementation of the SWPPP will ensure that construction impacts on water resources are mitigated to a less-than-significant level. SWPPP procedures include submitting a Notice of Intent to the San Diego RWQCB and developing the SWPPP before the start of construction activities.

Potential pollutants of concern from long-term operations of the development include suspended solids/sediments, nutrients, pathogens (bacteria/virus), pesticides, oil and grease, trash and debris, and dry weather runoff. The

project would comply with the requirements of Title 8, Chapter 14 of the Municipal Code and San Diego Regional Water Quality Control Board's (RWQCB) National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds Within the San Diego Region (Order No. R9-2013-0001, NPDES No. CAS010266, as amended by Order No, R9-2015-0001) (South Orange County MS4 Permit).

The City Municipal Code and the South Orange County MS4 Permits require that a Water Quality Management Plan (WQMP) be prepared for new development projects. WQMPs specify the site design, source control, low impact development (LID) BMPs that would be implemented to capture, treat, and reduce pollutants of concern in stormwater runoff. A Water Quality Management Plan (see Attachment 4.15B) has been prepared for the Project. According to the WQMP, proposed site design BMPs include:

- Minimize Impervious Area
- Preserve Existing Drainage Patterns and Time of Concentration-
- Protect Existing Vegetation and Sensitive Areas
- Revegetate Disturbed Areas
- Water Efficient Landscaping
- Slopes and Channel Buffers

Proposed non-structural source control BMPs include:

- Common Area Landscape Management
- BMP Maintenance
- California Code of Regulations Title 22 Compliance
- Spill Contingency Plan
- Hazardous Materials Disclosure Compliance
- Uniform Fire Code Implementation
- Employee Training
- Common Area Catch Basin Inspection

Proposed structural source control BMPs include:

- Use efficient irrigation systems and landscape design, water conservation, smart controllers, and source control
- Protect slopes and channels and provide energy dissipation
- Incorporate requirements allocable to individual priority categories (from San Diego RWQCB NPDES Permit)

Proposed LID BMPs include an underground detention system. This BMP type treats TSS, nutrients and oil and grease. The BMP is made up of several chambers within a perimeter stone envelope. The chambers are wrapped in a non-woven geotextile and have a layer of stone under the chambers. This BMP system, in conjunction with a pump, would be designed to manage the 100-year storm event while meeting OCFCD drawdown requirements (a detention basin shall have a 36-to-48-hour drawdown time).

Stormwater runoff from the project site will be conveyed to the underground detention facility where it will be detained and pumped. This basin would not incorporate infiltration due to higher percolation rates in the upper 5

feet of the soils compared to deeper soils, which would allow perched water to move laterally. When combined, the site design, source control, and LID BMPs would target and reduce pollutants of concern in stormwater runoff from the project site. Compliance with the City Municipal Code and South Orange County MS4 Permit requirements, including incorporation of post-construction BMPs to target pollutants of concern, would reduce operation impacts related to water quality standards, degradation of water quality, and beneficial uses to a less than significant level.

4.15.2.2 Flooding Potential

The offsite access road is partially located within 100-year floodplain Zone A; all remaining Project areas are located within Zone X (refer to Figure 4.15-2). Zone A is defined by FEMA as areas subject to inundation by a 1-percent-annual-chance (100-year) flood for which base flood elevations have not been determined. Zone X is defined by FEMA as areas of minimal flood hazard, which are the areas outside of the Special Flood Hazard Area and higher than the elevation of the 0.2 percent annual chance flood. Because the project would place improvements (offsite access road) within a 100-year flood zone, there is potential for the project to impede or redirect flood flows. However, the proposed project would process all necessary map revisions with FEMA and the road would be built to ensure the project does not impede or redirect flood flows that would impact adjacent or downstream property.

4.15.2.3 Water Supply

During construction, water will be provided through a local purveyor and water trucks. A sanitary water supply will not be required during construction because restroom facilities will be provided by portable units serviced by licensed providers. After construction is complete, operational water will be limited to water necessary for landscape irrigation and to supply on-site fire hydrants. It will be the responsibility of the water purveyor to ensure the quantity provided to the Project site does not exceed safe productions right and the annual safe yield. Water supply impacts would be less than significant.

