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4.13 WATER RESOURCES

4.13.1 Introduction

The evaluation of water resources for the proposed Project will address both surface water and groundwater when evaluating potential effects from Project construction and operation. Specific subject areas evaluated include the following:

- Water supply
- Wastewater
- Stormwater and drainage
- Water quality
- Flooding
- Groundwater

The water resources discussion is organized into four subsections: (1) affected environment, (2) environmental consequences, (3) mitigation measures, and (4) applicable LORS.

4.13.2 Affected Environment

This section describes the existing water resources in the region, vicinity, and proposed site that could potentially be impacted by the Project.

The proposed Project will consist of the power plant and onsite access road, SDG&E utility switchyard, 230kV gen tie, and 8-inch natural gas pipeline lateral. The Project is located south of the Sycamore Landfill in the northeastern part of the City of San Diego (Figure 2.1-1). The proposed plant will be located on a parcel approximately 21.6 acres in area located on the east side of Sycamore Landfill Road. The proposed gen tie will extend north from the power plant to the south end of the landfill, then proceed west across Little Sycamore Canyon to the ridgeline along the west side of the canyon to the utility switchyard (Figure 2.1-1). The proposed gas pipeline lateral will extend south from the power plant adjacent to Sycamore Landfill Road. Laydown areas for construction will be located southwest of the Sycamore Landfill in a previously cleared area associated with landfill operations (Figure 2.1-1). A relatively small area on the plant site parcel west of the proposed plant building will be used as a truck parking and equipment unloading area (Figure 2.2-1). The proposed SDG&E utility switchyard (approximately 2.5 acres) will be located west of the Sycamore Landfill (Figure 2.1-1).

According to the preliminary Geotechnical Report for the plant site (Petra 2011), it is underlain by clayey siltstone and claystone bedrock of the Friars Formation, capped by sandstone and cobble conglomerate of the Stadium Conglomerate Formation along onsite ridges (see Section 4.16, Geological Hazards and Resources, Figures 4.16-2 and 4.16-3). The Project gen tie route is located on the same formations. Portions of the gas pipeline lateral south of the plant site cross onto Holocene to Quaternary alluvial flood plain deposits (Ludington et al. 2005; Kennedy et al. 2008). Soils are dissected cobbly loams (15 to 50 percent slope) in the northeastern extent of the proposed plant site and underlying the proposed gen tie, and clays (9 to 30 percent) in the southeastern extent of the site and underlying the proposed gas pipeline lateral (NRCS 2007). The site lies outside of designated fault hazard zones with no evidence of faults (Petra 2011). The plant site footprint is located approximately 1 mile north of the San

Diego River, east of Little Sycamore Canyon, and south of the Sycamore Landfill. The site contains upland, swale-shaped drainages with no definable bed or bank features. As described in Section 4.12 and the Preliminary Jurisdictional Delineation Report (MBA 2011), the only drainage features under federal or state regulatory jurisdiction appear to be segments of Spring Canyon and Little Sycamore Canyon, both west of the plant site. The RWQCB, CDFG, and USACE make the ultimate determination of jurisdiction; therefore, this preliminary assessment requires agency concurrence. Wetlands are addressed in Section 4.12, Biological Resources.

4.13.2.1 Rainfall

The region where the proposed Project is located is semiarid with a mild coastal climate and little precipitation. Approximately 90 percent of the region's water supply is imported from Northern California and the Colorado River (SDRWQCB 2011). The region is typically dry in the spring, summer, and fall, with most of the precipitation occurring from December through March. Annual precipitation in the entire San Diego Hydrologic Unit ranges from less than 11 inches at the coast to about 35 inches in the upper portion of the watershed (at Cuyamaca and El Capitan Reservoir) (RWQCB 2007). Isohyets mapped at the Project show annual average precipitation from 12 to 15 inches.

The RWQCB defines the "Rainy Season" as October 1 through May 1. The 85th percentile precipitation for the proposed Project is between 0.55 and 0.60 inch (San Diego County 2003). The 85th percentile precipitation is the 24-hour rainfall total for which 85 percent of 24-hour rainfall totals will be less than this amount. Average monthly rainfalls in inches in the City of San Diego are shown in Table 4.13-1.

Table 4.13-1 City of San Diego Average Rainfall in Inches (1971-2000)

January	February	March	April	May	June	July	August	September	October	December	Year
2.03	1.96	1.69	0.79	0.21	0.06	0.02	0.06	0.18	0.50	0.96	1.76

Source: City of San Diego Water Department 2005.

The San Diego County Hydrology Manual isopluvial maps were used to identify the rainfall quantities for the different storm rainfall events in the Project site vicinity. The design storm values are shown in Table 4.13-2.

Table 4.13-2 Rainfall Quantities for Design Storm Rainfall Events

Storm Event Return Period (year)	6-Hour ($P_{6\text{-hr}}$) (inches)	24-Hour ($P_{24\text{-hr}}$) (inches)
2	1.2	1.8
5	1.6	2.5
10	1.8	2.9
25	2.0	3.7
50	2.4	4.2
100	2.5	4.7

Source: San Diego County Department of Public Works Flood Control Section 2003, Isopluvial Maps.

4.13.2.2 Surface Water

As shown in Figure 4.13-1, intermittent streams closest to the Project flow southward through Little Sycamore Canyon (west of the site) and an unnamed drainage (east of the site). Further

east of the site are intermittent streams that flow southward through Quail Canyon and Sycamore Canyon. Within Sycamore Canyon, seven lakes form part of the Padre Dam Municipal Water District wastewater recycling system. These lakes are managed as the Santee Recreation Preserve and Campground.

Also near the Project, the San Diego River flows toward the Pacific Ocean south of SR 52. Inundation from upstream dams causes the river to widen beyond its original banks in this area. Historically, the river flowed unimpeded from its headwaters in the Cleveland National Forest to its delta at the Pacific Ocean. Unimpeded river flows were intermittent, varying throughout the year and from year to year, and in extreme wet weather events exceeded 100,000 cfs (City of San Diego 2010). Since the 1800s, dams and levees have been constructed along the San Diego River, and the USACE has channelized numerous river sections (primarily in the City of San Diego downstream of the Project). In the National Hydrographic Dataset (NHD), the USGS maps the river as intermittent, but perennial flows are documented for the lower reaches (City of San Diego 2010). Water imported by the City of San Diego from Northern California and the Colorado River supplies year-round flows, entering the river from residential and commercial runoff, irrigation runoff, treated effluent of a sewage treatment facility in Santee, and from reservoir overflow.

The RWQCB has designated beneficial uses to satisfy applicable requirements of the California Water Code, Division 7 (also known as the Porter-Cologne Water Quality Control Act) and the federal CWA (RWQCB 2007). Unless noted otherwise, the following existing beneficial uses have been designated near the Project in Sycamore Canyon, Quail Canyon, and Little Sycamore Canyon and their tributaries, and in the portion of the San Diego River that flows through the Santee Hydrologic Subarea south of the Project:

- Agricultural Supply (AGR) – Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing. This beneficial use is designated in Sycamore Canyon, Quail Canyon, and Little Sycamore Canyon but not in the San Diego River near the Project.
- Industrial Service Supply (IND) – Includes 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 re-pressurization.
- Contact Water Recreation (REC-1) – Includes 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) – Includes the 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) – Includes 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.

- Wildlife Habitat (WILD) – Includes 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) – Includes 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. This beneficial use is designated in Sycamore Canyon and the San Diego River near the Project but not in Quail Canyon or Little Sycamore Canyon.

In addition, the San Diego River south of the Project has been designated with the following potential beneficial use that may develop in future years:

- Municipal and Domestic Supply (MUN) – Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

The San Diego River near the Project site is on the 2008-2010 CWA Section 303(d) list of impaired waters for several constituents (listed in Table 4.13-3) identified as exceeding water quality standards. The 2008-2010 303(d) list is currently under review by the USEPA. Of the listed pollutants, low dissolved oxygen, phosphorus, and total dissolved solids (TDS) extend into the Santee Hydrologic Subarea, which includes the Project site. In addition, the USEPA is considering whether to maintain Sycamore Canyon, an intermittent stream east of the Project, on the 303(d) list for chlorine. After review of the available water quality data, the State Water Resources Control Board recommended that this segment be removed from 303(d) list because applicable water quality standards are not exceeded.

Table 4.13-3 Pollutants Listed on 2008-2010 303(d) List for San Diego River Near the Project

Pollutants	Potential Sources	Estimated TMDL Completion	Comments
Enterococcus	Nonpoint source, point source, urban runoff/storm sewers	2021	
Low Dissolved Oxygen	Unknown nonpoint source, unknown point source, urban runoff/storm sewers	2019	San Diego River impairment transcends Santee Hydrologic Subarea.
Manganese	Source unknown	2021	
Nitrogen	Nonpoint source, point source, urban runoff/storm sewers	2021	
Phosphorus	Unknown nonpoint source, unknown point source, urban runoff/storm sewers	2019	San Diego River impairment transcends Santee Hydrologic Subarea.
Total Dissolved Solids	Flow regulation/modification, natural sources, unknown nonpoint source, unknown point source, urban runoff/storm sewers	2019	San Diego River impairment transcends Santee Hydrologic Subarea.
Toxicity	Nonpoint source, other urban runoff, unknown point source	2021	

Source: SDRWQCB 2010.

Detailed mapping has been completed of Waters of the United States subject to Sections 401 and 404 of the CWA, Waters of the State subject to Section 1600 of the CFG Code, and wetlands. Results of this work are presented in Section 4.12, Biological Resources, and maps of the survey area, descriptions, field data sheets, and other details of this work are comprehensively reported in technical reports prepared by Michael Brandman Associates (MBA 2011), included in Appendix H.6.

Many of the existing drainage features within the proposed Project site are upland swales and have no definable bed and bank features. The main drainage features associated with the Project are Spring Canyon and one small segment of Little Sycamore Canyon, which eventually connect to the San Diego River. A segment of Spring Canyon displays well-defined OHWMs and/or a defined bed and banks. Vegetation in that segment gradually changes from an unvegetated channel in the north to a southern sycamore/alder riparian woodland to the south. A small wetland area occurs within the OHWM and another wetland feature occurs at the southern survey area boundary adjacent to Spring Canyon. The rest of Spring Canyon and Little Sycamore Canyon are unvegetated channels without OHWM.

Based on the findings of the jurisdictional delineation, there are no Waters of the United States or Waters of the State within the footprint of construction for the plant site or along the gas pipeline lateral. Along the gen tie route, 1.88 acres (including 0.02 acre of wetland) may be subject to USACE and RWQCB jurisdiction, and 2.17 acres of streambed may be subject to CDFG jurisdiction (MBA 2011).

4.13.2.3 Drainage

The Project is within the jurisdiction of the San Diego (Region 9) RWQCB, in the San Diego Hydrologic Unit. The San Diego Hydrologic Unit is a long, triangular-shaped area of about 440 square miles. It is drained by the San Diego River, which discharges into the Pacific Ocean at the community of Ocean Beach. The major water storage facilities in the San Diego Hydrologic Unit are El Capitan, San Vicente, Cuyamaca, and Jennings reservoirs (all located upstream of the Project), as well as Murray reservoir (located on the southern portion of the hydrologic unit, across the San Diego River from the Project). The San Diego Hydrologic Unit is comprised of four hydrologic areas, with the Project site located in the Lower San Diego Hydrologic Area. Within that hydrologic area, the site is located within the Santee Hydrologic Subarea (identified as 7.12) (Figure 4.13-1).

Figure 4.13-2 shows the existing topography near the Project, including the gen tie route. The proposed plant site is located on the furthest southwestern sideslope of a north-south-trending ridgeline between Little Sycamore Canyon (to the west) and Quail Canyon and Sycamore Canyon (to the east). On the plant site, topography consists of southwest-trending ridgelines and tributary drainages. Elevations range from approximately 555 feet amsl in the northeastern portion of the site to approximately 375 feet amsl in the southwestern portion of the site. The site is overgrown with thick, low to medium weeds, native grasses, brush, and occasional small trees (Petra 2011).

