Chapter 20
UTILITIES, SERVICE SYSTEMS, AND ENERGY

20.1 Introduction

This chapter describes the existing conditions and applicable regulations for utilities, service systems, and energy. It analyzes the potential impacts on utilities, service systems, and energy resulting from implementation of the program and project elements, and any necessary mitigation measures that would reduce these impacts. This includes potential impacts resulting from availability of water supplies, the availability of energy, and stormwater infrastructure to serve the program and project elements' projected needs. Information used to prepare this section was taken from various sources, including the Los Angeles County General Plan, various city general plans, agency and utility documents and plans, and written and verbal communication with various utility providers.

As discussed in Section 3.6.1, a Preliminary Screening Analysis (Appendix 1-A) was performed to determine impacts associated with the construction and operation of program and project elements by resource area. During preliminary screening, each element was determined to have no impact, a less than significant impact, or a potentially significant impact. Those elements determined to be potentially significant were further analyzed in this environmental impact report/environmental impact statement (EIR/EIS). This EIR/EIS analysis discloses the final impact determination for those elements deemed potentially significant in the Preliminary Screening Analysis. The location of the utilities, service systems, and energy impact analysis for each program element is summarized by Alternative in Table 20-1.

Table 20-1. Impact Analysis Location of Program Elements by Alternative

	Alternative						Analysis Location	
Program Element	**1**	**2**	**3**	**4**	**5[a]**	**6[b]**	**PSA**	**EIR/EIS**
Conveyance System								
Conveyance Improvements	X	X	X	X	X	N/A	C,O	C
SJCWRP								
Plant Expansion	X	X	X	X	X	N/A	C,O	C
Process Optimization	X	X	X	X	N/A	N/A	C,O	C
WRP Effluent Management	X	X	X	X	X	N/A	O	-
POWRP								
Process Optimization	X	X	X	X	N/A	N/A	C,O	C
WRP Effluent Management	X	X	X	X	X	N/A	O	-
LCWRP								
Process Optimization	X	X	X	X	N/A	N/A	C,O	C
WRP Effluent Management	X	X	X	X	X	N/A	O	-
LBWRP								
Process Optimization	X	X	X	X	N/A	N/A	C,O	C
WRP Effluent Management	X	X	X	X	X	N/A	O	-

Table 20-1 (Continued)

	Alternative						Analysis Location	
Program Element	**1**	**2**	**3**	**4**	**5[a]**	**6[b]**	**PSA**	**EIR/EIS**
WNWRP								
WRP Effluent Management	X	X	X	X	X	N/A	O	-
JWPCP								
Solids Processing	X	X	X	X	X	N/A	C,O	C
Biosolids Management	X	X	X	X	X	N/A	O	-
JWPCP Effluent Management	X	X	X	X	N/A	N/A	Evaluated at the project level. See Table 20-2.	

WRP effluent management and biosolids management do not include construction.
[a] See Section 20.4.7 for a discussion of the No-Project Alternative.
[b] See Section 20.4.8 for a discussion of the No-Federal-Action Alternative.
PSA = Preliminary Screening Analysis
C = construction
O = operation
N/A = not applicable

As discussed in Section 3.2.2, Joint Water Pollution Control Plant (JWPCP) effluent management was the one program element carried forward as a project. The location of the utilities, service systems, and energy impact analysis for each project element is summarized by Alternative in Table 20-2.

Table 20-2. Impact Analysis Location of Project Elements by Alternative

	Alternative						Analysis Location	
Project Element	**1**	**2**	**3**	**4**	**5[a]**	**6[b]**	**PSA**	**EIR/EIS**
Tunnel Alignment								
Wilmington to SP Shelf (onshore)	X				N/A	N/A	C,O	C
Wilmington to SP Shelf (offshore)	X				N/A	N/A	C,O	C
Wilmington to PV Shelf (onshore)		X			N/A	N/A	C,O	C
Wilmington to PV Shelf (offshore)		X			N/A	N/A	C,O	C
Figueroa/Gaffey to PV Shelf (onshore)			X		N/A	N/A	C,O	C
Figueroa/Gaffey to PV Shelf (offshore)			X		N/A	N/A	C,O	C
Figueroa/Western to Royal Palms (onshore)				X	N/A	N/A	C,O	C
Shaft Sites								
JWPCP East	X	X			N/A	N/A	C,O	C
JWPCP West			X	X	N/A	N/A	C,O	C
TraPac	X	X			N/A	N/A	C,O	C
LAXT	X	X			N/A	N/A	C,O	C
Southwest Marine	X	X			N/A	N/A	C,O	C
Angels Gate			X		N/A	N/A	C,O	C
Royal Palms				X	N/A	N/A	C,O	C
Riser/Diffuser Areas								
SP Shelf	X				N/A	N/A	C,O	C
PV Shelf		X	X		N/A	N/A	C,O	C
Existing Ocean Outfalls	X	X	X	X	N/A	N/A	C,O	-

Table 20-2 (Continued)

Project Element	Alternative 1	2	3	4	5[a]	6[b]	Analysis Location PSA	EIR/EIS

[a] See Section 20.4.7 for a discussion of the No-Project Alternative.
[b] See Section 20.4.8 for a discussion of the No-Federal-Action Alternative.
PSA = Preliminary Screening Analysis
C = construction
O = operation
N/A = not applicable

20.2 Environmental Setting

20.2.1 Regional and Program Setting

The regional and program setting focuses only on those public utilities that could be affected by the Clearwater Program.

20.2.1.1 Potable Water

Water is imported to the Southern California area by the Metropolitan Water District of Southern California (MWD), which is a consortium of 26 member cities and districts. The MWD distributes more than 1.5 billion gallons of water annually to a service area encompassing 5,139 square miles that covers the Southern California coastal plain. This service area includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties (MWD 2008a).

Potable Water Supply

The MWD receives its water supply from a variety of sources. Most of the water imported by the MWD is from the Colorado River Aqueduct (CRA) and the State Water Project (SWP). In 2008, approximately 81 percent of the MWD water supply was provided from the imported waters of the CRA and SWP (MWD 2008b). California is apportioned 4.4 million acre-feet per year (AFY) of Colorado River water. Of that amount, between 550,000 AFY and 842,000 AFY are available to the MWD (MWD 2008c). The CRA has the capacity to divert 1.3 million AFY; in 2008, it provided approximately 890,000 AFY to California (MWD 2008b). The MWD receives deliveries of SWP supplies via the California Aqueduct at Castaic Lake in Los Angeles County and Diamond Valley Lake in Riverside County. The SWP is currently providing a dependable supply of about 35 percent of the total amount that the state has contracted to deliver. The MWD originally contracted to receive 2.01 million AFY of SWP water.[1]

Some of the imported water is augmented with local supplies such as recycled water and groundwater. Water recycling and groundwater recovery help to improve water reliability. There are 82 local water recycling and groundwater recovery projects that are expected to collectively produce about 364,000 AFY once fully implemented (MWD 2008b). During the MWD 2007/2008 fiscal year, approximately 164,000 AFY of recycled water and groundwater was provided to the service area. Since 1995, annual recycled water production has increased by approximately 10,000 AFY, while groundwater recovery has increased by approximately 6,000 AFY (MWD 2008b). The Sanitation Districts have been instrumental

[1] The initial 2010 allocation was 5 percent of that amount, or approximately 95,500 AF (DWR 2009). This was increased through the year to a final allocation of 50 percent, or approximately 955,700 AF (DWR 2010a). The initial 2011 allocation was 25 percent, or approximately 478,000 AF (DWR 2010b), and it has since been increased to 50 percent, or approximately 955,700 AF (DWR 2010c).

in the effort to promote water reuse, and the reliance on recycled water is anticipated to increase through 2050. Almost 50 years ago, the Sanitation Districts started working with the Los Angeles County Flood Control District and the Water Replenishment District of Southern California to replenish groundwater supplies using locally captured stormwater, recycled water, and imported water. The Sanitation Districts send recycled water to the Rio Hondo Spreading Grounds and the San Gabriel Coastal Spreading Grounds in the cities of Montebello and Pico Rivera to recharge the groundwater basin. In addition to the 1.5 million AF of recycled water that have supplemented the groundwater supplies over the past 50 years, the Sanitation Districts work with dozens of cities and water agencies to supply over 650 sites with recycled water for municipal and industrial uses. Based on current trends, recycled water is likely going to become a larger percentage of the regional water supply through 2050.

Water supplies for the MWD are estimated by using the supply provided during the single driest year and the multiple dry year hydrology scenarios (MWD 2008b). As shown in Table 20-3, the MWD has a level of reliability that extends through 2030 (MWD 2008b) under the driest of scenarios. The MWD has also identified buffer supplies, including additional SWP groundwater storage and transfers, which is later described in Table 20-6, and could serve to supply the additional water needed.

Table 20-3. Projected MWD Water Supply (Million Acre-Feet per Year)

Scenario	Existing 2010	2020	2030
Single Dry Year[a]	3.15	3.31	3.20
Multiple Dry Year[b]	2.70	2.80	2.74

[a] For this estimate, the MWD used the single driest year scenario to estimate projected demands and supplies. Hydrological conditions experienced in 1977 were used for these projections.

[b] For this estimate, the MWD used the driest multiple year scenario to estimate projected demands and supplies. Hydrological conditions experienced between 1990 and 1992 were used for these projections.

Source: MWD 2005

Potable Water Demand

Potable water demand in the MWD service area fluctuates due to population increases and weather patterns (MWD 2008b); however, it is expected that potable water demand will generally increase through 2030. The estimated demands for 2010, 2020, and 2030 for single and multiple dry years, as well as average years, within the MWD service area are described in Table 20-4.