4.15.2.4 Wastewater Collection, Treatment, Discharge, and Disposal

Following construction, no sanitary facilities will be located at the Project site. No impact would occur.

4.15.2.5 Stormwater Runoff and Drainage

In the existing condition, stormwater sheet flows into the unmodified portion of Oso Creek. According to the Preliminary Drainage and Hydrology Study prepared for the project (Appendix 4.15A), in the proposed condition, the overall site drainage patterns would generally remain the same as existing drainage patterns. Storm flows would continue to reach Oso Creek but would be diverted north to existing outfalls that discharge into the channelized portion of Oso Creek. Furthermore, the project would not alter the course of Oso Creek, as drainage patterns would remain similar to the existing condition during project implementation. In the event of a 100-year flood event, stormflows would be conveyed similar to existing conditions. Currently, the project site is undeveloped and consists of primarily pervious surfaces (the Project site currently contains approximately 1 acre of impervious surface area). As detailed in the Preliminary Drainage and Hydrology Study prepared for the project, stormwater runoff from the project site is 9.14 cubic feet per second (cfs) during a 25-year storm and 13.89 cfs during a 100-year storm. Development of the project would increase impervious surface area, which would increase stormwater runoff. However, the underground detention basin and proposed pump structure would provide a maximum pump rate of 1,580 GPM (3.52 cfs) and also be capable of pumping at lower rates to accommodate small rainfall events. At the maximum pump rate, a 100-year rainfall event will drawdown within approximately 34.7 hours. According to the

Preliminary Drainage and Hydrology Study, the total peak discharge flow rate to the existing outfalls would be below existing conditions after implementation of the proposed BMPs (peak flow would decrease to 3.52 cfs due to the underground detention system and proposed pump) (see Table 4.15-1).

In addition, the project would result in similar offsite stormwater runoff during a 25-year storm event and 100-year storm event by incorporating the use of the proposed drainage ditch and level spreaders, and use of the underground detention system (see Table 4.15-1).

In summary, the underground storage provided onsite would have the capacity to handle a 100-year rainfall event and dewater within 36 hours (see Attachment 4.15A). Proposed peak runoff rates would be maintained at or below existing rates, and thus have a positive impact on the offsite drainage systems (see Table 4.15-1). Pre- and Post-Construction runoff rates are compared in Table 4.15-1. Impacts would be less than significant.

Table 4.15-1. Discharge Summary

Storm Event	Pre-Construction Runoff Rate (cfs)	Post-Construction Peak Discharge Rate (cfs)	% Reduction in Peak Discharge
Onsite			
25-Year	9.14	3.52	61.49%
100-Year	13.89	3.52	74.66%
Offsite			
25-Year	104.27	98.64 / 3.52[a]	2.02%
100-Year	141.78	134.03 / 3.52[a]	2.98%

Notes:

[a] Because offsite flows would be routed through the proposed level spreader and the onsite underground detention system, post-construction peak discharge values are provided. The first value in this column reflects the post-construction peak discharge rate from the level spreader. The second value in this column reflects the post-construction peak discharge rate from the onsite underground detention system and pump.

4.15.3 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code Section 21083; Title 14 California Code of Regulations, Sections 15064[h], 15065[c], 15130, and 15355). Existing land uses surrounding the project site include open space, transportation infrastructure, commercial, and residential. The San Diego Gas and Electric (SDG&E) Trabuco to Capistrano 138 kV transmission line is located approximately 250 feet to the east of the Project site and runs alongside Union Pacific Railroad tracks and Intertstate-5.

It is anticipated that the Project will have a negligible impact on groundwater resources in the SJGWB. Water used during Project operations will be primarily for landscape irrigation. Irrigation water not taken up by plants or lost to evaporation will return to the aquifer and contribute to groundwater recharge. For these reasons, there are no anticipated significant cumulative impacts to water supply. Compliance with local and regional standards and regulations will ensure that the Project will not result in significant cumulative impacts.

4.15.4 Mitigation Measures

The project would mitigate for potential adverse impacts by complying with the requirements of applicable LORS (described in Section 4.15-5). Therefore, no mitigation other than compliance with permit conditions will be required.