A preliminary assessment of the local watersheds that currently generate stormwater runoff through the undeveloped Project site identified three small watersheds totaling approximately 48.3 acres, identified as North (15.9 acres), Central (14.9 acres), and South (17.5 acres) in Figure 4.13-3. Only a small portion of the North watershed lies within the plant site parcel.

The Central watershed encompasses the majority of the Project, including the power plant site, while the South watershed encompasses the area that will be used for the access road to the power plant. More information about existing drainage, as well as detailed stormwater calculations are provided in Appendix I.1.

The stormwater drainage (runoff) from each of the identified watersheds was estimated using the following basis:

- Data for the watershed elevation contours were based on digital terrain model data and airborne Interferometric Synthetic Aperture Radar, processed by Intermap Technologies, Inc. These contours are shown in Figure 4.13-3.
- The rainfall intensity was conservatively estimated by procedures outlined in San Diego County/City's Hydrology Manual (using the 6-hour precipitation event for a given design storm).
- The time of concentration was estimated utilizing the FAA Formula (which uses the Rational Coefficient) and Kirpich's Formula, appropriate for small mountainous basins.
- The peak runoff flow rates, in cfs were computed with the Rational Method per San Diego County/City's Hydrology Manual.
- Runoff flow rate estimates and volumes were developed for Design storm events with a return of 2, 5, 10, 25, 50 and 100 years (i.e., Q_{P-X} and V_{P-X} where X is the year).
- The analysis was performed in accordance with the City of San Diego Drainage Design Manual (City of San Diego 1984) and the San Diego County Hydrology Manual (San Diego County Department of Public Works Flood Control Section 2003).

Table 4.13-4 shows the estimated flow rates for runoff (Q) from the undeveloped site for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year storm events. The preliminary assessment also included estimation of runoff rates for the 85th percentile design storm event (Q_{85}), which is required for designing BMPs as guided by San Diego County Hydrology Manual (San Diego County 2003). Table 4.13-5 presents the corresponding estimated volumes of runoff (V) from the undeveloped site in acre-feet (af).

Table 4.13-4 Summary of Preliminary Runoff Design Flow Rates from Undeveloped Site

	Pre-Development Peak Runoff Design Flow Rates (cfs)						
Watershed Area	Q_{85}	Q_{p-2}	Q_{p-5}	Q_{p-10}	Q_{p-25}	Q_{p-50}	Q_{p-100}
North Watershed	11.5	22.9	30.6	34.4	38.2	45.9	47.8
Central Watershed	11.3	22.7	30.2	34.0	37.8	45.3	47.2
South Watershed	12.4	24.8	33.1	37.2	41.4	49.6	51.7

Table 4.13-5 Summary of Preliminary Runoff Design Volumes from Undeveloped Site

	Pre-Development Peak Runoff Design Volumes (af)						
Watershed Area	V_{85}	V_{p-2}	V_{p-5}	V_{p-10}	V_{p-25}	V_{p-50}	V_{p-100}
North Watershed	0.5	1.0	1.3	1.4	1.6	1.9	2.0
Central Watershed	0.5	1.0	1.4	1.5	1.7	2.0	2.1
South Watershed	0.5	1.1	1.4	1.6	1.8	2.1	2.2

The drainage swales on the plant site are normally dry but can have surface flow in response to precipitation events. Two stormwater catch basins currently are located on the western edge of the site, adjacent to Sycamore Landfill Road (Tetra Tech EC, Inc. 2011). As shown in Figure 4.14-3, the three watersheds drain naturally toward Sycamore Landfill Road.

Stormwater draining from the North watershed intersects Sycamore Landfill Road approximately 200 feet north of the plant site parcel. The stormwater appears to pond along the side of the road until it either flows over the road or southward along the eastern side of the road through a normally dry swale to a point where it crosses the road. The Central watershed drains to at a catch basin just east of the road. From the catch basin, the stormwater flows westward through a culvert under Sycamore Landfill Road. The South watershed drains a slightly larger area, with headwaters upgradient of the proposed plant site heading in a southerly direction and shifting to the southwest through the site towards Sycamore Landfill Road. A portion of the stormwater enters a v-shaped, concrete drainage ditch on the southern edge of the parcel. The ditch transports any flows south, toward a low point ponding area and catch basin that also collects stormwater draining the rest of the South watershed. A culvert under Sycamore Landfill Road and SR 52 drains the stormwater from the ponding area. The culvert discharges any flows to the wash along the southwestern side of SR 52.

The proposed route of the gen tie crosses a dissected hillslope north of the plant site and then crosses the Little Sycamore Canyon Creek, continuing along hilly terrain northwest of the proposed plant site. Along this hilly, north-south-trending ridge west of the plant site, runoff drains east to Little Sycamore Canyon and west to Spring Canyon (Figure 4.13-1). Both drainages flow southward and cross SR 52. Flow from the Little Sycamore drainage passes under the highway through a culvert, and from the Spring Canyon drainage passes under a bridge.

North of the site, Sycamore Landfill operates under a SWPPP (Tetra Tech EC, Inc. 2011). Run-on and runoff control facilities have been designed to accommodate a 100-year, 24-hour storm event, as required by California Code of Regulations (CCR) Title 27. A stormwater monitoring program is implemented at the landfill under the NPDES General Permit for Industrial Activities.

4.13.2.4 Flooding Potential

A map of the FEMA 100-year flood zone is provided in Figure 4.13-4. All Project facilities are located in an area determined to be outside the 500-year flood. The nearest 100-year flood zones follow the lowest reaches of the Little Sycamore Canyon immediately west of the Project site, and along Spring Canyon west of the Project gen tie line. The Project is sufficiently inland to be outside of the San Diego County tsunami inundation zones mapped by the USGS (2011).

4.13.2.5 Groundwater

Section 4.16 describes the geology of the Project region. The rock and sediment lithologies underlying the site control the occurrence and movement of local groundwater. These units do not yield significant groundwater (California Department of Water Resources 2003). As reported in the Phase I Environmental Site Assessment (Tetra Tech EC, Inc. 2011), groundwater depth at the Sycamore Landfill (approximately 0.35 mile north of the site) ranged from approximately 10 to 335 feet below ground surface (bgs) with a reported groundwater flow direction to the south-southwest (Republic Services 2011). Groundwater was not encountered on the Quail Brush Project site in 13 exploratory trenches dug 6 to 12 feet deep during the geotechnical

investigation (Petra 2011). Perched groundwater overlaying dense bedrock may be encountered near the site. Groundwater levels can vary seasonally or with irrigation. However, with the non-water-bearing rock that underlies it, the Project is not located over any groundwater basin.

Immediately south of the Project, the western end of the San Diego River Valley Ground Water Basin (California Department of Water Resources Basin 9-15) follows the river on the south side of SR 52. This basin consists of alluvium deposited by San Diego River and its tributaries, and is surrounded by contacts with semi-permeable rocks of the Eocene Poway Group, impermeable Cretaceous crystalline rock, and impermeable Jurassic to Cretaceous Santiago Peak volcanic rocks.

Historically, the primary recharge sources for the San Diego River Valley were stream runoff from the San Diego River and San Vicente Creek. The El Capitan and San Vicente dams were completed in 1935 and 1943, respectively, and have altered recharge patterns. At present, recharge occurs from dam releases and underflow past the dams. Other sources of groundwater recharge are stream-flow from Forester Creek and other smaller creeks near the Project, precipitation falling on the valley floor, and discharges from municipal wastewater-treatment plants (California Department of Water Resources 2003). Estimates for storage capacities of the San Diego River Valley are variable. Specific yield estimates range from 5 percent for partly cemented sands to 22 percent for clean sands, with a capacity ranging from 24,000 to 97,000 af (California Department of Water Resources 2003).

Groundwater in the San Diego River Valley varies in quality. The western portion of the basin closest to the Project contains water of a chloride character. TDS content ranges from 260 to 2,870 mg/L, with values on the higher end of the range near the Project (California Department of Water Resources 2003). North of the Project, at the Sycamore Landfill, groundwater quality is monitored semiannually. Groundwater samples are analyzed for indicator parameters, including chloride, nitrate as nitrogen, sulfate, and TDS, and VOCs. VOCs associated with landfill gas have been detected historically (first reported in 1992) in groundwater in the southwestern portion of the landfill (Tetra Tech EC, Inc. 2011). Corrective measures began in 1996 to mitigate impacted groundwater conditions. Currently, impacted groundwater is pumped to an aboveground storage tank, transferred to water trucks, and used for dust control at the landfill. Groundwater quality appears stable at the landfill (Geo-Logic Associates 2010).

The San Diego River Valley includes municipal/irrigation wells producing up to 2,000 gpm, but no known groundwater wells are mapped within 1 mile of the Project.

4.13.3 Environmental Consequences

Project effects on water resources can be evaluated relative to significance criteria derived from the CEQA Appendix G checklist. Under CEQA, 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 alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite, or in flooding on or offsite.

- Create or contribute to runoff water which 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 (for example, the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).
- Place within a 100-year flood hazard area structures that will impede or redirect flood flows.
- Cause inundation by seiche (a standing wave in an enclosed or partially enclosed body of water), tsunami, or mudflow.

4.13.3.1 Water Supply

Water uses and the volume, source, and conveyance of water by the Project are important evaluation criteria. Estimated average annual and peak water usage rates are provided in Section 2.2.7 and summarized in Table 4.13-6. The estimated peak water usage during the construction phase is approximately 5,200,000 gallons (approximately 16 af) during the first 3 months. During operations, the estimated peak facility water usage is approximately 685,000 gallons per year (2 af per year [afy]). Average annual and peak use water balance diagrams are included in Figures 2.3-4A and 2.3-4B.

Table 4.13-6 Water Usage Rates for the Proposed Project

Water Use	Average Daily Rate (gpd)	Peak Daily Rate (gpd)	Annual Rate (afy)
Construction			
Plant Site/Gen tie/Gas Lateral/Switchyard Construction	8,000	58,000	9.0
Operations			
Fire Suppression[1]	0	0	0.0
Closed Cooling Water (Engine)	202	259	0.2
Turbocharger Washing (Engine)	101	130	0.1
Plant Uses	562	720	0.6
Sanitary Uses	374	475	0.4
Miscellaneous Uses[2]	288	288	0.3
Total	1,440	1,872	1.6

Notes:

[1] Fire suppression water usage rates of 0.00 gpm are shown because the Project will not require ongoing water use for fire suppression. Instead, a 600,000-gallon fire water storage tank will be filled once and maintained onsite.

[2] Miscellaneous uses include washing, landscape maintenance, etc.

Construction water during the 18-month construction process will be supplied from the City of San Diego Municipal Water Department under a temporary water use permit via a nearby fire hydrant adjacent to Mission Gorge Road, south of the intersection with West Hills Parkway. If this location is unavailable, another suitable hydrant will be selected. Cogentrix (2011) has contacted with City of San Diego to confirm that construction water can be obtained by

submitting a fee with a permit application. The permit remains in effect for 1 year but can be renewed if necessary. Appendix I.2 provides a water chemistry profile for the City of San Diego water supply. Construction water use will be greatest during the first 3 months, when site grading is scheduled. As shown in Table 4.13-6, peak water use during construction (58,000 gpd) is based on 40 gallons of water per cubic yard of fill and 150,000 total cubic yards of grading over 3 months. For remaining construction water uses, approximately 8,000 gpd will be required to build the gas line, plant site, gen tie, and switchyard.