Table 20-4. Projected MWD Water Demand (Million Acre-Feet per Year)

Scenario	2010	2020	2030
Single Dry Year[a]	2.32	2.23	2.50
Multiple Dry Year[b]	2.39	2.31	2.59
Average Year	2.03	1.98	2.25

[a] For this estimate, the MWD used the single driest year scenario to estimate projected demands and supplies. Hydrological conditions experienced in 1977 were used to estimate these projections.

[b] For this estimate, the MWD used the driest multiple year scenario to estimate projected demands and supplies. Hydrological conditions experienced between 1990 and 1992 were used to estimate these projections.

Source: MWD 2005:II-8 through II-10

Potable Water Reliability

The MWD regularly prepares a number of reports that provide the status of its current and future water demands and supplies including but not limited to: The Regional Urban Water Management Plan (MWD 2005, update in 2010), and the Integrated Resources Plan (1996, update in 2004 and update in 2010) and the Annual Reports (MWD 2008b). The MWD has shown that its water supplies are fully

reliable to meet the anticipated demand of its customers under all weather conditions through at least 2030 (MWD 2008b). The projected water supply and demand are compared in Table 20-5.

Table 20-5. Projected Water Reliability (Million Acre-Feet per Year)

Scenario	2010	2020	2030
Single Dry Year[a] Supply	3.15	3.31	3.20
Single Dry Year Demand	2.32	2.23	2.50
Single Dry Year Difference	**0.83**	**1.08**	**0.70**
Multiple Dry Year[b] Supply	2.70	2.80	2.74
Multiple Dry Year Demand	2.39	2.31	2.59
Multiple Dry Year Difference	**0.31**	**0.49**	**0.15**

[a] For this estimate, the MWD used the single driest year scenario to estimate projected demands and supplies. Hydrological conditions experienced in 1977 were used for these projections.

[b] For this estimate, the MWD used the driest multiple year scenario to estimate projected demands and supplies. Hydrological conditions experienced between 1990 and 1992 were used for these projections.

Source: MWD 2005:II-8 through II-10

The Colorado River has experienced below-average precipitation conditions for most of the past decade (MWD 2010). The SWP has faced historic regulatory cutbacks significantly reducing its supplies that pass through the Sacramento-San Joaquin Delta in Northern California (MWD 2010). This has affected MWDs supplies, resulting in the cessation of imported water deliveries for groundwater replenishment in May 2007, with mandatory conservation in place throughout much of the service area by 2009 (MWD 2010). However, MWD's planning and regular evaluation of its supplies accounts for these types of uncertainties.

Regional resources help maintain future supply and reliability. The regional resources are listed with a brief description in Table 20-6.

Table 20-6. Summary of Regional Resources

Title	Description
Local Resources	
Groundwater	Member agencies use groundwater from the groundwater basins within MWD's service area.
Groundwater Recovery Program	The goal is to recover lost groundwater supplies to groundwater contamination via treatment of the contamination and prevent future contamination of groundwater aquifers.
Individual Wastewater Reclamation Projects/Water Recycling Projects	Recycled water projects deliver highly treated wastewater for various uses.
Modified Irrigation Practices and Land Fallowing	In return for compensation from the MWD, farmers served by the Imperial Irrigation District could enter into contracts whereby they agree not to irrigate their crops for a 75-day period during summer.
Lower Basin Agreement	In 2007, the MWD signed an agreement with other water agencies in the Lower Colorado River Basin to improve water management capabilities and allow some of those agencies to develop and store new water supplies in Lake Mead. The agreement also allows water agencies to cooperate on water conservation projects.
Drop 2 Reservoir Project	In May 2008, the MWD partnered with the Southern Nevada Water Authority and the Central Arizona Water Conservation District to fund the Drop 2 Reservoir Project, which will help conserve water currently lost from the system. In exchange for its share of funds, the MWD received storage credits in Lake Mead.

Table 20-6 (Continued)

Title	Description
Los Angeles Aqueduct	Water is conveyed from the Owens Valley via the Los Angeles Aqueduct by the Los Angeles Department of Water and Power and is provided to the MWD.
Conservation	The MWD and member agencies sponsor numerous conservation programs in the region that involve incentives and consumer behavior modification.
Colorado River Resources	
Colorado River Aqueduct	The MWD has contracts with the federal Bureau of Reclamation for a proportioned amount of water. However, the MWD may receive water unused by Arizona, Nevada, or higher priority users in California or surplus water as available.
Interstate Underground Storage of Unused Colorado River Water	Arizona, California, and Nevada are discussing the feasibility of increasing the underground storage of unused Colorado River water.
State Resources	
State Water Project Programs	The MWD currently has a water supply contract with the California Department of Water Resources, subject to availability.
Central Valley Storage and Transfer Programs	The MWD continues to administer five existing SWP storage programs located outside of its service area: ▪ Semitropic/MWD Water Banking and Exchange Program ▪ Arvin-Edison Water Management Program ▪ San Bernardino/MWD Coordinated Operating Agreement ▪ Kern Delta/MWD Water Management Program ▪ Mojave/MWD Demonstration Water Exchange Program
Other Resources	
Surface Water Storage	The MWD has reservoirs to store water and has flexible storage using DWR reservoirs.
Groundwater Conjunctive Use Storage Programs	The MWD sponsors various groundwater storage programs including long-term replenishment storage programs, contractual conjunctive use programs, and cyclic storage programs.
Source: MWD 2008b; MWD 2010	

Water demand in the MWD service area would be met throughout 2030 through the use of SWP and CRA water supplies, as well as the existing and planned conservation measures, the programs discussed in Table 20-6, and local water sources.

20.2.1.2 Stormwater

The storm drain system for the county of Los Angeles, primarily maintained by the Los Angeles County Department of Public Works Flood Control District, encompasses more than 3,000 square miles, 85 cities, and approximately 2.1 million parcels of land. It includes a vast system of drainage infrastructure within incorporated and unincorporated areas in every watershed, with 500 miles of open channel, 2,800 miles of underground storm drains, and an estimated 120,000 catch basins (LACDPW 2010a). Stormwater discharges include flow through pipes and channels or sheet flow over a surface. The regional stormwater runoff generally flows from drainage systems into the Los Angeles River and the San Gabriel River. The Los Angeles River ultimately discharges into the Pacific Ocean near the Port of Long Beach, and the San Gabriel River flows southwesterly from its headwaters in the San Gabriel Mountains and ultimately discharges into the Pacific Ocean at Seal Beach.

The LACDPW is responsible for the design, construction, operation, and maintenance of flood control, water conservation, and local sewer facilities within the county. LACDPW provides services to nine tax zones in unincorporated areas as well as to 42 contract cities within the county (LACDPW 2010b). The principal permitting group within the LACDPW for stormwater discharge approval is the watershed management division. The watershed management division reviews and approves various municipal

stormwater permits within the county, including National Pollutant Discharge Elimination System (NPDES) permits, for sites that discharge into the Los Angeles County Flood Control District's storm drain system. The NPDES program, created through the Clean Water Act, requires that runoff from construction sites or industrial sources be eliminated or regulated under a stormwater permit. It requires identification and control of non-point sources of pollutants discharging into flood control drainage systems. See Section 20.3 for additional information regarding the Clean Water Act and the NPDES program.

Flood control districts, the California Department of Transportation, and local agencies generally have maintenance responsibility for storm drain systems within cities. However, the LACDPW coordinates responsibilities with multiple cities and jurisdictions under the NPDES permit program for stormwater/urban runoff discharges. There are additional programs implemented to monitor urban runoff and improve surface drainage in the unincorporated areas (LACDPW 2010b).

One of the main storm drains and flood control channels in the Los Angeles County area is the Wilmington Drain. The drain runs between the JWPCP and Interstate (I-) 110. The Wilmington Drain is part of the Machado Lake ecosystem, which functions as a flood control system. Machado Lake is composed of upper and lower basins separated by a low earthen dam. The upper basin contains a 40-acre recreational lake created by the impoundment of stormwater runoff; the lower basin is a freshwater marsh of approximately 60 acres. During major storms, stormwater overflows the dam into the lower basin and to the Harbor Outfall. The Harbor Outfall conveys runoff in an underground storm drain to the West Basin of the Port of Los Angeles. (CDM 2009.) During low flows, the Wilmington Drain occasionally requires pumping to move water into Machado Lake (MEC 2004:2-100). The Wilmington Drain is a 150-foot-wide soft bottom vegetated channel with non-native plants and rip-rap-filled gabions north of Pacific Coast Highway. North of I-110, the channel is concrete lined.

Another important storm drain in the region is the Dominguez Channel. This channel is generally located to the north of I-405 and the JWPCP and east of I-110 and the JWPCP. It begins at 116th Street in the city of Hawthorne and continues in a southwesterly direction until it empties into the Consolidated Slip and East Turning Basin at the Port of Los Angeles. Some reaches of the channel are unlined, but it is primarily constructed of concrete. The concrete portion varies between a vertical-sided channel to a trapezoidal channel. The bottom of the channel is between 75 and 90 feet wide. The channel is designed to handle 50-year storm events. (MEC 2004.)

Each of the Sanitation Districts' water reclamation plants (WRPs)[2] and the JWPCP have existing stormwater collection and conveyance systems to handle stormwater created by impervious surfaces on site, such as parking lots and buildings. There are some pervious surfaces at the WRPs as well; these pervious surfaces generate much less stormwater runoff because they allow rainwater to percolate into the ground. These areas include a maintained lawn at the San Jose Creek WRP (SJCWRP), a driving range near the Los Coyotes WRP (LCWRP), disturbed soil and ruderal vegetation near the Long Beach WRP (LBWRP) and JWPCP, and asphalt and disturbed soil near the Pomona WRP (POWRP). On-site stormwater conveyance systems at the WRPs and the JWPCP are typically connected to adjacent off-site, regional storm drain systems. There is an existing wetland at the JWPCP located in the northwestern portion of the site but it does not receive stormwater runoff from the plant.