4.15.5 Laws, Ordinance, Regulations, and Standards

Federal, state, and local LORS applicable to water resources and anticipated compliance are discussed in this subsection.

4.15.5.1 Federal LORS

In California, discharges of wastewater and stormwater into surface waters are regulated by SWRCB and RWQCBs under the CWA and the Porter-Cologne Water Quality Control Act. Relevant NPDES permits for stormwater quality management are discussed in Section 4.15.5.2.

4.15.5.2 State LORS

4.15.5.2.1 California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code, Division 7) is the state law governing water quality of all state waters, including both surface waters and groundwater. Under the Porter-Cologne Water Quality Control Act, SWRCB has the ultimate authority over water quality policy on a state-wide level, and nine RWQCBs establish and implement water quality standards specific for each respective region. The San Diego RWQCB regulates water quality in the Project area, jointly implementing the federal CWA and the state Porter Cologne Water Quality Control Act.

4.15.5.2.2 NPDES Construction Stormwater Permit

The federal CWA effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. SWRCB is the permitting authority in California and has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (SWRCB Water Quality Order No. 99-08-DWQ]) that applies to projects resulting in one acre or more of soil disturbance. The proposed project will result in disturbance of more than one acre of soil. Therefore, the project will require the preparation of a construction SWPPP that will specify site management activities to be implemented during site development. These management activities will include construction stormwater best management practices, dewatering runoff controls, and construction equipment decontamination. The RWQCB requires a Notice of Intent to be filed before any stormwater discharge from construction activities, and it requires that the SWPPP be implemented and maintained onsite. A Construction Drainage Erosion and Sediment Control Plan/SWPPP will be completed before the beginning of construction activities.

4.15.5.2.3 NPDES Stormwater Industrial General Permit

There will be no industrial stormwater discharges during the operation phases of the project; therefore, a NPDES Stormwater Industrial General Permit is not required.

4.15.5.3 Local LORS

4.15.5.3.1 Orange County National Pollutant Discharge Elimination System Permit

The City is a Permittee of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4) Draining the Watersheds within the San Diego Region (South Orange County MS4 Permit), Order R9-2013-0001, NPDES No. CAS6010266, as amended by Order No. R9-2015-0001. The South Orange County MS4 Permit regulates discharges into the MS4 system in the cities and county areas within Orange County that are in the jurisdiction of the San Diego RWQCB. As discussed further below, the South Orange County MS4 Permit requires preparation of a Water Quality Management Plan (WQMP) and implementation of post-construction BMPs for new development and significant redevelopment projects that qualify as Priority Development Projects. The proposed project is considered a Priority Development Project under the following categories specified in the South Orange County MS4 Permit:

- Category (a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
- Category (c) New and redevelopment projects that create 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: ○ (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
- Category (f) New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.

4.15.5.3.2 Drainage Area Management Program

The Drainage Area Management Plan (DAMP) was created by the County of Orange, the OCFCD, and incorporated cities (permittees), and includes specific water pollutant requirements of the Orange County Stormwater Program. The DAMP is the principal guidance and compliance document for the county-wide implementation of the Stormwater Program. It is the foundation for the permittees to implement model programs designed to prevent pollutants from entering receiving waters to the maximum extent practicable. Section 7 of the DAMP discusses issues relating to new developments and significant redevelopments.

4.15.5.3.3 Model Water Quality Management Plan

The Model Water Quality Management Plan (Model WQMP) for South Orange County was developed to aid Orange County, the OCFCD, the cities in Orange County (permittees), and developers in Orange County to address post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Development Projects. Priority Development Projects are required to develop a Project WQMP to minimize adverse impacts of development to on-site hydrology, volume and rate of runoff, and pollutants of concern. Project WQMPs include project-specific BMPs to minimize these effects (e.g., Low Impact Development [LID], site design measures, source control BMPs). The requirements identified in the Project WQMPs are subject to Section 7 of the DAMP.