During periods of plant operations, water consumption will average approximately 1,440 gpd (Table 4.13-6). Domestic water will be supplied by Palomar Mountain Premium Spring Water (Palomar). Will-serve correspondence indicating Palomar's agreement to provide water for the Project is included in Appendix I-3. The Project water use represents approximately 3 percent of Palomar's available spring sources and less than 1 percent of Palomar's overall water sources (which also includes municipal water). Appendix I-4 provides a water chemistry profile for the Palomar water supply. Water will be delivered from spring sources on Palomar (on SR 76) in two 6,500-gallon water trucks per week and kept in a storage tanks located onsite. A 10,000-gallon domestic water tank, a 600,000 gallon fire water storage tank, and two 5,000 gallon water maintenance tanks are proposed for the facility. Domestic water service will be used for all facility needs, domestic water use, irrigation, and fire protection. No pumping of groundwater wells is anticipated. Although unlikely, if back-up water supplies were required, the Project would contract with another private water supplier instead. Bottled water will be supplied for worker consumption.

As described in Section 2.2.7, water consumption for the Project is low because the closed-loop engine cooling requires little water, the lean-burn reciprocating engines do not require water injection for NO_x control, and the system does not use a cooling tower, which is the major water consumer in many thermal power plants.

As described in Section 2.4.2.3, the engine cooling water system will provide cooling water to the engine jacket, charge air, and generator set lube oil. A separate cooling water system will be provided for each of the 11 generator sets. Each system consists of three closed-loop "fin fan" type forced draft heat exchangers (radiators), engine-driven pumps, interconnecting piping, valves, heat exchangers/coolers, and electric heaters.

Fire water will be supplied by an onsite storage tank, sized in accordance with NFPA guidelines. Fire water will be provided to a dedicated underground fire loop piping system, which will supply fire hydrants and fixed suppression systems. Fixed fire suppression systems will be installed at determined fire risk areas. Sprinkler systems also will be installed in the engine hall as required by NFPA and/or local code requirements.

The Project requires relatively little water and will not directly pump groundwater or capture onsite surface water for use in the facility. Transfers or exchanges will not be required. As a result, no significant adverse impacts to local water supply are expected. Furthermore, the Project water consumption represents less than 1 percent of Palomar's supplies.

4.13.3.2 Wastewater Discharges and Disposal

The volume and quality of wastewater that would be generated by the Project and methods of disposal are described in detail below. Estimated average annual and peak wastewater

discharge rates are provided in Section 2.2.9 and summarized in Table 4.13-7. Water balance diagrams showing average annual and peak wastewater volumes are included in Figures 2.3-4A and 2.3-4B, and heat and mass balance diagram in Figure 2.2-3.

Table 4.13-7 Average Annual and Peak Wastewater Rates for the Proposed Project

Wastewater Source	Average Daily Rate (gpd)	Peak Daily Rate (gpd)	Annual Rate (afy)	Wastewater Discharge
Construction				
Plant Site/Gen tie/Gas Lateral/Switchyard Construction				Storm drainage
Operations				
Fire Suppression	0	0	0.0	NA
Closed Cooling Water (Engine)[1]	144	187	0.2	Offsite disposal
Turbocharger Washing (Engine)[1]	0	0	0.0	NA
Plant Uses	562	720	0.6	Offsite disposal
Sanitary Uses	374	475	0.4	Onsite septic system
Miscellaneous Uses[2]	288	288	0.3	Exterior drainage
Rain Water	NA	NA	NA	Storm drainage
Total	1368	1,670	1.5	

Notes:

[1] As shown in water balance diagrams, some closed cooling and turbocharger washing water will evaporate instead of being wastewater.

[2] Miscellaneous uses include washing, lawn maintenance, etc.

As described in Section 2.2.9, the primary wastewater collection system will collect process wastewater from the facility equipment maintenance areas and service water from routine service water areas (including generator set turbo-compressor washing). The peak amount of process wastewater discharged into the plant equipment maintenance area wastewater collection system is estimated to be 0.63 gpm (907 gpd). Water from these areas has the potential for contamination and will therefore be collected via a floor drain or comparable system and directed to one of two bunkered, approximately 3,000-gallon wastewater holding tanks for testing. Contents will be pumped periodically to a tanker truck for disposal by a properly-licensed contractor. In the unlikely event of an upset condition, the contents of the holding tank will be conveyed offsite by a licensed contractor for treatment and disposal. Two California wastewater treatment and recycling facilities listed in Table 4.13-8 are permitted to accept both hazardous and nonhazardous wastewater: Veolia Environmental Services located in Azusa, California and DeMenno/Kerdoon, located in Compton, California. The Project will rarely need to transport wastewater to one of these facilities, and the amount will be insignificant compared to their permitted capacities. As a result, contracts will be established with these facilities, as needed, to serve the Project's wastewater needs.

Table 4.13-8 Wastewater Recycling/Disposal Facilities

Wastewater Disposal Site/Liquid Recycling	Permitted Capacity
DeMenno/Kerdoon 2000 North Alameda Street Compton, CA 90222	~30 million gallons per year
Veolia Environmental Services 1704 West First Street Azusa, CA 91702	1,054,565 gallons total

The second wastewater collection system will collect wastewater from sinks, toilets, showers, and other sanitary facilities. All drains from these personal uses will be directed to the onsite septic system (septic tank and leach field). The peak amount of sanitary wastewater discharged into the sanitary and consumptive wastewater collection system is estimated to be 0.33 gpm (475 gpd).

In addition, wastewater generated from miscellaneous uses including landscaping and irrigation will be directed to an exterior drainage system. The peak amount of wastewater discharged into the exterior drainage system is estimated to be 0.20 gpm (288 gpd).

The combined wastewater discharge volume is minimal, and wastewater will not be discharged to existing sewer or other wastewater infrastructure. Underground injection will not be used. Contaminated process water will be treated and disposed offsite and sanitary wastewater will be treated in the proposed onsite septic system. As a result, impacts to the wastewater system would be less than significant.

4.13.3.3 Stormwater Runoff and Drainage

This section describes how the construction and operation of the Project will impact existing stormwater runoff and drainage patterns. Detailed hydrology and hydraulic information is provided in Appendix I.1. Only minor changes will be made to the overall drainage patterns of the three watersheds as a result of Project development. Figure 4.13-5 shows the proposed Project in relation to the three local watersheds, and indicates that the North watershed is not affected by the power plant site. The Central watershed encompasses the majority of the Project, including the power plant site, while the South watershed encompasses the area that will be used for the access road to the power plant.

The finished surface for the power plant must be generally level for proper site drainage and operation of the equipment. For proper drainage, minor and localized grading (approximately 0.5 percent slopes) will be necessary to direct water into the proposed underground storm drain system within the plant area that will eventually discharge to the perimeter surface system. Similarly, concrete pads for the components of the power plant that will require secondary containment also will require slight slopes to a sump area for collection. The overall finished elevation of the plant, 465 feet amsl, will require grading of the plant footprint to cut down the existing eastern slope area and placing fill to build up the western side of the plant site area. The preliminary grading plan indicates that the maximum cut will be approximately 70 feet into the existing grade, and the maximum fill will be approximately 70 feet above the existing grade. Based on the preliminary Geotechnical Report (Petra 2011), the allowable slopes will be based on a 2:1 (horizontal to vertical) ratio with the slope ascending from the edge of the plant footprint

on the east to match with existing grade and the fill extending west under the footprint to the existing grade. In general, the plant site will be graded such that clean stormwater does not flow onto the plant site, but drains past or away from the plant.

Due to the physical constraints of the property, retaining walls are anticipated to be included on the western slopes to reduce the horizontal footprint of the plant site and allow room for drainage controls on the western side of the plant site, adjacent to the Sycamore Landfill Road. The final design will identify the optimal spacing and details of the retaining walls, but the preliminary design uses a series of 10-foot high walls to step the surface grade down from the power plant finished elevation to the existing grade.

The stormwater drainage gully entering the plant site from the east will be directed along the northern side of the plant site. It will pass through a culvert for the interior road into the switchyard. A concrete, trapezoidal channel will be used to convey the stormwater near the northwestern corner of the plant site to the existing drainage channel (i.e., from the 465-foot amsl elevation to an approximately 395-foot amsl existing elevation) along Sycamore Landfill Road. Due to the slope, this trapezoidal channel will use energy dissipation structures to control and reduce the velocity of the water in the channel. The toe of the drainage channel slopes may also be armored with riprap to provide for slope and flood protection during a 100-year storm event.

The shape of the South watershed will be slightly changed by the location of the plant and access road, but the stormwater drainage will remain approximately the same. The surface at the southwestern corner of the plant will be graded toward the west, with the eastern portion draining toward the access road, continuing to the south along the eastern side of the access road. Drainage channels will be located on both sides of the access road to convey stormwater along the road. The drainage channels will direct the stormwater southwards at the bend in the road, maintaining the flow into the South watershed drainage area. The drainage from the west side of the access road will be diverted through a culvert under the access road, as shown in Figure 4.13-5.

A preliminary assessment of the drainage from the watersheds was made, using the same basis as the pre-development assessment. Table 4.13-9 shows the estimated flow rates for runoff (Q) from the post-development site for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year storm events. The preliminary assessment also estimated runoff rates for the 85th percentile design storm event (Q_{85}), which is required for designing BMPs as guided by San Diego County Hydrology Manual (San Diego County Department of Public Works Flood Control Section 2003). Table 4.13-10 presents the corresponding estimated volumes of runoff (V) from the post-development site.

Table 4.13-9 Summary of Preliminary Runoff Design Flow Rates Following Site Development

	Post-Development Peak Runoff Design Flow Rates (cfs)						
Watershed Area	Q_{85}	Q_{p-2}	Q_{p-5}	Q_{p-10}	Q_{p-25}	Q_{p-50}	Q_{p-100}
North Watershed	11.4	22.9	30.5	34.3	38.2	45.8	47.7
Central Watershed	12.7	25.4	33.9	38.1	42.4	50.8	52.9
South Watershed	12.9	25.8	34.4	38.8	43.1	51.7	53.8

Table 4.13-10 Summary of Preliminary Runoff Design Volumes Following Site Development

	Post-Development Peak Runoff Design Volumes (af)						
Watershed Area	V_{85}	V_{p-2}	V_{p-5}	V_{p-10}	V_{p-25}	V_{p-50}	V_{p-100}
North Watershed	0.5	1.0	1.3	1.4	1.6	1.9	2.0
Central Watershed	0.4	1.0	1.4	1.5	1.7	2.0	2.1
South Watershed	0.5	1.1	1.5	1.6	1.8	2.2	2.3

A comparison of the clean stormwater flow rates in each watershed indicates that the post-development flow rates for the Central and South watersheds are approximately 12 and 4 percent higher, respectively, than the pre-development values. The runoff volumes for the Central and South watersheds are approximately 13 and 4 percent higher, respectively, then the pre-development values. This result meets the intent of maintaining the existing stormwater flows in the watersheds following development.

The grading plan for the plant will be based on the final geotechnical investigation and recommendations. Based on the preliminary Geotechnical Report (Petra 2011) of the site, the substantial cuts and fills required and the formations present under the site may necessitate cleanouts of onsite drainages prior to fill placement. Cleanouts involve removing existing low-density surficial soil deposits, highly weathered bedrock, or landslide materials in areas that will receive compacted fill. These materials are removed until competent bedrock is reached (estimated at depths of 2 to 15 feet). Subdrains are also likely to be required beneath drainage fills. Terrace drains (6-foot or larger) may be required at 30-foot vertical intervals to control surface drainage and debris (Petra 2011). Additional methods that may be used to achieve adequate slope drainage and stability include:

- Constructing concrete terrace drains, downdrains, and energy dissipation structure (where required) in accordance with the City of San Diego grading code. Constructing compacted earth berms along the tops of all engineered slopes.
- Landscaping engineered slopes as soon as practical after grading with deep-rooted, drought-resistant, relatively maintenance-free plants. Consider jute matting or equivalent or a spray-on product designed to seal slope surfaces as a temporary measure before landscaping can be completed.
- Installing surface irrigation systems and implementing a watering program on engineered slopes to maintain the minimal irrigation for any landscape vegetation.
- Implementing a permanent slope maintenance program, including care of drainage and erosion control provisions, rodent control, and repair of leaking irrigation systems.