[2] The La Cañada WRP is exempt from an Industrial General Permit because the permit does not cover WRPs designed for less than 1 MGD. In addition, all rainfall is used as irrigation, resulting in no stormwater discharges.

20.2.1.3 Energy (Electricity)

Two suppliers, Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP), provide most of the electricity consumed in the Joint Outfall System (JOS) service area.

Southern California Edison

SCE is one of the largest electric utilities in California, serving the majority of Southern California, including all of Ventura County, and most of San Bernardino, Los Angeles, and Orange Counties. SCE customers total more than 14 million people over a 50,000 square mile area. The SCE service territory includes more than 180 cities (SCE 2010). Within the county of Los Angeles, SCE is the main provider; however, the city of Los Angeles is serviced through the LADWP, which is discussed in further detail later in the section.

SCE's projections for existing supply and demand as well future projections through 2030 are described in Table 20-7. SCE is projected to have adequate supply to provide for projected demands in the region. Climate scenarios are differentiated between average weather and adverse weather patterns; in adverse weather patterns, temperatures are hotter or colder than average and are likely to produce increased electricity demand.

Table 20-7. Southern California Edison Projected Supply and Demand (Kilovolt-Amps)[a]

	Climate Scenario	2010	2020	2030
Supply	Average	34,635,000	39,835,000	45,035,000
	Adverse	33,829,000	38,895,000	43,965,000
Demand	Average	30,950,000	35,590,000	40,230,000
	Adverse	32,860,000	37,790,000	42,720,000

The estimates and projections in this table are based on assumptions made through the 2006 Long Term Procurement Plan [LTPP], which only forecasts supply and demand through 2016. The 2006 LTPP does not include changes to supply and demand projections that would occur due to the current economic conditions or increased renewable energy requirements. Through direct communication with SCE, additional information on average yearly increases [approximately a 1.5% average increase] assisted in creating projection estimates.

[a] Original demand and supply numbers were in megawatts (MW). For the purposes of this document, they were converted to kilovolt-amps (kVA). KVA are units used to rate generator strength. MW are a unit of power and the rate at which energy is used. Approximately 1 MW is equal to 1,000 kVA.

Source: SCE 2006; Cunningham pers. comm.

SCE has planned major infrastructure and replacement projects, including a proposed investment of $20 billion during the coming years to update the region's distribution and transmission grids to provide for the growth of electricity demand in the region (SCE 2010) and renewable energy supply requirements. The different transmission projects and substation projects within the SCE planning region are described in Table 20-8.

Table 20-8. Southern California Edison's Projects to Increase Supply and Efficiency

Project Type	Description	Status
Transmission		
Tehachapi Renewable Transmission Project Segments 1-3	New and updated transmission lines that will deliver electricity from wind farms in the Tehachapi area.	Segments 1, 2, and 3a are completed and energized.
Tehachapi Renewable Transmission Project Segments 4-11	New and updated transmission lines that would deliver electricity from wind farms in Kern County.	Approved by the CPUC in 2009; awaiting approvals by the United States (U.S.) Forest Service. Completion is expected in 2015.
Substation		
Presidential Substation Project	Development of a 66/16 kV substation and 3.5 miles of 66 kV subtransmission line route.	Application was submitted to CPUC in December 2008. It is expected to be operational by 2012.
Kimball Substation Project	Development of a 66/12 kV substation and upgrade existing 66 kV subtransmission line route.	Completed
Ritter Ranch Substation Project	Development of a 66/12 kV substation and 66 kV subtransmission line route.	Completed

kV = kilovolt
CPUC = California Public Utilities Commission
Source: SCE 2011

The completion of these projects, along with the projected power supply, is expected to aid in the provision of electricity for the region's increased demand through 2030 and beyond.

Los Angeles Department of Water and Power

The LADWP provides electrical service through an extensive system of transmission and distribution lines in a service area of approximately 465 square miles. The LADWP delivers more than 22 million megawatt (MW) hours of electricity a year to its 1.4 million customers in the city of Los Angeles (LADWP 2010). The LADWP recently approved its 2007 Power System Integrated Resource Plan (IRP) for the entire service area. This energy resource planning document provides a framework for assuring that the future energy needs of the service area are met (LADWP 2007a). The 2007 IRP estimates that electricity in the LADWP service area will increase at an average rate of 0.9 percent per year (LADWP 2007b). The 2007 IRP focuses on objectives to meet demand throughout 2012, and more broadly through 2027. Additional details regarding the LADWP demand and supply are described in Section 20.2.2.2.

20.2.2 Project Setting

The various utility service providers for each project element are summarized in Table 20-9.

Table 20-9. Project Level Utility Providers

Project Element	Potable Water Service Provider	Electrical Service Provider	Stormwater Service Provider
Tunnel Alignment			
Wilmington to SP Shelf	CalWater/LADWP	SCE/LADWP	City of Los Angeles
Wilmington to PV Shelf	CalWater/LADWP	SCE/LADWP	City of Los Angeles
Figueroa/Gaffey to PV Shelf	LADWP	LADWP	City of Los Angeles
Figueroa/Western to Royal Palms	LADWP	LADWP	City of Los Angeles

Table 20-9 (Continued)

Project Element	Potable Water Service Provider	Electrical Service Provider	Stormwater Service Provider
Shaft Site			
JWPCP East	CalWater	Sanitation Districts[a]/SCE	City of Carson
JWPCP West	LADWP	LADWP	City of Los Angeles
TraPac	LADWP	LADWP	City of Los Angeles
LAXT	LADWP	LADWP	City of Los Angeles
Southwest Marine	LADWP	LADWP	City of Los Angeles
Angels Gate	LADWP	LADWP	City of Los Angeles
Royal Palms	LADWP	LADWP	City of Los Angeles
Riser and Diffuser Area[b]			
SP Shelf	N/A	N/A	N/A
PV Shelf	N/A	N/A	N/A
Existing Ocean Outfalls	N/A	N/A	N/A

[a] The JWPCP is partially powered by methane-containing digester gas, a byproduct of the treatment process.

[b] Utilities are not provided to the riser and diffuser areas because they are located in the ocean and do not receive service. Therefore, describing the existing utilities setting for the riser and diffuser areas is not needed. Furthermore, utility services that would be provided during the construction of the riser and diffuser area would come from the providers identified above.

CalWater = California Water Service Company

N/A = not applicable

A description of existing project element utility demand in the various service areas is provided in Table 20-10. Typically, there is no existing utility demand for the project elements because most of the project element locations are vacant or underutilized areas.

Table 20-10. Existing Utility Demand of Project Elements

Project Element	Existing Potable Water Demand	Existing Electrical Demand	Existing Stormwater Generation
Tunnel Alignment			
Wilmington to SP Shelf	None – located in subsurface	None – located in subsurface	None – located in subsurface
Wilmington to PV Shelf	None – located in subsurface	None – located in subsurface	None – located in subsurface
Figueroa/Gaffey to PV Shelf	None – located in subsurface	None – located in subsurface	None – located in subsurface
Figueroa/Western to Royal Palms	None – located in subsurface	None – located in subsurface	None – located in subsurface
Shaft Site			
JWPCP East	None – vacant area	None – vacant area	Pervious surface[a] – disturbed vacant soil
JWPCP West	None – vacant area	None – vacant area	Pervious surface[a] – disturbed vacant soil
TraPac	None – container storage area	None – container storage area	Impervious surface[b] – completely paved with asphalt or concrete
LAXT	None – vacant terminal, currently unused	None – vacant terminal, currently unused	Primarily impervious surface – paved with asphalt or concrete
Southwest Marine	None – vacant area next to Berths 243 to 245	None – vacant area next to Berths 243 to 245	Primarily impervious surface – paved with asphalt or concrete

Table 20-10 (Continued)

Project Element	Existing Potable Water Demand	Existing Electrical Demand	Existing Stormwater Generation
Angels Gate	None – parking lot	None – parking lot with no lights	Impervious surface – parking lot paved with asphalt
Royal Palms	None – vacant area	Parking lot lights	Pervious surface – previously disturbed soil with ruderal vegetation
Riser and Diffuser Area[c]			
SP Shelf	N/A	N/A	N/A
PV Shelf	N/A	N/A	N/A
Existing Ocean Outfalls	N/A	N/A	N/A

[a] Pervious surfaces allow stormwater to percolate into the ground and do not typically generate stormwater runoff, or generate stormwater to a lesser extent when compared with completely impervious surfaces.

[b] Impervious surfaces generate stormwater because the stormwater does not percolate into the ground but rather runs off into the existing stormwater drainage system.

[c] Utilities are not provided to the riser and diffuser areas because they are located in the ocean and do not receive service. Therefore, describing the existing utilities demand for the riser and diffuser areas is not needed.

N/A = not applicable

20.2.2.1 Potable Water

California Water Service Company

California Water Service Company (CalWater) provides water supply services to the JWPCP through the Rancho Dominguez District. The Rancho Dominguez District is located at the southern portion of the Los Angeles coastal plain in the area known as the South Bay. The district's 35-square-mile service area is located 5 to 10 miles inland from the Los Angeles Harbor and includes most of the city of Carson; a large section of the city of Torrance; small sections of the cities of Compton, Long Beach, and Los Angeles; and a portion of Los Angeles County. (CalWater 2006.)

The Rancho Dominquez District system uses groundwater, purchased imported water, and recycled water. Groundwater is extracted from the West Coast and Central Groundwater Basins. West Basin Municipal Water District serves as the regional wholesaler and developer of local supplies. (CalWater 2006.)

CalWater's projected total water demand is forecasted in its urban water management plan (UWMP) (see Section 20.3.1.4). Water demand for the Rancho Dominquez District is based on multiplying the forecast of projected services for each customer class by the anticipated demand per service for that class. CalWater's Rancho Dominguez District annual water demand and supply throughout 2025 is shown in Table 20-11. (CalWater 2006.)