4.15.5.3.4 Technical Guidance Document

The County of Orange developed the Technical Guidance Document (TGD) for the Preparation of Conceptual/Preliminary and/or Project Water Quality Management Plans (WQMPs) in South Orange County (TGD) in cooperation with the incorporated cities of South Orange County to aid agency staff and project proponents with

addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects in Orange County. The TGD serves as a technical guidance to complete the Project WQMP.

4.15.5.3.5 Hydromodification Plan

Pursuant to the requirements of the South Orange County MS4 Permit, the County prepared the South Orange County Hydromodifcation Management Plan (HMP). All priority development projects that do not meet the exemption criteria are required to comply with hydromodification criteria in the HMP. The goal of hydromodification control is to integrate hydrologic controls into a proposed project so that post-project runoff discharge rates and durations do not exceed predevelopment (naturally occurring) discharge rates and durations.

4.15.5.3.6 Orange County Construction Runoff Guidance Manual

The Construction Runoff Guidance Manual for Contractors, Project Owners, and Developers presents the requirements related to construction from the DAMP. The goal of this Guidance Manual is to control pollutant discharges from construction sites. As such, it helps applicants with building and grading permits to understand the water quality requirements during the construction phase of development projects.

4.15.5.3.7 City of San Juan Capistrano Water Quality Control Ordinance

Title 8, Chapter 14 of the City's Municipal Code contains certain requirements and prohibitions to help prevent runoff from polluting streams, and to comply with the federal requirements to control pollutants entering the City's storm water system. The Project will comply with this ordinance and employ best management practices to prevent construction debris and discharges from leaving the Project site and entering Oso Creek.

4.15.6 Agency Contacts, Permits, and Permit Schedule

Agency contacts and required permits are listed in Table 4.15-2.

Table 4.15-2. Permits and Agency Contacts

Permit	Agency Contact	Schedule
City of San Juan Capistrano Grading and Building Permit*	City of San Juan Capistrano Public Works and Engineering Department 30448 Rancho Viejo Road San Juan Capistrano, California 92675 (949) 443-6337	Building and Grading Permits
NPDES – Construction General Permit	Submit online using Stormwater Multiple Application and Report Tracking System (SMARTS) https://smarts.waterboards.ca.gov	Submit Notice of Intent for coverage under the statewide permit at least 30 days prior to construction.
NPDES – MS4 Permit	Orange County Public Works (Orange County Flood Control District) 601 North Ross Street Santa Ana, CA 92701	Submit permit application to Orange County Flood Control District at least 120 days prior to construction.

* Building and grading permits from the City of San Juan Capistrano Building Division would be superseded by CEC approval of the project under the opt-in program.

4.15.7 References

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DOC (California Department of Conservation). 2023. Tsunami Hazard Area Map Application. https://www.conservation.ca.gov/cgs/tsunami/maps

DWR (California Department of Water Resources). 1972. Planned Utilization of Water Resources in the San Juan Creek Basin Area. Bulletin No. 104-7. 210 p.

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Western Regional Climate Center. 2023. Period of Record Monthly Climate Summary. Laguna Beach, California. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4647

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USACE and OCFCD. 2002. San Juan Creek Flood Risk Management Feasibility Study, Feasibility Phase, F-5 Report. August. https://ocip.ocpublicworks.com/san-juan-creek-flood-risk-management-feasibility-study

USGS (United States Geological Survey), 2014. National Water Information System. https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=333147117401901

USGS. 2019. Boundary Descriptions and Names of Regions, Subregions, Accounting Units and Cataloging Units. https://water.usgs.gov/GIS/huc_name.html#Region18