The additional impervious surface created with plant infrastructure (e.g., structure roofing, surfaced access road) will reduce or eliminate natural infiltration of stormwater into soils under those surfaces. However, this localized change is not expected to generate noticeable increases in runoff relative to pre-project conditions downslope of the plant site.

The oil-filled equipment and oil and chemical storage tanks within the power plant will be designed with secondary containment structures to prevent the release of the contents to the environment in the event of an accident. Additionally, the engine hall will be designed to contain spills within the building. The plant site will have a separate plant storm drain system.

Stormwater drainage from those areas within the facility site that do not have equipment, tanks, or loading areas for oil or chemicals will be collected in the underground plant stormwater drainage system and discharged through to the existing grade southwest of the facility.

The plant storm drainage system includes catch basins for collecting stormwater and an underground piping system with typical manholes and cleanouts as required by good engineering practice. The surface grading will direct stormwater runoff to the stormwater drains via overland flow at a slope of 0.5 to 1 percent. The main facility area will be graded with moderate slopes for effective drainage. Roof drains from plant buildings will discharge directly into the plant stormwater drainage system. The inlets and outlets of culverts will be provided with permanent erosion protection.

Potentially contaminated process wastewater and visually-observed, impacted stormwater collected in secondary containment structures (discussed below under Water Quality) will not be discharged through to the Project stormwater system, instead being transferred to the wastewater holding tank.

Stormwater management practices will follow the California Stormwater Quality Association (CASQA) California Stormwater Best Management Practices Handbook, Sections TC-20 and TC-22.

Stormwater will be managed in accordance with all applicable LORS, as will be detailed in the Project Storm Water Pollution Prevention Plan. Because the Project will not substantially alter the existing drainage pattern of the area, and approximately the same amount of runoff and clean wastewater (from landscape, irrigation, and other miscellaneous water uses conveyed to exterior drainage) will reach existing drainage system before and after Project construction, impacts to stormwater drainage are not anticipated to be significant. By following the Project SWPPP and implementing effective BMPs, the Project will avoid causing substantial erosion or siltation on- or offsite, or in flooding on- or offsite.

4.13.3.4 Water Quality

This section describes how the construction and operation of the Project will impact water quality.

Disturbance of contaminated soils is unlikely during Project activities, as the Phase I Environmental Site Assessment (Tetra Tech EC, Inc. 2011) found no recognized environmental conditions associated with the Project. However, as indicated in Section 4.14, any hazardous soils found onsite would be removed.

During Project construction, site grading and drainage will be designed to comply with all applicable LORS. The general site grading will establish a working surface for construction and facility operating areas, and will provide positive drainage from structures and adequate ground coverage for subsurface utilities.

During construction, a total of approximately 22 acres of land associated with the proposed Project will be disturbed, including the 11-acre plant site and the 2.5-acre utility switchyard will be disturbed. Temporary construction laydown and parking areas (approximately 5 acres) will be located on previously disturbed Sycamore Landfill property and an existing lot on Mission

Gorge Road in Santee, located approximately one-half mile north and 3 miles east of the plant site, respectively. Alternatively, the parcel between Mast Boulevard, San Clemente Canyon Freeway, and West Hills Parkway may be used for parking, if necessary. The Project will minimize potential soil erosion or sediment delivery to surface water by limiting new disturbance areas.

Surface water quality impacts are anticipated to be related primarily to short-term construction activity and consist of increased turbidity due to erosion of newly excavated or placed soils. Activities such as grading can potentially increase rates of erosion during construction. In addition, construction materials could contaminate runoff or groundwater if not properly stored and used. Compliance with engineering and construction specifications, following approved grading and drainage plans, and adhering to proper material handling procedures will ensure effective mitigation of these short-term impacts. Additionally, erosion and sediment controls, surface water pollution prevention measures, and other BMPs will be developed and implemented for both construction and operational phases. These plans will be prepared in accordance with the NPDES construction permit issued by the SWRCB and local agency requirements.

To qualify for the NPDES statewide General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit), the Project will be required to develop a SWPPP prior to construction, to prevent the offsite migration of sediment and other pollutants and to reduce the effects of runoff from the construction site to offsite areas. Successful implementation of the SWPPP will ensure that construction impacts to water resources are mitigated to a less than significant level.

Included in the construction water use volumes (Table 4.13-6) is hydrostatic test water for the natural gas, stormwater, and septic system connecting lines and tanks. The discharged water will filter through hay bales and silt fence or comparable erosion control measures before it is discharged. These measures will be 90 percent or more effective in removing any sediment and other solids that may accumulate in the test water before discharge. The sediment and solids will be disposed in the Sycamore Landfill if nonhazardous and in an approved hazardous waste disposal facility, if hazardous. The hydrostatic test water will be reused to the extent possible. After testing, the water will be discharged into the storm drainage system. None of the project discharges will affect Waters of the State, and a report of waste discharge is not required.

As described in Section 4.12.1, during the jurisdictional delineation, no Waters of the United States or Waters of the State were identified within the footprint of construction for the site facilities or along the gas lateral. Along the gen tie, 1.88 acres (including 0.02 acre of wetland) may be subject to USACE and RWQCB jurisdiction, and 2.17 acres of streambed may be subject to CDFG jurisdiction. The Project gen tie line would span these features, resulting in no impacts to jurisdictional waters or wetlands.

Because the Project does not overlie any groundwater basin, trenching or excavations for pipeline and the building foundation will not require groundwater removal (dewatering). Stormwater is expected to result in minimal dewatering during construction, and this will be done in accordance with BMPs.

Water used for dust control and soil compaction during construction will not result in discharge. During the construction period, sanitary waste will be collected in portable toilets (no discharge)

supplied by a licensed contractor for collection and disposal of sanitary wastes at an appropriate receiving facility. Equipment wash water will be collected and disposed offsite.

During Project operation, domestic water will be sufficient for all plant service needs (i.e., demineralized water will not be required). As a result, no treatment/demineralized water system will be used. The only onsite water treatment will be adding an anti-corrosion agent (approximately 1,500 mg/L to the closed-loop radiator system. No additional treatment (e.g., glycol for anti-freeze) is anticipated. Addition of water (make-up) and/or the anti-corrosion agent to a given engine's closed loop cooling system will be performed only during periods of engine maintenance. Maintenance water will be stored in two 5,000 gallon tanks, one for each group of engines. Addition of water and/or the anti-corrosion agent will be a manual activity with no automatic conveyance system.

Hazardous chemicals (e.g. cooling water corrosion-inhibitors, urea, lubricating oil, solvents) will be stored in appropriate chemical storage tanks or cabinets. Urea will be stored in one 20,000-gallon capacity aboveground storage tank. The urea storage area will have spill containment and ammonia vapor detection equipment. New and used lubricating oil will be stored in separate 10,000-gallon tanks. Other chemicals will be stored in returnable delivery containers. Berm and drain piping design will allow a full-tank capacity spill without overflowing the berms. For multiple tanks located within the same bermed area, the capacity of the largest tank will determine the volume of the bermed area and drain piping. For liquid materials delivered by truck, such as lubricating oil and urea, truck unloading/containment area(s) will be designated to contain any potential spill that might occur during the truck unloading operation.

As will be described in the SPCC Plan, personnel will be properly trained in the handling of hazardous chemicals and instructed in the procedures to follow in case of a chemical spill or accidental release. Adequate supplies of absorbent material will be stored onsite for spill cleanup. Hose connections will be provided near the chemical storage areas to flush spills and leaks to the plant wastewater holding tank.

Potentially contaminated wastewater used during turbo-compressor washing or regular equipment maintenance, which may include metals or oils, will be stored temporarily in the wastewater holding tank. This wastewater will be analyzed and, if verified as contaminated, pumped to a tanker truck and removed by a properly licensed contractor for offsite treatment and disposal. Waste lubricating oil will be recovered and reclaimed by a waste oil recycling contractor. Other hazardous waste generated by Project operations, such as spent lubrication oil filters and SCR and oxidation catalysts, will be reclaimed or disposed in accordance with regulatory requirements.

Mitigation measures are described in Section 4.13.3. By complying with all applicable water quality LORS and implementing a Project-specific SWPPP, SPCC Plan, BMPs, and other mitigation measures, the Project construction and operation will not violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality of nearby streams or the San Diego River south of the site.

4.13.3.5 Flood Control

The Project is not located within any FEMA-mapped 100- or 500-year flood zones. Therefore, no project infrastructure will impede or redirect flood flows within a 100-year flood hazard area.

Because of its location, the Project site is not susceptible to inundation by seiche, tsunami, or mudflow.

4.13.3.6 Groundwater

The Project is not located over any groundwater basin, and groundwater will not be pumped for Project construction or operation. Static groundwater is not expected to be encountered during grading. Perched groundwater overlaying dense bedrock may be encountered during onsite drainage feature cleanouts (described in Section 4.13.2.3), especially if grading is performed during winter months (Petra 2011). Temporary diversion and control of locally perched groundwater may be necessary during initial placement of fill in the lower portions of the drainages. If encountered, drying of wet or saturated soils excavated from onsite drainage bottom areas may be necessary for proper compaction. The Project will not cause any discharges that would affect groundwater quality in the San Diego River Valley south of SR 52. Therefore, the Project will have very minimal impacts on groundwater.

4.13.3.7 Cumulative Impacts

The Project will not cause or contribute to cumulative impacts on water resources. Good engineering practices and BMPs will be used in the project design and operation. Stormwater discharge will adhere to a SWPPP and local agency water quality standards. No significant impacts to surface water or groundwater quality are expected during construction or operation of the Project. The Project will use very little water for cooling and industrial processes and will therefore contribute to water conservation.

The landfill expansion project (described in Section 4.17) is the only other project currently planned within the Community Plan area. Given the lack of proposed changes to the drainages in the area or significant construction activities, the minimal water quality impacts associated with the project would not contribute to a cumulatively significant impact. As described in Section 4.13.2.1, the Project requires relatively little water and no significant adverse impacts to local water supply are expected. The Project water consumption represents less than 1 percent of Palomar's supplies. In combination with the landfill expansion project, the Project will not result in potentially significant impacts to water supply.

4.13.4 Mitigation Measures

The following design and operational features of the Project avoid potentially significant environmental impacts:

- The Project has been designed to avoid disturbance to jurisdictional waters.
- No 100-year flood zones or jurisdictional waters occur on the Project site.
- The Project is designed with minimal water use requirements and minimal process water discharge.
- Site drainage features will be designed for the 50-year storm with runoff control for the 100-year storm in accordance with County requirements.
- BMPs for erosion and sediment control during construction will be maintained in disturbed areas until the surface is stabilized.

- Appropriate erosion and sediment controls will be designed for slopes, catch basins, culverts, stream channels, and other areas prone to erosion.
- The Project will comply with applicable LORS related to water resources.

Additional mitigation measures proposed to reduce impacts to water resources in areas affected by the Project include:

WATER-1: BMPs designed to minimize soil erosion and sediment transport during construction and to protect water quality will be implemented in accordance with the State General NPDES Permit for stormwater discharges from construction sites, the SDRWQCB Municipal Storm Water NPDES Permit for the City of San Diego (and other co-permittees), the City of San Diego Jurisdictional Urban Runoff Management Plan (JURMP), the San Diego Storm Water Standards Manual, and the San Diego Storm Water Management and Discharge Control Ordinance requirements for construction and operations.

WATER-2: Refueling and maintenance of mobile construction equipment will be performed only in designated lined and/or bermed areas located away from drainages, to the extent practicable. Spill contingency plans will be prepared and implemented where appropriate.