Table 20-11. CalWater's Rancho Dominguez District Projected Annual Maximum Daily Water Demand and Supply (Acre-Feet per Year)

Year	2010	2020	2025
Supply	39,774	44,489	47,132
Demand	33,819	37,672	39,825
Difference	5,955	6,817	7,307

Source: CalWater 2005

Los Angeles Department of Water and Power

The LADWP provides water service to the city of Los Angeles, as well as to portions of Culver City, South Pasadena, and West Hollywood. It also provides water services to the Port of Los Angeles and the community of San Pedro. The LADWP provides water services to over 640,000 customers covering a 295,000-acre service area. Distribution mains are located throughout the project area. Water sources utilized by the LADWP include local sources, such as wells and recycled water (for nonpotable uses), and imported sources, including the Los Angeles Aqueduct and purchases from the MWD (LADWP 2007a).

The LADWP has invested in various sources to supply water, including groundwater replenishment, recycled water, and water conservation. Water demand and supply calculations in its 2005 UWMP (see Section 20.3.1.4) are based on assumptions regarding the various supplies of water available and existing and projected levels of water conservation. Based on these calculations, the LADWP has predicted service reliability for average and single-dry-year conditions. Existing and future supply and demand assumptions are described in Table 20-12. The LADWP expects to be able to meet future demand with a combination of existing supplies, planned supplies, and MWD purchases (LADWP 2005).

Table 20-12. LADWP Existing and Projected Water Supply and Demand (Acre-Feet per Year)

	2005	2030 (Average)	2030 (Dry)
Supply	700,000	897,200	934,200
Demand	683,000	776,000	776,000
Difference	17,000	121,200	158,200

Source: LADWP 2005

20.2.2.2 Energy (Electricity)

Sanitation Districts

Electricity is used at the JWPCP to power equipment such as pumps, biosolids collection equipment, centrifuges, compressors, aerators, and miscellaneous motor drives. Existing electricity consumption at the JWPCP totals approximately 120 gigawatt hours (GWh) annually. The electricity used at the JWPCP is a combination of that purchased from SCE and that generated on site by a combined-cycle power plant that converts digester gas to electricity. Existing electricity production capacity at the JWPCP currently totals approximately 162 GWh annually, allowing for excess production of approximately 42 GWh annually to be available to the local power grid through sales agreements with the electric utility (Parsons 2011).

Los Angeles Department of Water and Power

The LADWP service area for electricity includes the city of Los Angeles. The LADWP supplies nearly 22 billion kilowatt hours (kWh) of electricity per year for the city's 1.4 million electric customers (LADWP 2007b). The LADWP maintains various generating and distribution substations throughout the greater Los Angeles area, including generating and distribution centers in and near the Port of Los Angeles. For example, the Harbor Generating Station is located within the Port of Los Angeles at 161 North Island Avenue in Wilmington. The current and future demand and supply for LADWP electricity is described in Table 20-13.

Table 20-13. Los Angeles Department of Water and Power Electricity Supply and Demand (Kilovolt-Amp)[a]

	Existing - 2007	2020	2027
Supply	7,560,000	7,721,000	7,710,000
Demand	6,239,000	6,876,000	7,294,000

[a] Original demand and supply numbers were in megawatts (MW). For the purposes of this document, they were converted to kilovolt-amps (kVA). Kilovolt-amps are units used to rate generator strength. MW are a unit of power and the rate at which energy is used. Approximately 1 MW is equal to 1,000 kVA.

Source: LADWP 2007b

20.2.2.3 Stormwater

Please refer to the regional discussion in Section 20.2.1.2 for a description of existing conditions related to stormwater.

20.3 Regulatory Setting

20.3.1 Federal and State

The MWD, the LADWP, and CalWater are responsible for meeting federal and state laws and regulations regarding water supply and water quality. Such regulations include water supply treatment system testing and monitoring, as specified in Title 23, Division 4, Chapter 1, Article 4 of the California Code of Regulations (CCR), and federal regulations promulgated by the Environmental Protection Agency (EPA).

Federal and state agencies regulate water supply and consumption through various programs. At the federal level, the EPA is the main regulatory agency with oversight on water supply and control through the Clean Water Act. At the state level, the California State Water Resources Control Board (SWRCB) and the California Department of Water Resources (DWR) have authority over different aspects of water. The SWRCB provides comprehensive protection for California's waters through joint authority of water allocation and water quality protection. The DWR provides urban water management planning services to local and regional urban water suppliers, in accordance with the Urban Water Management Planning Act. Other, smaller agencies such as the MWD and the LADWP provide regulations for water management and protection at a regional level.

Federal and state agencies regulate energy use and consumption through various means and programs. At the federal level, the United States Department of Transportation, the United States Department of Energy, and the EPA are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, funding of energy-related research and development projects, and funding for transportation infrastructure improvements. At the state level, the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) have authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards.

20.3.1.1 Clean Water Act

The Clean Water Act sets discharge limitations, requires states to establish and enforce water quality standards, sets the framework for the NPDES permit program for municipal and industrial point-source discharges, and requires NPDES permits for municipal and industrial discharges and for stormwater discharges caused by general construction activity.

The NPDES program was mandated by Congress under the Clean Water Act. NPDES is a comprehensive program for addressing the non-agricultural sources of stormwater discharges adversely affecting the quality of the nation's waters. The program uses the NPDES permitting mechanism to require the implementation of control and monitoring measures designed to prevent harmful pollutants from being washed into local water bodies by stormwater runoff. To enforce the requirements of the Clean Water Act and NPDES related to stormwater, the SWRCB has implemented the State General Permit for industrial stormwater discharges. All qualifying industrial facilities in the state, including the WRPs and JWPCP, must comply with the requirements of the State General Permit.

Additionally, the Clean Water Act includes a stormwater program to address stormwater discharges associated with construction and land disturbance activities (Construction General Permit). The Construction General Permit is required for all construction projects with a total soil disturbance of 1 acre or greater. Through this permit, the owner or operator is required to develop a stormwater pollution prevention plan (SWPPP) that incorporates best management practices (BMPs) to reduce or remove pollutants from stormwater discharges during construction or land disturbance activities.

20.3.1.2 Senate Bill 610 and Water Code Sections 10910 – 10915

Senate Bill 610 amended the California Water Code Sections 10910 – 10915 to require the preparation of a 20-year water supply assessment for certain projects, generally those involving a water demand equivalent to 500 dwelling units or more, demonstrating available water supplies exist to support the proposed development that meets specific criteria outlined in the Water Code sections. The Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 (DWR 2003) identifies that one dwelling unit typically consumes 0.3 to 0.5 AFY of water, depending upon several factors, including regional climate.

20.3.1.3 Water Conservation Projects Act

The state of California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954), as reflected below:

> 11952. (a) It is the intent of the Legislature in enacting this chapter to encourage local agencies and private enterprise to implement potential water conservation and reclamation projects.

20.3.1.4 California Urban Water Management Act

The California Urban Water Management Planning Act requires urban water suppliers to initiate planning strategies that make every effort to ensure the appropriate level of reliability in their water service sufficient to meet the needs of their various categories of customers during normal, dry, and multiple dry-water years. The California Urban Water Management Planning Act requires water suppliers to develop water management plans every 5 years and to include an analysis of water supply reliability and

water use efficiency measures. MWD would be the regional wholesale water supplier, and CalWater and LADWP would be the retail water suppliers; as such, the project would be under the jurisdiction of the MWD UWMP, the CalWater UWMP, and the LADWP UWMP, all prepared pursuant to the California Urban Water Management Planning Act.

MWD Urban Water Management Plan

Consistent with the California Urban Water Management Planning Act, the MWD has prepared a regional UWMP to describe how water resources are used and to present strategies that will be used to meet the region's current and future water needs. The MWD UWMP focuses primarily on water supply reliability and water use efficiency measures. The most recent MWD UWMP is the 2005 UWMP. It was completed as an update to the previous 2000 UWMP to comply with the Urban Water Management Planning Act.

CalWater Urban Water Management Plan

Consistent with the California Urban Water Management Planning Act, CalWater has prepared an UWMP to describe how water resources are used within the district and to present strategies that will be used to meet the district's current and future water needs. The CalWater UWMP includes a discussion of water supply reliability and water demand management. The CalWater Rancho Dominguez District, per approval by the CPUC, is on a 3-year update cycle (CalWater 2006). CalWater most recently completed its update in January 2006.

LADWP Urban Water Management Plan

Consistent with the California Urban Water Management Planning Act, the LADWP has prepared an UWMP to describe how water resources are used and to present strategies that will be used to meet the city's current and future water needs. The LADWP UWMP focuses primarily on water supply reliability and water use efficiency measures. The 2005 UWMP was completed as an update to the previous 2000 UWMP to comply with the Urban Water Management Planning Act. The LADWP also published annual fiscal year updates in the 2005 UWMP.

20.3.1.5 California's Building Code (24 CCR Part 6)

Title 24, Part 6, of the California Building Code describes California's energy efficiency standards for residential and nonresidential buildings. These standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption and have been updated periodically to include new energy efficiency technologies and methods. Title 24 requires energy efficient standards for all new construction, including new buildings, additions, alterations, and, in nonresidential buildings, repairs.

20.3.2 Regional

20.3.2.1 Construction Activity Control Program

The Los Angeles Regional Water Quality Control Board (LARWQCB) issued a Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (RWQCB 1994). Included within this plan is the Construction Activity Control Program for managing urban runoff into storm drains. According to the Construction Activity Control Program, major construction activities include the development or redevelopment of residential, commercial, and industrial areas, as well as transportation facilities. The LARWQCB requires, pursuant to NPDES stormwater regulations, an NPDES permit for the discharge of stormwater from all construction activities, including demolition, clearing and excavation, and grading.

The majority of construction activity discharges in the Los Angeles region are covered under the SWRCB general permit (LARWQCB 1994).