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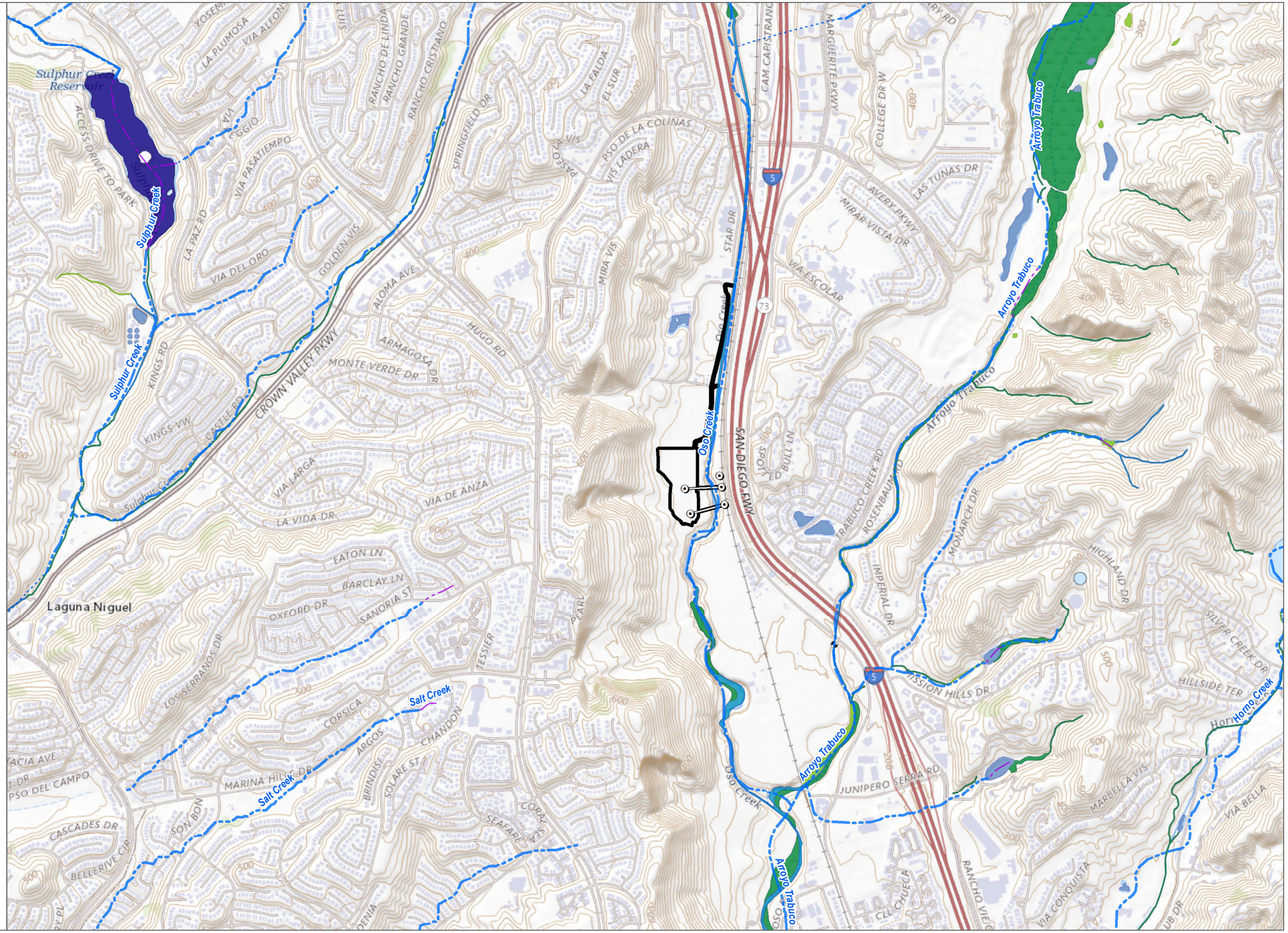
Project Site
Offsite Access Road
Transmission Line
New/Replacement Pole

Flowlines (NHD)

Stream/River
Artificial Path
Connector

Wetlands (NWI)

Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine



SOURCE: USGS National Map 2023; NHD 2023; NWI 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 4.15-1
Hydrology
Compass Energy Storage Project

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Project Site

Transmission Line

New/Replacement Pole

FEMA Flood Hazard

100-Year Flood Hazard Area - Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood.