WATER-3: During construction of the pipeline, BMPs will be implemented to control soil erosion.

WATER-4: Prepare and submit a SWPPP to ensure quality of discharged stormwater.

The mitigation measures proposed are prescribed by stormwater and erosion control management programs mandated under the NPDES permitting system. These programs have been in place for a number of years and the prescribed measures have proven effective. Under the General NPDES Permit for Construction, for example, various specific measures are prescribed, and a program of monitoring is required. The programs are at least 90 percent effective.

4.13.5 Laws, Ordinances, Regulations, and Standards

Federal, state, and local LORS applicable to water resources aspects of the Project are discussed in this section and summarized in Table 4.13-11. The Project will comply with applicable LORS during construction and operation.

Table 4.13-11 Applicable LORS for Water Resources

LORS	Applicability	How Conformance is Achieved
Federal		
CWA/Water Pollution Control Act. P.L. 92-500, 1972; amended by Water Quality Act of 1987, P.L. 100-4 (33 USC 466 et seq.); NPDES (CWA, Section 402)	Prohibits discharge of pollutants to receiving waters unless the discharge is in compliance with an NPDES permit. Applies to all wastewater discharges, including industrial wastewater, stormwater runoff and dewatering, during both construction and operation.	Compliance with state implementation requirements as indicated by the SDRWQCB (see below under State). The Project will obtain coverage under General Construction and Industrial NPDES Permits.

LORS	Applicability	How Conformance is Achieved
CWA/Water Pollution Control Act. P.L. 92-500, 1972; amended by Water Quality Act of 1987, P.L. 100-4 (33 USC 466 et seq.); NPDES (CWA, Section 404)	Prohibits discharge of pollutants to receiving waters unless the discharge is in compliance with an NPDES permit. Applies to all wastewater discharges, including industrial wastewater, stormwater runoff and dewatering, during both construction and operation.	With no Project impacts to Waters of the United States, the Project will avoid dredging or filling of these features, and will not require a USACE permit. Wetlands are addressed in Section 4.12. (
SPCC Rule, 40 CFR 112; amended December 5, 2008, revised amendments 2009, effective January 14, 2010	Requires creation of SPCC Plan for facilities with aggregate aboveground oil storage capacity greater than 1,320 gallons and a reasonable expectation of a discharge to navigable waters. Project may qualify to complete and self-certify Plan template (Appendix G to 40 CFR 112) instead of a full Professional Engineer-certified Plan.	Project is designed to have no discharge of oil or hazardous substances. An SPCC Plan will be developed for the Project that will address prevention of accidental spills and other requirements.
State		
Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code, Sections 13000-14050), including Basin Plan	Implements and enforces the federal NPDES permit program through conformance with beneficial uses and water quality objectives in the Basin Plan as well as conformance with any applicable TMDL requirements.	Operational discharges of sanitary wastewater streams are conveyed to the onsite septic system. Stormwater runoff is conveyed through new drainage pipes under the facility and discharged to the existing drainage infrastructure; discharges will be regulated under existing statewide NPDES permits for industrial and construction stormwater, which include requirements to prepare a SWPPP.
Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling, Resolution No. 75-58	Provides for planning of new power-generating facilities to protect beneficial uses and minimizes consumption of fresh water for power plant cooling.	The Project will conform to this guidance by using very minimal domestic water, not discharging cooling water, and not impacting beneficial uses.
California Energy Commission Policy of Fresh Water Use and Waste Water Discharge for Power Plant Cooling	Encourages water conservation and alternative sources and requires use of zero liquid discharge technologies to reduce the use of fresh water and to avoid discharges.	The Project includes a closed-loop cooling system that requires less water than typical combined-cycle power plants and maintains an essentially zero discharge performance. Recycled water use was evaluated and determined not practical for this Project.
Local		
San Diego Jurisdictional Urban Runoff Management Plan (JURMP)	Prioritizes projects (high, medium, low) based on facility location relative to sensitive water bodies, potential risk of discharging pollutants into storm drain system, and other information, and requires BMPs.	The Project will implement and maintain required BMPs, as will be documented in the SWPPP.
San Diego Storm Water Management and Discharge Control Ordinance, San Diego Municipal Code Sections 43.03 and 142.02 (“Storm Water Ordinance”)	The City of San Diego’s Storm Water Standards are published in the Land Development Manual and enforceable via the San Diego Storm Water Ordinance.	The Project will follow requirements, including implementing and maintaining BMPs, following the environmental review process, and obtaining applicable permits.

LORS	Applicability	How Conformance is Achieved
San Diego Grading Regulations and Drainage Regulations, Land Development Code Section 142.0146 (renamed the Storm Water Runoff Control and Drainage Regulations)	Adopt stormwater BMPs necessary to control stormwater pollution from sediments, erosion, and construction materials during and after construction.	The Project will submit final grading plans and follow requirements, including implementing BMPs "construction" and "post-construction." Grading permits are discussed in Sections 4.14 and 4.16.

4.13.5.1 Federal Laws, Ordinances, Regulations, and Standards

Federal Clean Water Act. The federal CWA and subsequent amendments, under the enforcement authority of the USEPA, was established "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA established the NPDES program to protect water quality of receiving waters. Under the CWA, Section 402, discharge of pollutants to receiving waters is prohibited unless the discharge is in compliance with an NPDES permit. In California, the EPA has determined that the SWRCB and its nine RWQCBs have sufficient authority under state law to administer and enforce the federal NPDES permitting program. Surface water and groundwater in the Project vicinity are under the jurisdiction of the SDRWQCB. Discharges of wastewater from the Project and a portion of stormwater that will drain from the site maintenance or operations areas will drain into storage tanks or the proposed onsite septic system. Clean water will be discharged to the onsite drainage system. Wastewater containing any hazardous chemicals or collected spills will be trucked offsite for disposal at an approved wastewater disposal facility. Clean stormwater (stormwater within the Project site that drains areas that do not contain oil- or chemical-containing equipment or tanks, or are not areas of loading for oil or chemicals), will be collected in the planned stormwater drainage system and discharged to the culvert under Sycamore Landfill Road. This stormwater flow will also be regulated under an NPDES permit.

Section 404 of the CWA institutes programs and requirements for dredge or fill in Waters of the United States. There are no Waters of the United States within the footprint of construction for the site facilities or the gas lateral line. The gen tie line will span jurisdictional waters. The USACE, EPA, and the CDFG will have the final authority for making jurisdictional determinations. Assuming that no other jurisdictional waters are identified, no USACE permit will be required because the Project will avoid dredging or filling Waters of the United States.

Spill Prevention, Control, and Countermeasures Rule. The SPCC rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires facilities that have more than 1,320 gallons of oil stored onsite that could be released and impact waters of the United States to prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation. The Project is designed to have no discharge of oil or hazardous substances. An SPCC Plan will be developed for the Project that will address requirements in the event of an accidental release, including reporting will occur in accordance with applicable federal and state requirements and corrective measures that will be implemented.

4.13.5.2 State Laws, Ordinances, Regulations, and Standards

Porter-Cologne Water Quality Control Act and the Basin Plan. The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) governs the regulation of water quality within California and establishes the authority of the SWRCB and the nine Regional Boards. The SDRWQCB established regulatory standards and objectives for water quality in the Bay in the Basin Plan (SDRWQCB 2007). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives designed to protect those uses.

This Project is consistent with the Basin Plan and will be protective to water quality, due, in part, to the following:

- The Project is designed for no discharge of process water.
- Sanitary wastewater will be discharged to a septic system onsite that will be designed and constructed to meet County Health and Sanitation Ordinances and other LORS.
- The Project will implement stormwater quality BMPs to protect water quality. The Project will implement a SWMP during construction and operations in accordance with the Stormwater Ordinance. For construction, the Project will also comply with the State General Permit for stormwater discharges from construction sites (WQO 99-08-DWQ).
- Stormwater runoff from the power plant will be conveyed through pipes under the plant and into the onsite drainage system.

Clean Water Act, Section 303d, Impaired Water Bodies. In accordance with Section 303(d) of the CWA, each state must present the USEPA with a list of impaired water bodies. The SWRCB has listed the lower San Diego River (south of the Project site) as an impaired water body for certain specified contaminants. Impaired waters are defined as those that do not meet water quality standards, even after point sources of pollution have implemented pollution control technology. The law requires the development of action plans, known as total maximum daily loads (TMDL), to improve water quality of impaired water bodies. The TMDL is a calculation of the total amount of a pollutant that a water body can receive and still meet water quality objectives for a pollutant identified as causing impairment. The TMDL report allocates permissible quantities for discharge from specific sources. The Project is not anticipated to contribute to water quality impairment in the San Diego River.

Industrial Storm Water NPDES Permit. The SWRCB implements regulations under the federal CWA requiring that point source discharges (a point source discharge of stormwater is a flow of rainfall runoff in some kind of discrete conveyance such as a pipe, ditch, channel, or swale) of stormwater associated with industrial activity that discharge either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit. The SWRCB has issued Waste Discharge Requirements for discharges of stormwater associated with industrial activities, such as the proposed Project, and excluding construction activities. After the completion of construction, the proposed site would be graded to direct stormwater runoff to the onsite storm drainage system. Secondary containment will be designed and maintained for all equipment and storage tanks that might release oil or other chemicals.

Construction Stormwater NPDES Permit. The federal CWA effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California and has adopted a General Construction Permit that applies to projects resulting in one or more acres of soil disturbance. The proposed Project would result in disturbance of more than 1 acre of soil. Therefore, the Project will require the preparation of a SWPPP that would specify site management activities to be implemented during site development. These management activities will include construction stormwater BMPs, dewatering runoff controls, and construction equipment decontamination. Stormwater pollution prevention measures during construction will include but not be limited to those established by the CASQ) California Stormwater BMP Handbook. Construction equipment will be cleaned by dry or wet methods as needed to prevent tracking soils offsite. The SWPPP will be prepared by a Qualified SWPPP Developer and implemented under oversight of a Qualified SWPPP Practitioner, as required by the General Permit and the SWRCB.

Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (Resolution No. 75-58). The Project is consistent with the use preference hierarchy and water quality protection measures of the Water Quality Control Policy on the use and disposal of Inland Waters Used for Power Plant Cooling. This policy provides for planning of new power-generating facilities to protect beneficial uses of the state's water resources and to keep the consumption of fresh water for power plant cooling to that minimally essential for the welfare of the citizens of the state. The Project will conform to this guidance by using very minimal domestic water, and by not discharging cooling water or otherwise impacting beneficial uses.

California Energy Commission Policy of Fresh Water Use and Waste Water Discharge for Power Plant Cooling. The CEC's integrated energy policy recognizes SWRCB Resolution 75-58 as reflective of the state's concerns over discharges from power plant cooling, as well as the conservation of fresh water for cooling purposes. The Warren-Alquist Act also encourages conserving water and using alternative sources of water supply. Consistent with Resolution 75-58 and the Warren-Alquist Act, the CEC has adopted a policy of approving the use of fresh water for power plant cooling purposes only where alternative water supply sources and alternative cooling technologies are shown to be "environmentally undesirable" or "economically unsound."

The CEC's integrated energy policy also requires the use of zero liquid discharge technologies to reduce the use of fresh water and to avoid discharges. The Project includes a closed-loop cooling system that requires less water than typical combined-cycle power plants. Water balance diagrams demonstrating the essentially zero discharge performance are provided in Figures 2.3-4A and 2.3-4B. The Project evaluated the possible use of recycled water. This option was determined infeasible for the Project because San Diego currently does not approve recycled water use for long-term contracts or allow recycled water for fire, sanitary, or equipment washdown.