20.3.2.2 Standard Urban Stormwater Mitigation Plan

On December 13, 2001, the LARWQCB issued a Municipal Stormwater NPDES Permit (NPDES Permit No. CAS004001) that requires new development and redevelopment projects to incorporate stormwater mitigation measures.

Depending on the type of project, either a Standard Urban Stormwater Mitigation Plan or a Site-Specific Mitigation Plan is required to reduce the quantity and improve the quality of rainfall runoff that leaves the site. Developers are encouraged to begin work on complying with these regulations by consulting with the Watershed Protection Division in the design phase of their projects.

20.3.2.3 Storm Water Pollution Prevention Plan

A SWPPP is generally required as part of a construction permit for large projects or facilities that are within a drainage basin of a water of the United States. The SWPPP emphasizes the use of appropriately installed and maintained stormwater pollution reduction BMPs. See Chapter 11 for additional information on SWPPPs.

20.3.2.4 The County of Los Angeles Municipal Code

Appendix J of the Los Angeles Municipal Code includes a discussion of grading and erosion control measures during construction. The following sections of this appendix relate to the project elements:

- J101.7 Storm Water Control Measures (Ord. 2007-0108, Section 33 [part], 2007)
- J111.1 General (Ord. 2007-0108, Section 33 [part], 2007)
- J111.2 Storm Water Pollution Prevention Plan (Ord. 2007-0108, Section 33 [part], 2007)
- J111.3 Wet Weather Erosion Control Plans (Ord. 2007-0108, Section 33 [part], 2007)

These sections generally outline that grading plans and permits will comply with the NPDES and all BMPs will be installed before grading begins. Details associated with each of these sections are discussed in Chapter 11.

20.3.2.5 The City of Pomona Municipal Code

The City of Pomona Municipal Code includes a discussion of discharge regulations and requirements in relation to stormwater management. Article X of Chapter 18 of the Code, Section 18-495 (3) to (5), relates to stormwater regulations. This article requires BMPs for new development and redevelopment, notification of intent and compliance with general permits, and compliance with BMPs (Code 1959, Section 35-12; Ord. No. 3735, Section 1 [part]). Details associated with this article are discussed in Chapter 11.

20.3.2.6 The City of Cerritos Municipal Code

The City of Cerritos Municipal Code includes a discussion of stormwater and urban runoff prevention controls under Chapter 6.32 in relation to stormwater management. Section 6.32.050, Construction Site Requiring Building Permit and/or Grading Plan, relates to stormwater regulations within the project. This

chapter identifies specific BMPs to be employed during construction and requires a NPDES construction permit to be obtained from the LARWQCB prior to the issuance of grading and/or building permits. Details associated with this chapter are discussed in Chapter 11.

20.3.2.7 The City of Long Beach Municipal Code

The City of Long Beach Municipal Code includes a discussion of construction development requirements as they relate to the NPDES and standard urban stormwater mitigation plan regulations under Chapter 18.395, Section 18.95.050, Development Construction. This chapter discusses the BMPs to be employed during construction and the use of the California Storm Water Best Management Practice Handbooks (Construction Activity) (1993). Details associated with this chapter are discussed in Chapter 11 (Ord. C-7823, Section 129, 2002; Ord. C-7712, Section 2, 2000; Ord. C-7703, Section 1, 2000).

20.3.2.8 The City of Carson Municipal Code

Chapter 8 of the City of Carson Municipal Code includes ordinances dedicated to stormwater and urban runoff pollution control. The ordinances within this chapter that relate to the project elements include requirements for industrial/commercial and construction activities (Ord. 96-1101, Section 1). Details associated with this chapter are discussed in Chapter 11.

20.3.2.9 The City of Los Angeles Municipal Code

Chapter IX of the City of Los Angeles Municipal Code includes ordinances that relate to the reduction of stormwater runoff during construction. Two ordinances of the municipal code relate to project elements: Ordinance 172.673 (effective July 30, 1999) and Ordinance 179.324 (effective December 10, 2007). The first ordinance requires the use of provisions contained in the Development Best Management Practices Handbook, Part A, during construction activities. The second ordinance gives the city the ability to withhold grading and/or building permits for developments until applicants incorporate BMPs necessary to control stormwater pollution. Details associated with the ordinances are discussed in Chapter 11.

20.4 Environmental Impacts and Mitigation Measures

20.4.1 Methodology and Assumptions

The potential impacts associated with the Alternatives are evaluated on a quantitative and qualitative basis. Assessment of the impacts on utilities (water and stormwater) and energy providers (electricity) varies depending on the utility but generally includes a comparison of the project-generated demand against existing and anticipated resource supplies and/or conveyance capacity. Significant impacts would occur if the Alternative would adversely affect the ability of service agencies to provide adequate service to the project site or other existing service areas, and expansions or upgrades would cause significant adverse physical impacts. These impacts are assessed through the significance criteria established for the program and project as defined under Section 20.4.2.

For Alternatives 1 and 2, two tunnel boring machines (TBMs) would be used to construct the onshore and offshore tunnel alignments. There are two possible scenarios under which the two TBMs could be used.

- One TBM would be launched at the JWPCP East shaft site and progress south to the Los Angeles Export Terminal (LAXT) shaft site. The second TBM would be launched from the LAXT shaft site and progress south to the riser and diffuser area.
- Two TBMs would be launched from the LAXT shaft site. One would progress north and exit at the JWPCP East shaft site, and one would progress south to the riser and diffuser area.

Because each of these scenarios is reasonably foreseeable, they are both analyzed. Therefore, one TBM is analyzed at the JWPCP East shaft site, and two TBMs are analyzed at the LAXT shaft site. These assumptions provide a conservative impact analysis evaluating the maximum utility demand in different service areas associated with the construction of the project.

For Alternatives 3 and 4, it is assumed one TBM would be used and would start at the JWPCP West shaft site and progress until it reached either the riser and diffuser location on the PV Shelf (Alternative 3) or the Royal Palms shaft site (Alternative 4).

20.4.1.1 Energy Conservation

In order to ensure that energy use is considered in project decisions, the California Environmental Quality Act (CEQA) requires that environmental impact reports (EIRs) include a discussion of the potential energy impacts of proposed projects. In 1975, the state legislature adopted Assembly Bill 1575, which amended Public Resources Code Section 21100 (b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the CEQA Guidelines. As required by Appendix F of the CEQA Guidelines, the Sanitation Districts have considered construction waste reuse, use of native and non-invasive landscaping, and energy efficient equipment in temporary construction trailers and lighting for this project. The Sanitation Districts use commercially available equipment that conserves energy for the specific application in use at the time of construction.

20.4.1.2 Stormwater Infrastructure

Potential impacts on stormwater infrastructure are analyzed at the program and project level. The impacts on stormwater infrastructure are described using the existing impervious and pervious surfaces on site and the change to those surfaces that would occur during construction and operation of program and project elements.

20.4.1.3 Potable Water Supply

Potential impacts on potable water supply and demand are only analyzed at the project level. The impacts to potable water supplies are assessed using an upper limit of demand. The limit is based on Senate Bill 610 and the Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 (DWR 2003) for projects that require a water demand equivalent to 500 dwelling units per year[3]. This water demand is approximately 0.3 to 0.5 AFY per unit depending on the location in California, for a total of 150 to 250 AFY (DWR 2003). Typically water demand is greater in more arid regions of the state. Potable water demand for the project elements would only occur during construction. It is speculative to determine the exact quantity of water the TBM(s) would use during tunneling because there are no direct examples. Furthermore, there are many variables that could account for variation in water demand,

[3]SB610 is silent on water demand generated during construction. The water demand used by 500 single-family dwelling units is for the operation of those dwelling units (i.e., after construction has ended, and they are inhabited).

including the final excavated diameter of the tunnel, the type of soil or rock and its permeability, the pressures needed to exert force to tunnel, and differences in contractor operation of the TBM. However, it was determined that construction of project elements, particularly the use of the TBM(s) to construct the tunnel and the construction of the shaft sites, would not exceed 250 AFY (Jacobs 2010). This was determined assuming a slurry TBM would be used, which would require a larger quantity of water than an earth pressure balance TBM because of the need to use water to generate the slurry. Based on the estimated excavated face of the tunnel and several examples of previous projects using slurry TBMs, the use of one TBM is assumed to require a maximum amount of approximately 103 AFY and two TBMs would require a maximum amount of approximately 206 AFY (Jacobs 2010). In order to appropriately analyze the demand associated with each service provider, the total estimated water demand is allocated to the onshore and offshore tunnel alignments and the location of the shaft site. Then the allocated onshore and offshore demand is compared against the projected supply and demand of the service area. This data and methodology are used to analyze the project's potable water supply impacts.

20.4.1.4 Energy Demand

Electrical demand and supply is only analyzed as a potential impact at the project level. Electricity would be required to operate the TBM and would be provided at the shaft sites. Energy rates for a slurry TBM are used to estimate the energy demand and impacts because this type of TBM provides the most conservative estimate of electricity usage. The shaft sites would provide support for the construction of the tunnel alignments, including erection and launching the slurry TBMs, ongoing operation of the slurry TBMs for the length of the tunnel sections, and the removal of excavated materials. Working shaft sites would require significantly more electricity than access shaft sites because access shaft sites would simply provide ventilation and allow construction workers to enter and exit the tunnel, whereas working shaft sites would actually supply the electricity to the slurry TBM.