The 1% annual chance flood (100-year flood), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard Area include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

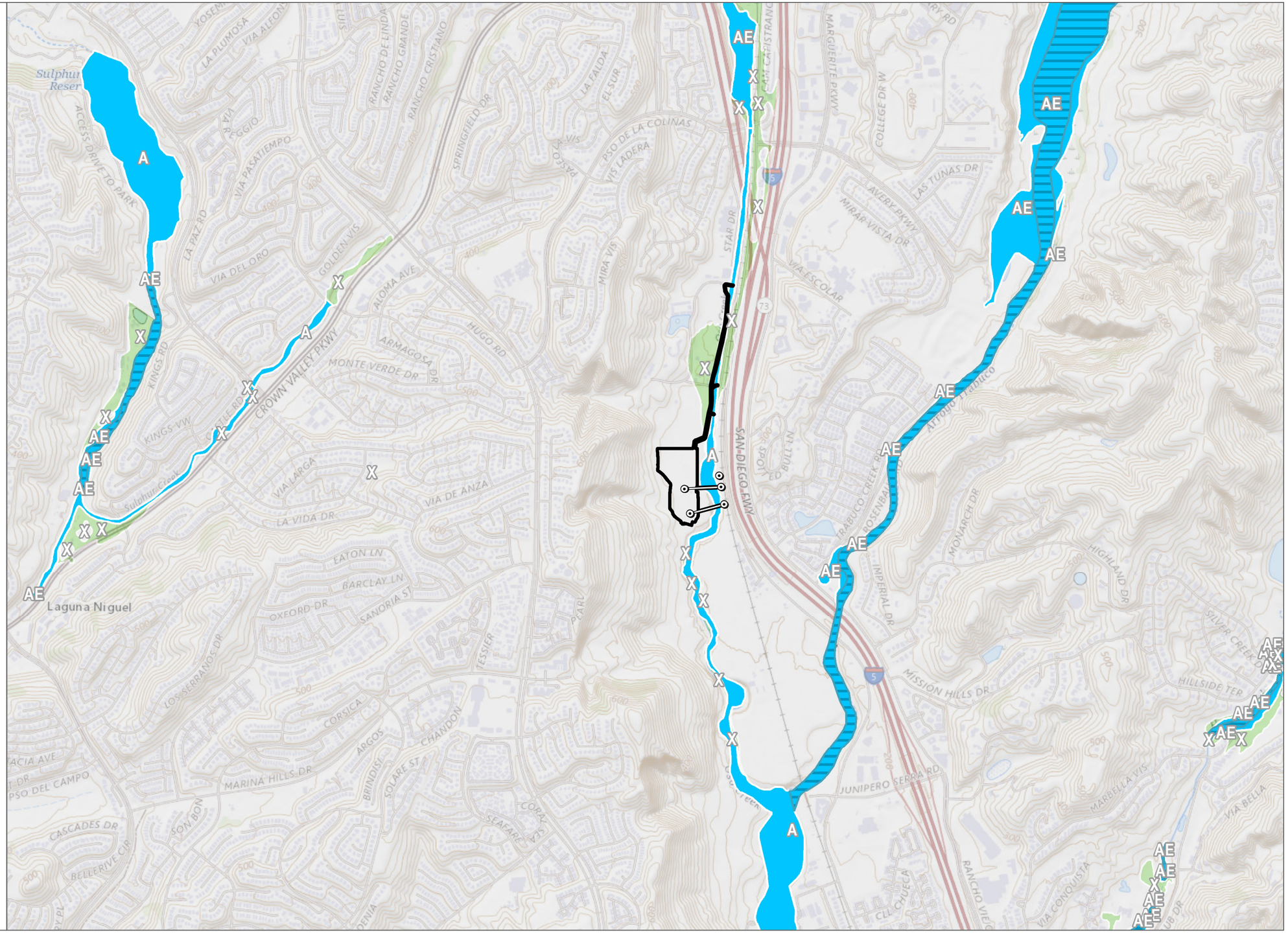
ZONE A: No Base Flood Elevations determined.

ZONE AE: Base Flood Elevations determined.

Floodway Areas in Zone AE

ZONE X: 500-year Flood Hazard Area - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with depths of less than 1 foot or with drainage areas less than 1 square mile

ZONE X: Areas of Minimal Flood Hazard; Areas determined to be outside the 0.2% floodplan.



SOURCE: USGS National Map 2023; FEMA 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 4.15-2

Flood Zones

Compass Energy Storage Project

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