4.13.5.3 Local Laws, Ordinances, Regulations, and Standards

City of San Diego Storm Water Plans and Policies. The Project will comply with the San Diego JURMP, the San Diego Storm Water Management and Discharge Ordinance (San Diego Municipal Code, Sections 43.03 and 142.02), and the Storm Water Runoff Control and Drainage Regulations (San Diego Grading Regulations and Drainage Regulations, Land Development

Code Section 142.0146). The Storm Water Management and Discharge Ordinance requires the Applicant to comply with BMP guidelines or pollution control requirements, maintain BMPs routinely throughout out the life of the Project, and comply with General Storm Water NPDES permits. The JURMP requires a written plan identifying all BMPs to be used and providing clear instruction on how to properly implement each BMP. The Project is subject to stormwater permitting pursuant to State General Industrial Permit regulations, so this requirement is met by the required SWPPP.

The Project will comply with these requirements. The Storm Water Pollution Prevention Division in the General Services Department is the lead office for the City of San Diego's efforts to reduce pollutants in urban runoff and stormwater to the maximum extent practicable. Conceptual permanent BMPs are reviewed by San Diego's Development Services Department for conformance with the Storm Water Standards. Grading plans, stormwater control design measures, the final SWPPP, employee training programs, and other requirements will be integrated in the Project's stormwater quality protection measures.

San Diego County Code, Onsite Wastewater System Ordinance. This ordinance implements state LORS and implements additional standards for septic systems. The San Diego County Department of Environmental Health issues permits and enforces ordinance requirements. The Project will follow required septic system specifications and obtain applicable permits.

City of San Diego Municipal Water Department. Construction water will be supplied from the City of San Diego under a temporary use permit via a fire hydrant located near the Project site. An application submitted to the City of San Diego is required.

4.13.6 Agencies, Agency Contacts, Required Permits, and Permitting Schedule

A summary of required permits and agency contacts is provided in Table 4.13-12.

Table 4.13-12 Agencies, Agency Contacts, Required Permits, and Permitting Schedule for Water Resources

Responsible Party	Permit/Approval	Schedule	Name	Title	Phone	Email	Mailing Address
San Diego Regional Water Quality Control Board	Construction Activities Storm Water General Permit; California RWQCB Water Quality (Addresses stormwater during construction)	30 days prior to construction	Christina Arias	Senior Water Resource Control Engineer	(858) 627-3931	CArias @waterboards.ca.gov	9174 Sky Park Court, Suite 100 San Diego, CA 92123
	Industrial Activities Storm Water General Permit; California RWQCB Water Quality (Addresses stormwater during plant operation)	30 days prior to start of plant operations	Whitney Ghoram	Sanitary Engineering Associate	(858) 467-2967	Wghoram @waterboards.ca.gov	9174 Sky Park Court, Suite 100 San Diego, CA 92123
City of San Diego, Public Utilities Department	Construction Meter Permit; City of San Diego Public Utilities Department, Water Department (Addresses water use during construction)	Prior to construction	TBD	TBD	(619) 515-3500	TBD	600 'B' Street, 11th Floor, MS 911, San Diego, CA 92101

Note:
Additional contact information for waters of the U.S./state is presented in Section 4.12; additional contact information for grading is presented in Section 4.14.

4.13.7 References

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FIGURES

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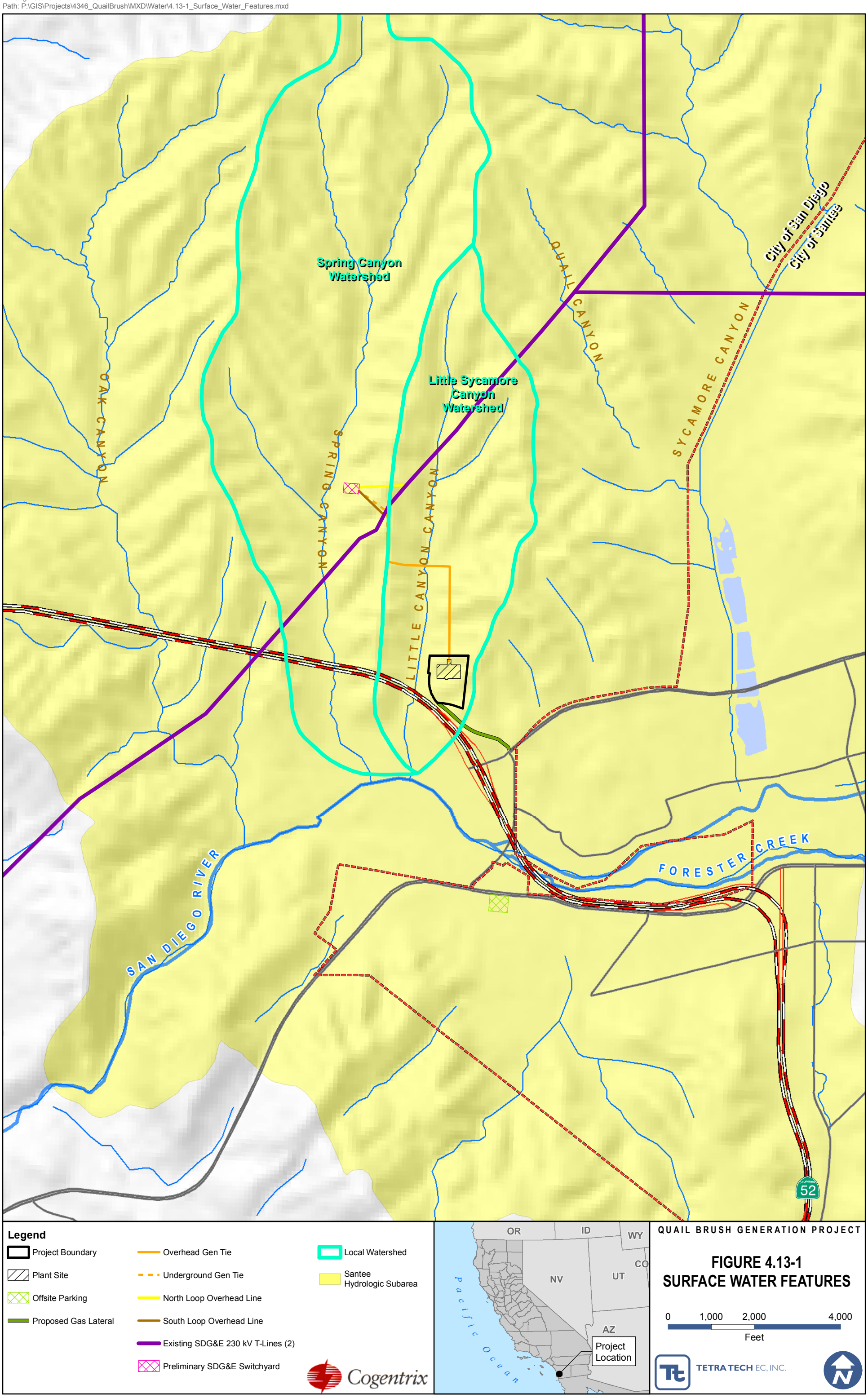

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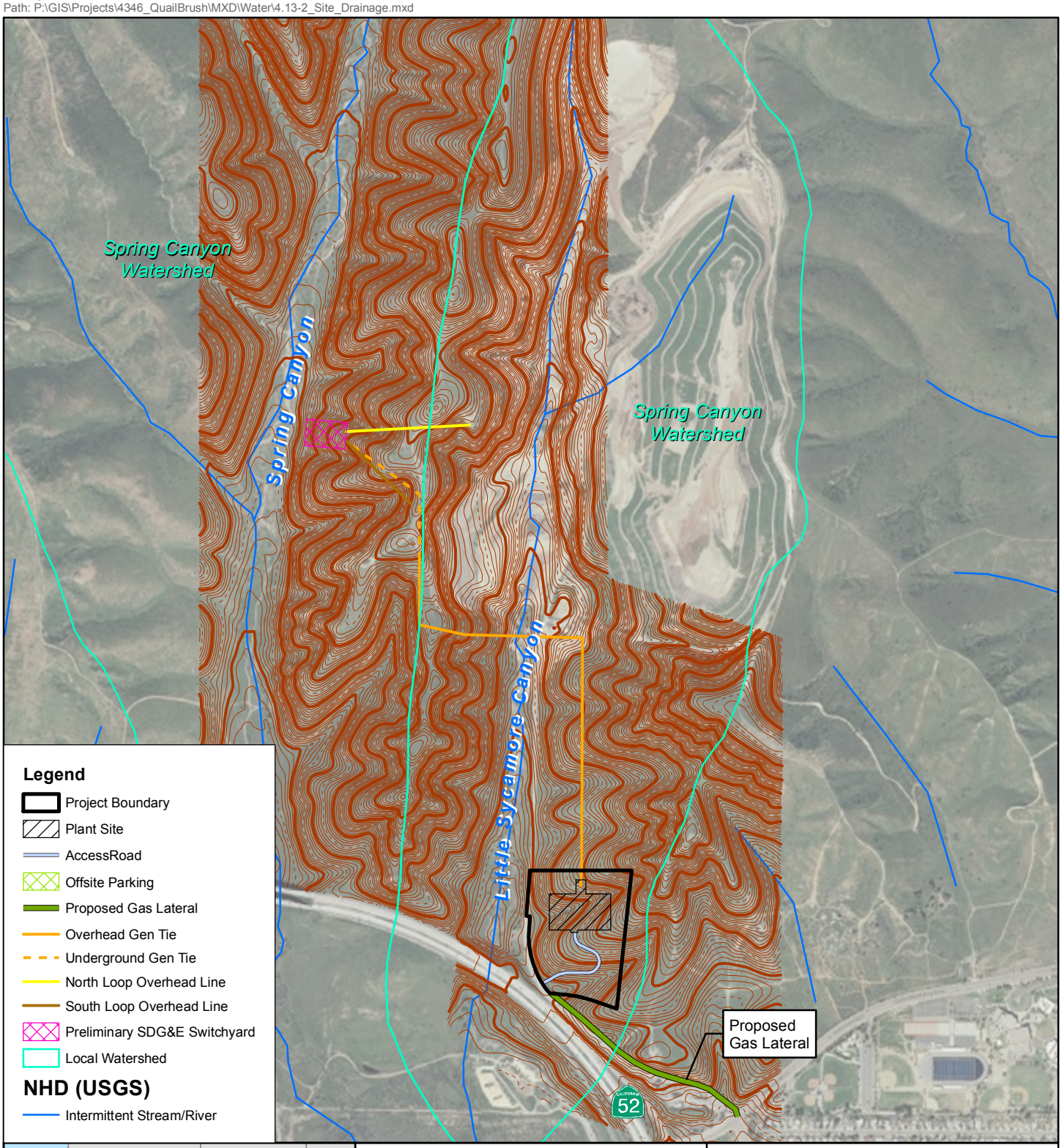


Legend

Site Topography

- Contour Line, Intermediate
- Contour Line, Major
- Contour Line, Minor

Note: 5 foot Contour Interval.