Analysis of the total power requirement for the project construction includes those power needs associated with TBM operation, auxiliary equipment (e.g., shaft pump, man hoist, and shaft crane), various shops and offices, and yard lighting. The JWPCP tunnel and ocean outfall feasibility report (Parsons 2011) estimates the project power requirements. Peak power requirements of maximum construction activities for 36,600 feet of onshore[4] tunnel construction are 21,775 kilovolt-amps (kVA), while peak power requirements for 55,000 feet of offshore tunnel construction are 27,635 kVA (Parsons 2011). The combined total power requirement over the 6- to 8-year construction period if the offshore and onshore tunnel alignments are constructed at the same time would be a maximum of approximately 49,000 kVA (Parsons 2011). Parsons determined the power requirements by including all equipment necessary for tunneling and shaft construction. Furthermore, the power requirements account for varying TBM utilization. The use of the TBM can vary between 30 and 50 percent during a 24-hour period, such that the TBM would be excavating and drawing full power for a period ranging from 8 to 12 hours. Within the excavation cycles, the TBM would excavate for 15 to 25 minutes, and then erect concrete lining for 10 to 15 minutes. The maximum power would, therefore, be required on a discontinued basis for periods of 15 to 25 minutes every 25 to 50 minutes. However, other equipment, such as lighting and ventilation fans, would be running constantly as long as there are workers in the tunnel and at the shaft site.

[4] In the JWPCP tunnel and ocean outfall feasibility report (Parsons 2011), the expected peak power requirements are based on the longest tunnel alignment portions from a working shaft site, which for the onshore portion is defined as beginning at the JWPCP and ending at the Royal Palms shaft site (Alternative 4), and for the offshore portion is defined as beginning at the LAXT shaft site and ending at the SP Shelf (Alternative 1).

In order to appropriately analyze the energy demand of the onshore and offshore tunnels, an energy demand factor was prepared using the estimated kVA and the lengths of the tunnels provided in the JWPCP tunnel and ocean outfall feasibility report. The demand factor for the onshore tunneling is assumed to be 0.6 kVA per foot, and the energy demand factor for the offshore tunneling is assumed to be 0.50 kVA per foot. These factors were then applied to the various lengths of the onshore and offshore tunnels to determine the estimated energy demand by alternative. The estimated energy demand for both the onshore and offshore tunnels is summarized in Table 20-14. This data is used to analyze the project's energy impacts.

Table 20-14. Energy Demand by Alternative

Alternative (Tunnel Alignment)	Onshore Length (feet)	Estimated Energy Demand for Onshore Tunnel (kVA)[a]	Offshore Length (feet)	Estimated Energy Demand for Offshore Tunnel (kVA)[b]
Alternative 1 (Wilmington to SP Shelf)	10,700	6,420	65,200	32,600
Alternative 2 (Wilmington to PV Shelf)	10,700	6,420	38,100	19,050
Alternative 3 (Figueroa/Gaffey to PV Shelf	34,000	20,400	11,400	5,700
Alternative 4 (Figueroa/Western to Royal Palms)	36,600	21,960[c]	N/A	N/A

[a] The estimated energy demand for the onshore tunnel was determined by applying a standard factor of 0.6 kVA/foot of energy demand. The factor was determined by dividing the estimated 21,775 kVA by the total length of 36,600 feet for the onshore tunnel cited in the feasibility report (Parsons 2011).

[b] The estimated energy demand for the offshore tunnel was determined by applying a standard factor of 0.50 kVA/foot of energy demand. The factor was determined by dividing the estimated 27,635 kVA by the total length of 55,000 feet of offshore tunnel cited in the feasibility report (Parsons 2011).

[c] Rounding associated with the calculation of the standard factor resulted in a slightly larger number than the 21,775 kVA identified by Parsons for 36,600 feet of onshore tunnel (see footnote "a" for details of the calculation).

KVA = kilovolt-amps

20.4.1.5 Baseline

CEQA Baseline

The CEQA baseline includes existing conditions for public services at all sites where program and project elements would be constructed, including the WRPs, shaft sites, tunnel alignments, and riser and diffuser areas. The reference date for the CEQA baseline is 2008 when the notice of preparation of this EIR/EIS was released for public review.

NEPA No-Federal-Action Baseline

The National Environmental Policy Act (NEPA) no-federal-action baseline for the Clearwater Program is described in Section 1.7.4.2. The NEPA baseline in general represents the condition and anticipated utilization of recreational resources at the year 2022 when construction of project elements under the United States (U.S.) Army Corps of Engineers' (Corps') jurisdiction would conclude.

Supply and demand for utilities and energy are projected to the year 2030 in the analysis below, encompassing the year 2022 when construction of project elements under the Corps' jurisdiction would conclude. Therefore, the NEPA no-federal-action baseline is the supply and demand projections through the year 2030.

Note that the NEPA analysis includes direct and indirect impacts as discussed in Section 3.5.2. Any impact associated with project elements located within the Corps' geographic jurisdiction (i.e., the marine environment) during construction would be the direct result of the Corps permit and considered a direct impact under NEPA. Any impact associated with project elements located outside the Corps' geographic jurisdiction during construction would be the indirect result of the Corps permit and considered an indirect impact under NEPA. Any impact that occurs during operation would be considered an indirect impact under NEPA.

20.4.2 Thresholds of Significance

The program and/or project would pose a significant impact if it exceeds any of the following thresholds for utilities, service systems, and energy (UTL):

UTL-1. Exceeds wastewater treatment requirements of the applicable regional water quality control board.

UTL-2. Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

UTL-3. Requires or results in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

UTL-4. Requires new or expanded entitlements because sufficient water supplies would not be available to serve the project.

UTL-5. Results in the disruption or impediment of utility service to areas during construction.

UTL-6. Is served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation.

UTL-7. Is in noncompliance with federal, state, and local statutes and regulations related to solid waste.

UTL-8. Requires new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs.

Program and project elements were analyzed by threshold in the Preliminary Screening Analysis (Appendix 1-A) to identify potentially significant impacts on utilities, service systems, and energy before mitigation. Table 20-15 identifies which elements were brought forward for further analysis by threshold in this EIR/EIS for Alternatives 1 through 4. If applicable, Table 20-15 also identifies thresholds evaluated in this EIR/EIS if an emergency discharge into various water courses were to occur under the No-Project or No-Federal Action Alternatives, as described in Sections 3.4.1.5 and 3.4.1.6.

Table 20-15. Thresholds Evaluated

		Threshold							
	Alt.	**UTL-1**	**UTL-2**	**UTL-3**	**UTL-4**	**UTL-5**	**UTL-6**	**UTL-7**	**UTL-8**
Program Element									
Conveyance System	1–5			X					
SJCWRP Plant Expansion	1–5			X					
SJCWRP Process Optimization	1–4			X					
POWRP Process Optimization	1–4			X					
LCWRP Process Optimization	1–4			X					
LBWRP Process Optimization	1–4			X					
JWPCP Solids Processing	1–5			X					
Project Element									
Wilmington to SP Shelf (onshore tunnel) [a]	1,2				X		X		X
Wilmington to SP Shelf (offshore tunnel)	1				X		X		X
Wilmington to PV Shelf (onshore tunnel)[a]	1,2				X		X		X
Wilmington to PV Shelf (offshore tunnel)	2				X		X		X
Figueroa/Gaffey to PV Shelf (onshore tunnel)	3				X		X		X
Figueroa/Gaffey to PV Shelf (offshore tunnel)	3				X		X		X
Figueroa/Western to Royal Palms (onshore tunnel)	4				X		X		X
JWPCP East Shaft Site	1,2			X	X		X		X
TraPac Shaft Site	1,2			X	X		X		X
LAXT Shaft Site	1,2			X	X		X		X
Southwest Marine Shaft Site	1,2			X	X		X		X
JWPCP West Shaft Site	3,4			X	X		X		X
Angels Gate Shaft Site	3			X	X		X		X
Royal Palms Shaft Site	4			X	X		X		X
SP Shelf Riser/Diffuser Area	1						X		
PV Shelf Riser/Diffuser Area	2						X		
Emergency Discharge	5,6	X							

[a] The onshore tunnel alignment for the Wilmington to SP Shelf is the same as the onshore tunnel alignment for the Wilmington to PV Shelf.

Alt. = alternative

In the Alternatives analysis that follows, if a program or project element is common to more than one alternative, a detailed discussion is presented only in the first Alternative in which it appears.

20.4.3 Alternative 1

20.4.3.1 Program

Impact UTL-3. Would Alternative 1 (Program) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Conveyance System – Conveyance Improvements

Construction

The Clearwater Program has identified the need for conveyance improvements. Implementation of the program-level conveyance improvements could result in impacts on stormwater drainage by potentially (1) increasing stormwater runoff generated during construction due to uncovered trenches and soil, (2) changing the location of stormwater discharge, or (3) increasing the velocity of the stormwater runoff generated. At this time, however, no specific projects have been proposed. Even so, the Sanitation Districts incorporate many standard practices and requirements into each publicly bid construction contract to minimize any impacts, including preparation of a SWPPP (see Section 20.3.2.3). These standard practices and bid requirements are used on all conveyance system construction projects, whether installing new sewers or rehabilitating existing sewers. Impacts would be less than significant.

San Jose Creek Water Reclamation Plant – Plant Expansion and Process Optimization

Construction

During the expansion of the SJCWRP and construction of process optimization, soil would be exposed and the onsite drainage pattern would be altered for a period of 2 to 3 years. Construction could change both the volume and velocity of runoff generated during storm events. It could also change the discharge locations of stormwater runoff on and off site based on alterations to the drainage pattern. The Sanitation Districts would adhere to the requirements of the SWRCB's Construction General Permit, and the grading and erosion control measures of Appendix J of the Los Angeles County Municipal Code as described under Section 20.3.2.4, as required. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. Therefore, impacts would be less than significant.

Pomona Water Reclamation Plant, Los Coyotes Water Reclamation Plant, and Long Beach Water Reclamation Plant – Process Optimization

Construction

Impacts associated with construction of process optimization at the POWRP, LCWRP, and LBWRP would be the same as those for plant expansion and process optimization at the SJCWRP. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. Additionally, the Sanitation Districts would adhere to the stormwater management control measures of Section 18 of the City of Pomona Municipal Code (see Section 20.3.2.5) for the POWRP, and the stormwater and urban runoff prevention and control measures of Chapter 6.32 of the City of Cerritos Municipal Code (see

Section 20.3.2.6) for the LCWRP and Chapter 18.95 of the City of Long Beach Municipal Code (see Section 20.3.2.7) for the LBWRP, as required. Therefore, impacts would be less than significant.

Joint Water Pollution Control Plant – Solids Processing

Construction

Impacts associated with construction of the solids processing facilities at the JWPCP would be the same as those for plant expansion and process optimization at the SJCWRP. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. Therefore, impacts would be less than significant. Additionally, the Sanitation Districts would adhere to the development construction control measures of Chapter 8 of the City of Carson Municipal Code as described under Section 20.3.2.8, as required. Therefore, impacts would be less than significant.

CEQA Impact Determination

Construction of Alternative 1 (Program) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects before mitigation. Impacts would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

The Sanitation Districts would comply with all applicable city and county municipal codes regarding stormwater control for construction of the plant expansion and process optimization at SJCWRP; process optimization at the POWRP, LCWRP, and LBWRP; and the solids processing facilities at the JWPCP. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. The SWPPP would identify applicable water quality BMPs to effectively control construction-related pollutants and stormwater generation, including alteration of the drainage patterns and changes in volume and velocity of flow. Therefore, with the preparation of a SWPPP, construction of new stormwater drainage facilities or expansion of existing facilities would not be required, and impacts would be less than significant.

20.4.3.2 Project

Impact UTL-3. Would Alternative 1 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Shaft Sites – JWPCP East, TraPac, LAXT, and Southwest Marine

Construction

CEQA Analysis

During shaft and tunnel construction, soil at the shaft sites would be exposed and the onsite drainage pattern would be altered for a period of 8 years. Construction could change both the volume and velocity of runoff generated during storm events. It could also change the discharge locations of stormwater

runoff on and off site based on alterations to the drainage pattern. For the JWPCP East shaft site, the Sanitation Districts would adhere to the development construction control measures of Chapter 8 of the City of Carson Municipal Code as described under Section 20.3.2.8, as required. For the Trans Pacific Container Service Corporation (TraPac), LAXT, and Southwest Marine shaft sites, the Sanitation Districts would adhere to the Department of Building and Safety Measures of Chapter IX of the City of Los Angeles Municipal Code as described under Section 20.3.2.9, as required. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. Therefore, impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination

Construction of Alternative 1 (Project) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

The Sanitation Districts would comply with all applicable city and county municipal codes regarding stormwater control for construction at the JWPCP East, TraPac, LAXT, and Southwest Marine shaft sites. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. The SWPPP would identify applicable water quality BMPs to effectively control construction-related pollutants and stormwater generation, including alteration of the drainage patterns and changes in volume and velocity of flow. Therefore, with the preparation of a SWPPP at the JWPCP East, TraPac, LAXT, and Southwest Marine shaft sites, construction of new stormwater drainage facilities or expansion of existing facilities would not be required, and impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 1 (Project) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant, as described under the CEQA impact determination.

Impact UTL-4. Would Alternative 1 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?

Tunnel Alignment – Wilmington to San Pedro Shelf (Onshore and Offshore), and Shaft Sites – JWPCP East, TraPac, LAXT, and Southwest Marine

Construction

CEQA Analysis

The volume of potable water required for the construction of project elements would be greater than the existing demand for water at these sites; however, the estimated water demand for construction is well within the estimated future projected supply for water provided by the LADWP and CalWater. It is estimated that construction of the Wilmington to SP Shelf onshore and offshore tunnel alignment as well as the construction of the JWPCP East, TraPac, LAXT, and Southwest Marine shaft sites would require approximately 206 AFY of water, the majority of which would be used at the construction shaft sites. CalWater would provide approximately 69 AFY of potable water for constructing the JWPCP East shaft site and the onshore tunnel from the JWPCP East shaft site to the TraPac shaft site.[5] The LADWP would provide approximately 137 AFY of potable water for constructing the TraPac, LAXT, and Southwest Marine shaft sites and the offshore tunnel from TraPac to the SP Shelf.[6] The service providers' projected future supply and demand are described in Table 20-16.

Table 20-16. Alternative 1 (Project) Service Providers' Future Water Supply and Demand (Acre-Feet per Year)

	Year	Service Provider Supply	Service Provider Demand[a]	Difference
CalWater	2025	47,132	39,894	7,238
LADWP	2030	934,200	776,137	158,063

[a] Includes the estimated allocated demand of 69 AFY and 137 AFY between CalWater and LADWP, respectively.

CalWater's contribution of 69 AFY for construction of Alternative 1 (Project) would be approximately 0.2 percent of the projected future supply of CalWater for 2025. There is still a projected excess supply with this additional project demand. Furthermore, LADWP's contribution of 137 AFY for construction of Alternative 1 (Project) would be approximately 0.02 percent of the projected future supply of LADWP for 2030. There is still a projected excess supply with this additional project demand. Therefore, both LADWP and CalWater are projected to have sufficient projected supplies to support the demand associated with construction. Not only would the projected water supply exceed the estimated demand for potable water during construction, the demand on the potable water supply would be temporary and would be limited to the duration of construction. Impacts would be less than significant.

[5] The allocation of estimated potable water demand for CalWater was calculated by generally assuming one-third of the total tunnel alignment occurs in CalWater's service area (from JWPCP East to TraPac). Therefore, CalWater would be responsible for providing approximately one-third of the estimated 206 AFY, or approximately 69 AFY.
[6] The allocation of estimated potable water demand for the LADWP was calculated by generally assuming two-thirds of the total tunnel alignment occurs in LADWP's service area (from TraPac to the SP Shelf). Therefore, LADWP would be responsible for providing approximately two-thirds of the estimated 206 AFY, or approximately 137 AFY.

NEPA Analysis
Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts for the onshore tunnel and the shaft sites. Impacts would be considered direct for the offshore tunnel.

CEQA Impact Determination
Construction of Alternative 1 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under CEQA would be less than significant.

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

NEPA Impact Determination
Construction of Alternative 1 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact UTL-6. Would Alternative 1 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?

Tunnel Alignment – Wilmington to San Pedro Shelf (Onshore and Offshore); Shaft Sites – JWPCP East, TraPac, LAXT, and Southwest Marine; Riser/Diffuser Area – San Pedro Shelf

Construction

CEQA Analysis
The disposal of the excavated material would occur at several different locations depending on the type of material and its origin. The specific disposal facilities are currently unknown as it is required by the Sanitation Districts' standard practices and procedures that the construction contractors' handle and dispose of all hazardous and non-hazardous materials during construction. For this analysis, it was assumed that non-hazardous onshore excavated material from onshore tunnel and shaft site construction would be disposed of at the Mesquite Landfill. It was assumed that non-hazardous offshore material that is unsuitable for ocean disposal would also be disposed of at the Mesquite Landfill, and that suitable non-hazardous offshore material would be disposed of at an Ocean Dredge Material Disposal Site

(ODMDS), such as LA-2 or LA-3.[7] It was also assumed that hazardous excavated material would be taken to a certified hazardous material waste disposal facility in California. The details of these disposal options as they relate to the amount of excavated material generated are discussed herein.

As described in Chapter 18, there would be approximately 65 outbound truck trips per day associated with the removal of excavated material during shaft site construction and 95 outbound truck trips per day associated with the removal of excavated material during onshore tunneling.[8] One truck typically holds 20 cubic yards of excavated material. Therefore, between 1,300 cubic yards (936 tons[9]) and 1,900 cubic yards (1,368 tons) of excavated material generated from onshore activities would require disposal per day. Some of this material from the shaft sites would likely be deemed hazardous. Specifically, some soil excavated from the JWPCP East, TraPac, and Southwest Marine shaft sites may be contaminated based on previous land uses and the proximity to existing hazardous site locations as described in Chapter 10. Although the exact percentage or quantity of excavated material that would be deemed hazardous is unknown, as it would be required to be tested and handled at the shaft site during construction (described in Chapter 10), it is reasonably assumed that approximately 10 percent of the excavated material would be deemed hazardous.

It is assumed that the non-hazardous excavated material from the shaft sites and onshore tunnel would be taken to the Mesquite Landfill. This landfill is managed by the Sanitation Districts and is located in Imperial County off Highway 78 and 5 miles northeast of the city of Glamis. The Mesquite Landfill can receive a maximum amount of 20,000 tons per day, and has a current available capacity of 600 million tons with a projected closing date of 2097 (Sanitation Districts 2007). This landfill is a Class III landfill and receives non-hazardous municipal and commercial wastes. The excavated material would be taken via truck to the intermodal station to be transferred to rail and delivered to the Mesquite Landfill. If all the excavated material from the shaft site and onshore tunnel were disposed of at the Mesquite Landfill, 936 tons to 1,368 tons would be disposed of daily. Therefore, the construction of Alternative 1 would not generate more than 20,000 tons per day and the Mesquite Landfill would be able to handle the disposal of excavated material. Impacts would be less than significant.