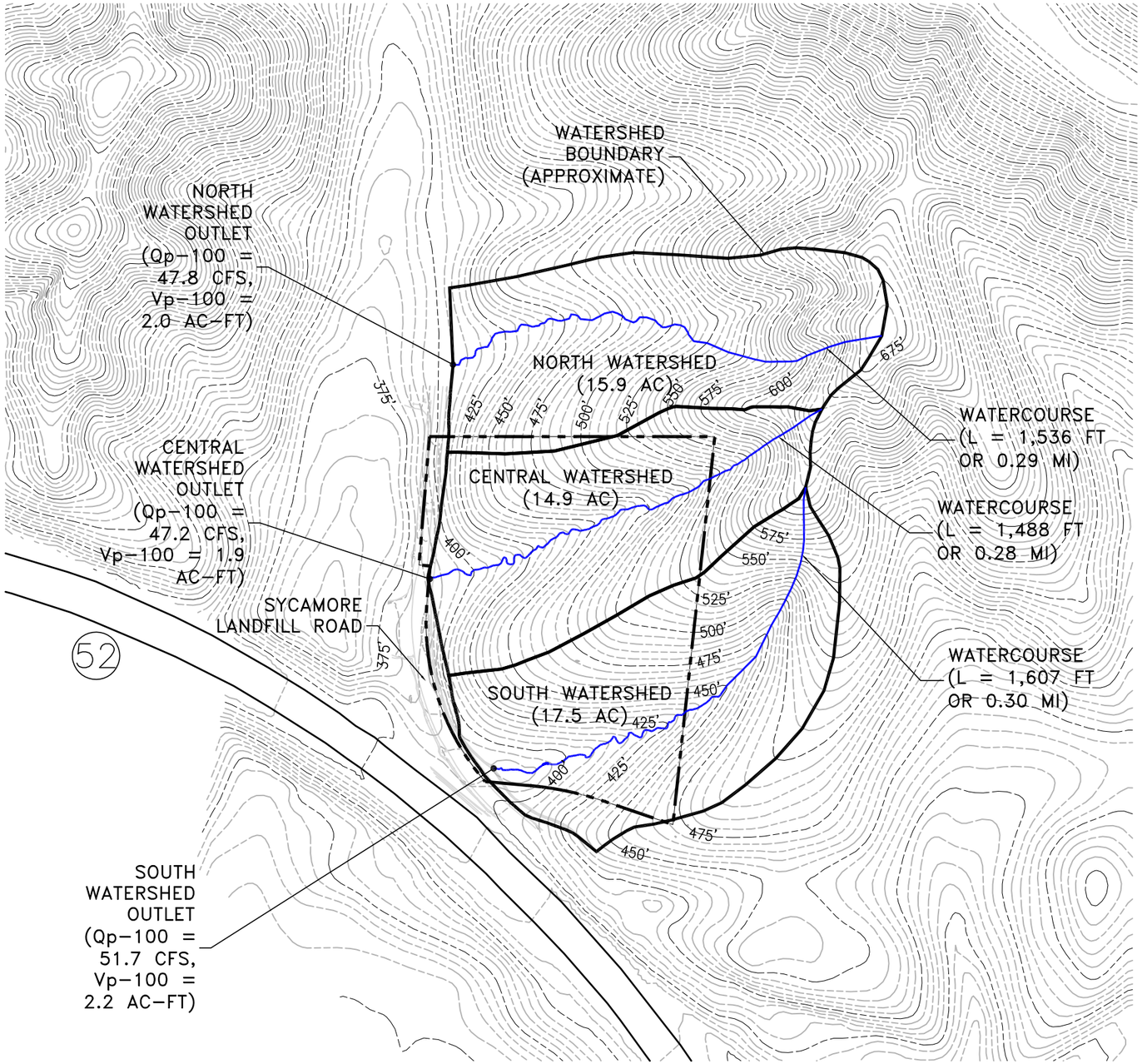
Cogentrix

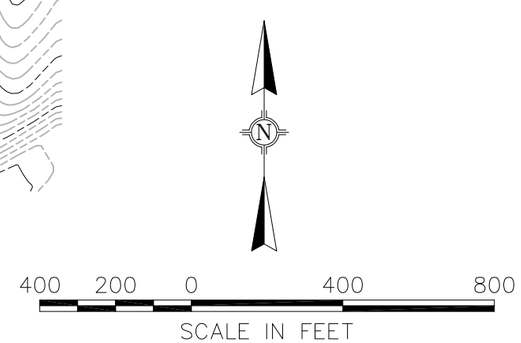
QUAIL BRUSH GENERATION PROJECT

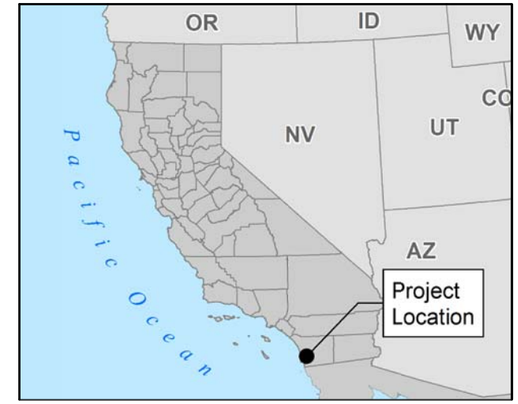
FIGURE 4.13-2
SITE DRAINAGE

0 625 1,250 2,500
Feet

TETRA TECH EC, INC.







LEGEND:

AC	ACRES
CFS	CUBIC FEET PER SECOND
FT	FEET
L	LENGTH
MI	MILE
Q	FLOWRATE
Vp	PEAK RUNOFF VOLUME (AC-FT)

ESTIMATED DRAINAGE WATERCOURSE
500' EXISTING CONTOUR
EXISTING CONTOUR
PARCEL BOUNDARY
475' PROPOSED CONTOUR
PROPOSED CONTOUR

NOTES:

1. TOPOGRAPHY FROM INTERMAP TECHNOLOGIES VERSION 1.5 DIGITAL TERRAIN MODEL DATA.
2. PROPERTY INFORMATION FROM ALTA/ACSM LAND TITLE SURVEY PREPARED BY RBF CONSULTING APRIL 25, 2011.

QUAIL BRUSH GENERATION PROJECT

FIGURE 4.13-3
PRE DEVELOPMENT HYDROLOGY

TETRA TECH EC, INC.
Cogentrix

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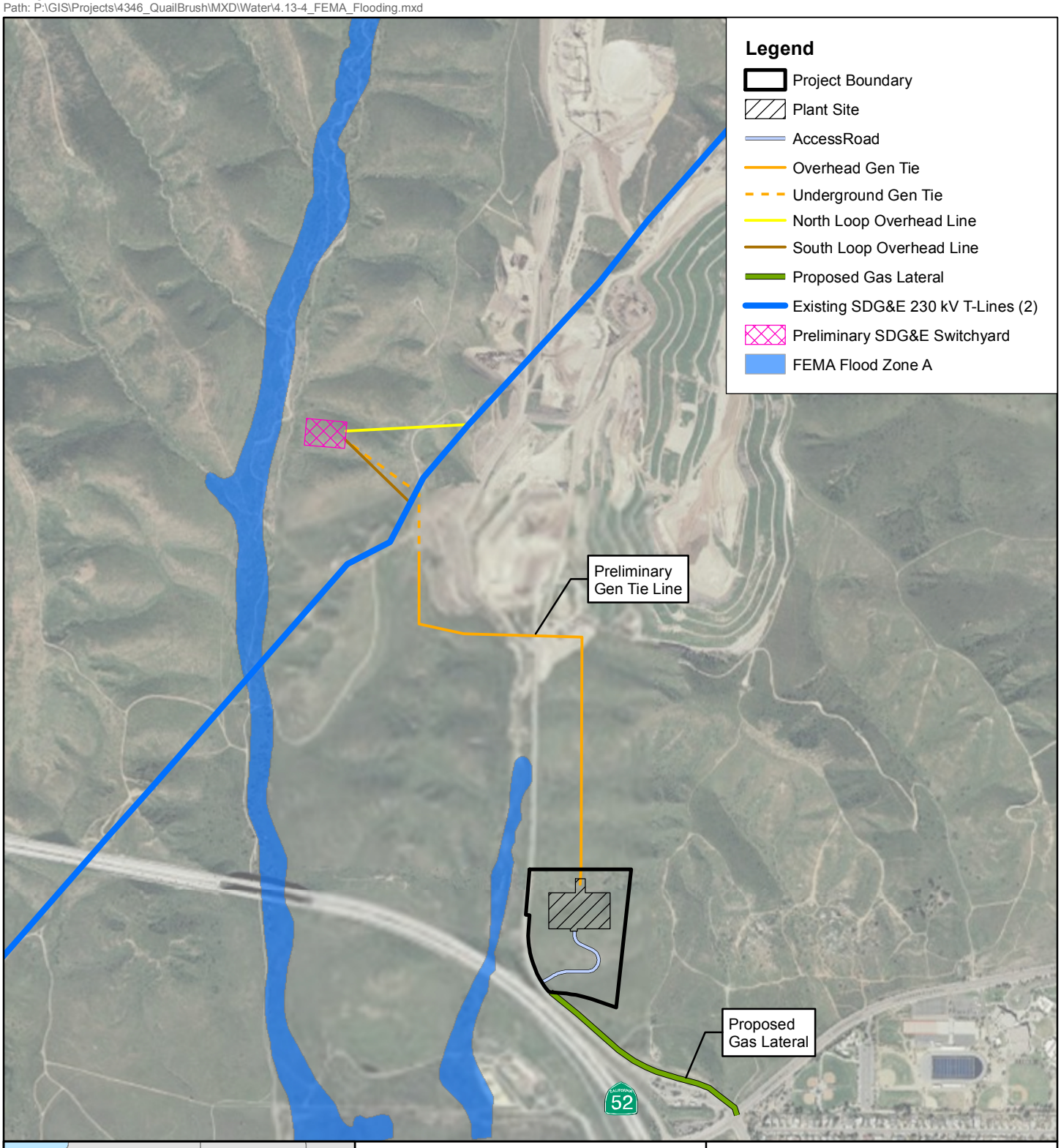


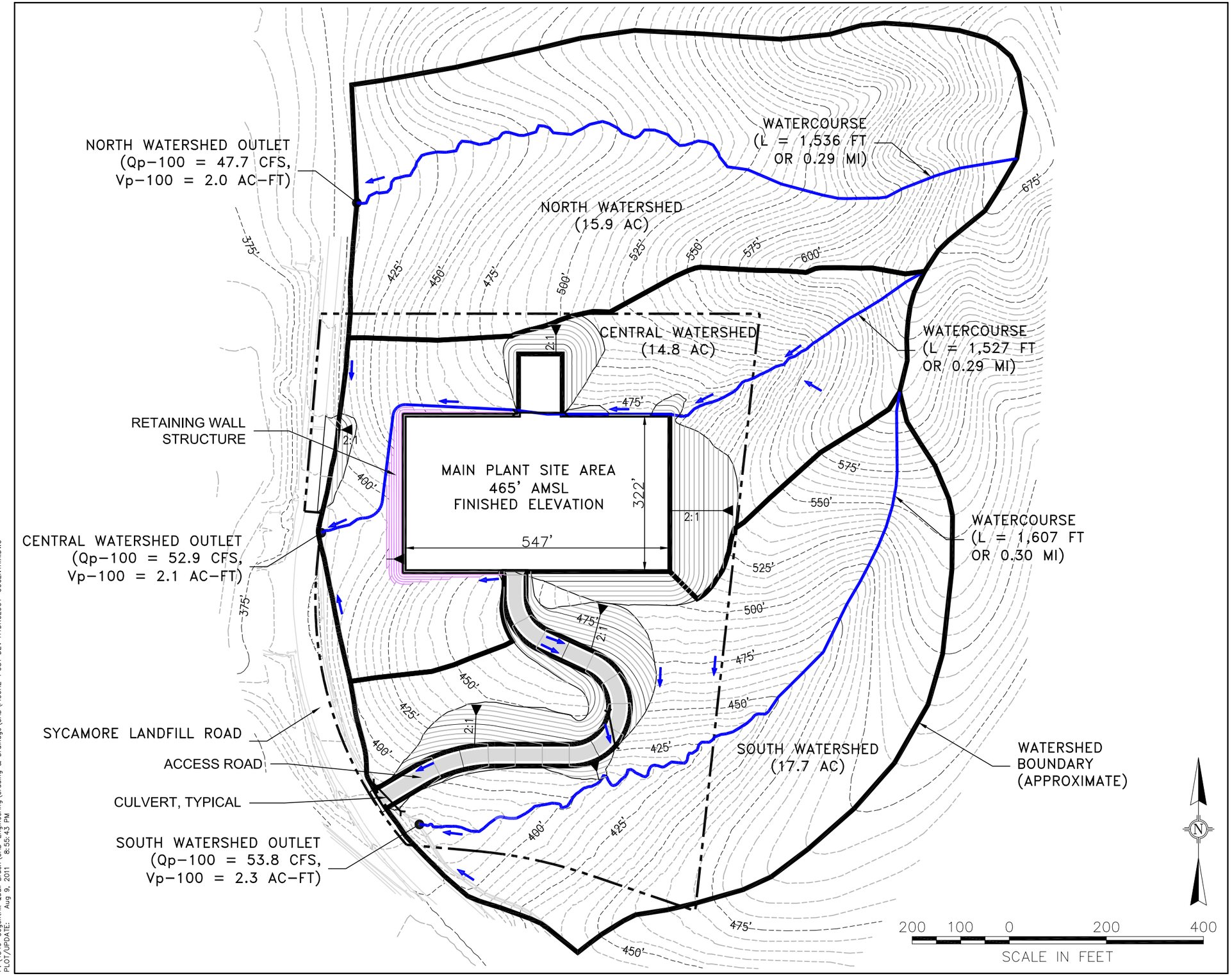
Cogentrix

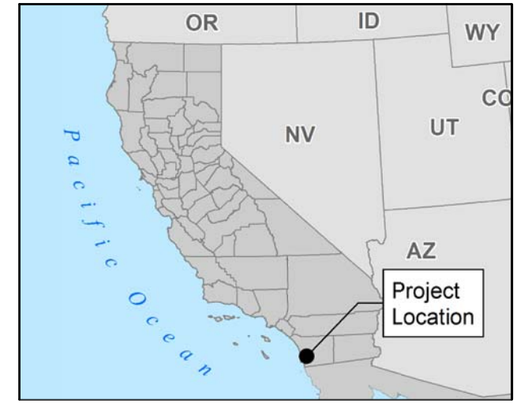
QUAIL BRUSH GENERATION PROJECT

FIGURE 4.13-4
FEMA FLOODING ZONES

0 625 1,250 2,500
Feet

TETRA TECH EC, INC.





LEGEND:

AC	ACRES
AMSL	ABOVE MEAN SEA LEVEL
CFS	CUBIC FEET PER SECOND
FT	FEET
L	LENGTH
MI	MILE
Q	FLOWRATE
Vp	PEAK RUNOFF VOLUME (AC-FT)

ESTIMATED DRAINAGE WATERCOURSE
500' EXISTING CONTOUR
EXISTING CONTOUR
PARCEL BOUNDARY
475' PROPOSED CONTOUR
PROPOSED CONTOUR
STORMWATER FLOW

NOTES:

1. TOPOGRAPHY FROM INTERMAP TECHNOLOGIES VERSION 1.5 DIGITAL TERRAIN MODEL DATA.
2. PROPERTY INFORMATION FROM ALTA/ACSM LAND TITLE SURVEY PREPARED BY RBF CONSULTING APRIL 25, 2011.

QUAIL BRUSH GENERATION PROJECT

FIGURE 4.13-5
POST DEVELOPMENT HYDROLOGY

TETRA TECH EC, INC.
Cogentrix

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DATA ADEQUACY WORKSHEETS

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. 0 Date ____

Technical Area: **Water Resources** Project: Quail Brush Generation Project Technical Staff: ____

Project Manager: Eric Solorio Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	4.13.1, 4.13.2, 4.13.3		
Appendix B (g) (14) (A)	All the information required to apply for the following permits, if applicable, including:	—		
Appendix B (g) (14) (A) (i)	Waste Discharge Requirements; National Pollutant Discharge Elimination System Permit; and/or a Section 401 Certification or Waiver from the appropriate Regional Water Quality Control Board (RWQCB);	4.13.2.3, 4.13.1.2		
Appendix B (g) (14) (A) (ii)	Construction and Industrial Waste Discharge and/or Industrial Pretreatment permits from wastewater treatment agencies;	4.13.2.2		
Appendix B (g) (14) (A) (iii)	Nationwide Permits and/or Section 404 Permits from the U.S. Army Corps of Engineers; and	Not applicable 4.13.2.4		
Appendix B (g) (14) (A) (iv)	Underground Injection Control Permit(s) from the U.S. Environmental Protection Agency, California Division of Oil and Gas, and RWQCB.	Not applicable 4.13.2.2		
Appendix B (g) (14) (B)	A detailed description of the hydrologic setting of the project. The information shall include a narrative discussion and on maps at a scale of 1:24,000 (or appropriate scale approved by staff), describing the chemical and physical characteristics of the following nearby water bodies that may be affected by the proposed project:	4.13.1 Figures 4.13-1 and 4.13-2		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (14) (B) (i)	Ground water bodies and related geologic structures;	4.13.1.5		
Appendix B (g) (14) (B) (ii)	Surface water bodies;	4.13.1.2		
Appendix B (g) (14) (B) (iii)	Water inundation zones, such as the 100-year flood plain and tsunami run-up zones;	4.13.1.4 Figure 4.13-4		
Appendix B (g) (14) (B) (iv)	Flood control facilities (existing and proposed); and	4.13.1.4 and 4.13.2.5		
Appendix B (g) (14) (B) (v)	Groundwater wells within ½ mile if the project will include pumping.	4.13.1.5		
Appendix B (g) (14) (C)	A description of the water to be used and discharged by the project. This information shall include:	4.13.2.1, 4.13.2.2		
Appendix B (g) (14) (C) (i)	Source(s) of the primary and back-up water supplies and the rationale for their selection;	4.13.2.1		
Appendix B (g) (14) (C) (ii)	The expected physical and chemical characteristics of the source and discharge water(s) including identification of both organic and inorganic constituents before and after any project-related treatment. For source waters with seasonal variation, provide seasonal ranges of the expected physical and chemical characteristics. Provide copies of background material used to create this description (e.g., laboratory analysis);	4.13.2.1 Appendices I.1 and I.2		
Appendix B (g) (14) (C) (iii)	Average and maximum daily and annual water demand and waste water discharge for both the construction and operation phases of the project;	4.13.2.1 and 4.13.2.2		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (14) (C) (iv)	A detailed description of all facilities to be used in water conveyance (from primary source to the power plant site), water treatment, and wastewater discharge. Include a water mass balance diagram;	4.13.2.1 and 4.13.2.2 Figures 2.3-4a, 2.3-4b, 2.2-1		
Appendix B (g) (14) (C) (v)	For all water supplies intended for industrial uses to be provided from public or private water purveyors, a letter of intent or will-serve letter indicating that the purveyor is willing to serve the project, has adequate supplies available for the life of the project, and any conditions or restrictions under which water will be provided. In the event that a will-serve letter or letter of intent can not be provided, identify the most likely water purveyor and discuss the necessary assurances from the water purveyor to serve the project;	Appendix I.3		
Appendix B (g) (14) (C) (vi)	For all water supplied which necessitates transfers and/or exchanges at any point, identify all parties and contracts/agreements involved, the primary source for the transfer and/or exchange water (e.g., surface water, groundwater), and provide the status of all appropriate agencies' approvals for the proposed use, environmental impact analysis on the specific transfers and/or exchanges required to obtain the proposed supplies, a copy of any agency regulations that govern the use of the water, and an explanation of how the project complies with the agency regulation(s);	Not applicable Section 4.13.2.1		
Appendix B (g) (14) (C) (vii)	Provide water mass balance and heat balance diagrams for both average and maximum flows that include all process and/or ancillary water supplies and wastewater streams. Highlight any water conservation measures on the diagram and the amount that they reduce water demand; and	4.13.2.1 and 4.13.2.2 Figures 2.3-4a, 2.3-4b		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (14) (C) (viii)	For all projects which have a discharge, provide a copy of the will-serve letter, permit or contract with the public or private entity that will be accepting the wastewater and contact storm water from the project. The letter, permit or contract, if possible, shall identify the discharge volumes and the chemical or physical characteristics under which the wastewater and contact storm water will be accepted. In the event that a will-serve letter, permit, or contract cannot be provided, identify the most likely wastewater/storm water entity and discuss why the applicant was unable to secure the necessary assurances to serve the project's wastewater/storm water needs. Also, discuss the term of the wastewater service to the project, whether the wastewater entity has adequate permit capacity for the volume of wastewater from the project and has adequate permit levels for the chemical/physical characteristics of the project's wastewater and storm water for the life of the project, and any issues or conditions/restrictions the wastewater entity may impose on the project.	4.13.2.2		
Appendix B (g) (14) (D)	Identify all project elements associated with stormwater drainage, including a description of the following:	4.13.1.3 and 4.13.2.3		
Appendix B (g) (14) (D) (i)	Monthly and/or seasonal precipitation and stormwater runoff and drainage patterns for the proposed site and surrounding area that may be affected by the project's construction and operation;	4.13.1.3		
Appendix B (g) (14) (D) (ii)	Drainage facilities and the design criteria used for the plant site and ancillary facilities, including but not limited to capacity of designed system, design storm, and estimated runoff;	4.13.1.3, 4.13.2.3, and 4.13.3 Appendix I.4		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (14) (D) (iii)	All assumptions and calculations used to calculate runoff and to estimate changes in flow rates between pre- and post construction; and	Appendix I.4		
Appendix B (g) (14) (D) (iv)	A copy of applicable regional and local requirements regulating the drainage systems, and a discussion of how the project's drainage design complies with these requirements.	Appendix I.4		
Appendix B (g) (14) (E)	An impacts analysis of the proposed project on water resources and a discussion of conformance with water-related LORS and policy. This discussion shall include:	4.13.2 and 4.13.4		
Appendix B (g) (14) (E) (i)	The effects of project demand on the water supply and other users of this source, including, but not limited to, water availability for other uses during construction or after the power plant begins operation, consistency of the water use with applicable RWQCB basin plans or other applicable resource management plans, and any changes in the physical or chemical conditions of existing water supplies as a result of water use by the power plant;	4.13.2.1, 4.13.2.7, and 4.13.4		
Appendix B (g) (14) (E) (ii)	If the project will pump groundwater, an estimation of aquifer drawdown based on a computer modeling study shall be conducted by a professional geologist and include the estimated drawdown on neighboring wells within 0.5 mile of the proposed well(s), any effects on the migration of groundwater contaminants, and the likelihood of any changes in existing physical or chemical conditions of groundwater resources shall be provided;	Not applicable 4.13.2.1		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (14) (iii)	The effects of construction activities and plant operation on water quality and to what extent these effects could be mitigated by best management practices;	4.13.2.4, and 4.13.3		
Appendix B (g) (14) (iv)	If not using a zero liquid discharge project design for cooling and process waters, include the effects of the proposed wastewater disposal method on receiving waters, the feasibility of using pre-treatment techniques to reduce impacts, and beneficial uses of the receiving waters. Include an explanation why the zero liquid discharge process is “environmentally undesirable,” or “economically unsound;”	4.13.2.2 and 4.13.4 Table 4.13-6		
Appendix B (g) (14) (v)	If using fresh water, include a discussion of the cumulative impacts, alternative water supply sources and alternative cooling technologies considered as part of the project design. Include an explanation of why alternative water supplies and alternative cooling are “environmentally undesirable,” or “economically unsound;”	4.13.2.1, 4.13.2.7, and 4.13.4 Table 4.13-6		
Appendix B (g) (14) (vi)	The effects of the project on the 100-year flood plain, flooding potential of adjacent lands or water bodies, or other water inundation zones; and	Not applicable 4.13.2.5		
Appendix B (g) (14) (vii)	All assumptions, evidence, references, and calculations used in the analysis to assess these effects.	Not applicable 4.13.2.5		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	4.13.4		
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	4.13.4.4		
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	4.13.4.4		
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	4.13.4.4		