The suitable non-hazardous offshore material (i.e., marine sediment) generated by construction of the offshore tunnel under Alternative 1 could be barged for disposal to an ODMDS as described in Chapters 3, 18, and 19. As shown in Table 3-11 in Chapter 3, an estimate of between 5,000,000 and 30,000,000 cubic yards of offshore material would be generated during the tunneling of the entire offshore tunnel, which is equivalent to a minimum of 2,460 cubic yards of offshore excavated material per day.[10] In addition, an estimate of 50,000 to 95,000 cubic yards of dredged material could be generated by construction of the riser, depending on the type of construction and design of the diffuser. The capacity of LA-3 and impacts associated with ocean disposal of marine sediment was analyzed in the Draft Environmental Impact Statement for the Proposed Site Designation of the LA-3 Ocean Dredged

[7] Suitability typically depends on particle size, source of material, and other characteristics of the excavated material.
[8] Table 18-12 identifies an estimated 65 truck round trips per day (130 total one-way) during shaft construction and up to 95 truck round trips per day (190 total one-way) for excavated material disposal. Although the 130 total one-way trips during shaft construction may not all be used for excavated material disposal, this number was used to provide a conservative estimate of the amount of excavated material that would be disposed.
[9] Conversion assumes 1 cubic yard of excavated material is approximately 0.72 ton.
[10] 2,460 cubic yards of offshore excavated material was calculated by taking the number of one-way offshore tunneling truck trips per day assumed in Table 18-12, Footnote i, in Chapter 18, and multiplying it by 20 cubic yards (the amount of excavated material one truck can contain). This footnote identifies approximately 123 outbound trips would be required during offshore tunneling to dispose of excavated material.

Material Disposal Site off Newport Bay, Orange County, California, prepared for the EPA and the Corps, Los Angeles District (U.S. EPA and the Corps 2004). Furthermore, the EPA and Corps oversee the permit, monitoring, and management of marine sediment disposal at this location, and the capacity of the disposal area is controlled by granting permits (EPA and Corps 2004). While LA-2 is almost at capacity, LA-3 can still accept material. The Sanitation Districts would apply for a permit to dispose of the offshore excavated material. If the material is deemed suitable and the permit is granted, LA-3 would more likely receive the offshore excavated material. Therefore, impacts would be less than significant. Any material deemed not-suitable for ocean disposal would be taken to an inland facility, such as the Mesquite Landfill. Even if the Mesquite Landfill were to accept the entire volume of offshore material, it would not exceed its permitted capacity per day. Therefore, impacts would be less than significant.

Excavated material generated by shaft site and onshore tunneling construction that is deemed hazardous would be taken to a certified hazardous material waste disposal facility (also permitted as Recycling, Treatment, Transfer, Storage, and Disposal Facilities by the state of California). This facility could be a landfill facility such as the Clean Harbors Landfill in Buttonwillow or Westmorland, or the Chemical Waste Management Landfill in Kettleman City (DTSC 2011). The hazardous waste generated by the proposed project would not exceed the capacity of the three landfills. It could also go to a facility to be incinerated depending on the contamination in the excavated material. These facilities work with construction contractors to dispose of hazardous materials for a fee. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts for the onshore tunnel and the shaft sites. Impacts would be considered direct for the offshore tunnel and riser and diffuser on the SP Shelf.

CEQA Impact Determination

Construction of Alternative 1 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 1 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UTL-8. Would Alternative 1 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?

Tunnel Alignment – Wilmington to San Pedro Shelf (Onshore)

Construction

CEQA Analysis

It is assumed that SCE would provide power for the construction of the Wilmington to SP Shelf onshore tunnel at the JWPCP East shaft site if one TBM were traveling south from the JWPCP East shaft site to the TraPac shaft site. Furthermore, it is assumed that the LADWP would provide energy at the LAXT shaft site to provide power to the onshore tunnel if one TBM were traveling north from the LAXT shaft site to the JWPCP East shaft site. Finally, it is assumed that the excess power generated by the JWPCP as described in Section 20.2.2 would not be used during construction of the tunnel or shaft sites. Therefore, two providers are included in the analysis.

The amount of energy required for the construction of the onshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by SCE. The maximum peak power demand is estimated to be approximately 6,420 kVA (see Table 20-14). SCE currently provides power supply and demand estimates for 2020 and 2030. The onshore construction period for Alternative 1 (Project) would occur at some year prior to 2020. SCE estimates a demand of approximately 35,590,000 kVA during an average year and 37,790,000 kVA during an adverse year in 2020, as shown in Table 20-7. The estimated onshore tunnel demand would be an addition of less than 0.02 percent of the estimated power demand for SCE throughout construction. SCE estimates there would be an excess of projected supply (approximately 39,835,000 kVA and 38,895,000 kVA during average and adverse years, respectively) when compared to demand in 2020.

The LADWP would provide energy if the TBM were located at LAXT and traveled north. The amount of energy required for the construction of the onshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by the LADWP. The LADWP estimates a demand of approximately 6,876,000 kVA in 2020, as shown in Table 20-13. The estimated onshore tunnel demand of 6,741 kVA would be an addition of less than 0.1 percent of the estimated power demand for the LADWP during construction. The LADWP estimates it would have an excess of projected supply (approximately 7,721,000 kVA) when compared to demand in 2020.

The energy demand from the onshore tunnel alignment would be negligible compared to the projected demand for SCE and the LADWP service area, and there would be sufficient supply to meet the demand. Furthermore, the Sanitation Districts have already met with SCE and LADWP about providing power during construction, and it was confirmed that there is sufficient power in the electrical grid where the shaft sites are located to support the tunneling operations without having to construct additional power generation facilities (Parsons 2011). Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, Alternative 1 (Project) power demand would be provided by power purchases made from SCE or the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

Tunnel Alignment – Wilmington to San Pedro Shelf (Offshore)

Construction

CEQA Analysis

It is assumed that the LADWP would provide power for the Wilmington to SP Shelf offshore tunnel at the LAXT shaft site for two TBMs. Therefore, only one provider is discussed for the offshore tunnel construction.

The amount of energy required for the construction of the offshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by the LADWP. The LADWP currently provides power supply and demand estimates for 2020 and 2027. The construction period for the offshore alignment would extend through 2021. Although the construction period would exceed the projected demand estimate by a year, the 2020 projection year is used to provide the most reasonable analysis of the demand and supply expected within that timeframe. The LADWP estimates a demand of approximately 6,876,000 kVA in 2020, as shown in Table 20-13. The construction power demand is estimated at 32,600 kVA for the offshore tunnel alignment (see Table 20-14). Therefore, the demand of the offshore tunnel alignment would result in an addition of less than 0.5 percent of the projected energy demand for the LADWP in 2020. The LADWP estimates that it would have an excess of projected supply (approximately 7,721,000 kVA in 2020) when compared to demand.

The power demand created by the construction of the offshore tunnel alignment would be negligible compared to the projected power supply and demand for the LADWP throughout the construction period. Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered direct impacts.

Shaft Site – JWPCP East

Construction

CEQA Analysis

The power supply estimates include the equipment necessary for the JWPCP East shaft site construction and the maintenance of the shaft site during tunnel construction. As such, it is appropriate to assume the amount of power demand at the JWPCP East shaft site would be within the estimates provided for the onshore tunnel alignment located between the JWPCP East shaft site and the TraPac shaft site. The

energy demand from construction at the JWPCP East shaft site would be negligible compared to the projected demand for SCE throughout the construction period, and there would be sufficient supply to meet the demand (see Table 20-7, Table 20-13, and Table 20-14). The shaft would be constructed primarily with standard diesel-powered equipment that would not draw from the local utility provider. Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, power demand would be provided by power purchases made from SCE and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

Shaft Sites – TraPac, LAXT, and Southwest Marine

Construction

CEQA Analysis

The power supply estimates include the equipment necessary for the LAXT shaft site construction and the maintenance of the shaft site during tunnel construction. As such, it is appropriate to assume the amount of power demand at the TraPac, LAXT, and Southwest Marine shaft sites would be within the estimates provided for the offshore tunnel alignment located between the TraPac shaft site and the LAXT shaft site as well as between the LAXT shaft site and the SP Shelf. The energy demand from construction at the TraPac, LAXT, and Southwest Marine shaft sites would be negligible compared to the projected demand for the LADWP service area, and there would be sufficient supply to meet the demand (see Table 20-7, Table 20-13, and Table 20-14). The shafts would be constructed primarily with standard diesel-powered equipment that would not draw from the local utility provider. Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination

Construction of Alternative 1 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 1 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

20.4.3.3 Impact Summary – Alternative 1

Impacts on utilities, service systems, and energy analyzed in this EIR/EIS for Alternative 1 are summarized in Table 20-17 and Table 20-18. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the tables.

Table 20-17. Impact Summary – Alternative 1 (Program)

Program Element	Impact Determination Before Mitigation	Mitigation	Residual Impact After Mitigation
Impact UTL-3. Would Alternative 1 (Program) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			
Conveyance System			
Conveyance Improvements	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction
SJCWRP			
Plant Expansion	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction
Process Optimization	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction
POWRP			
Process Optimization	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction
LCWRP			
Process Optimization	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction
LBWRP			
Process Optimization	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction
JWPCP			
Solids Processing	CEQA Less Than Significant Impact During Construction	No mitigation is required.	CEQA Less Than Significant Impact During Construction

Table 20-18. Impact Summary – Alternative 1 (Project)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Impact UTL-3. Would Alternative 1 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-4. Would Alternative 1 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?				
Tunnel Alignment				
Wilmington to SP Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Wilmington to SP Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-18 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-6. Would Alternative 1 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?				
Tunnel Alignment				
Wilmington to SP Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Wilmington to SP Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-18 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Riser/Diffuser Area				
SP Shelf	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-8. Would Alternative 1 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?				
Tunnel Alignment				
Wilmington to SP Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-18 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Wilmington to SP Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

20.4.4 Alternative 2

20.4.4.1 Program

Alternative 2 (Program) is the same as Alternative 1 (Program).

20.4.4.2 Project

The impacts for the onshore tunnel and the JWPCP East, TraPac, LAXT, and Southwest Marine shaft sites for Alternative 2 (Project) would be the same as for Alternative 1 (Project).

Impact UTL-4. Would Alternative 2 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?

Tunnel Alignment – Wilmington to Palos Verdes Shelf (Offshore)

Construction

CEQA Analysis

The volume of potable water required for the construction of project elements would be greater than the existing demand for water at these sites; however, the estimated water demand for construction is well within the estimated future projected supply for water provided by the LADWP and CalWater. Water demand for the Wilmington to PV Shelf offshore tunnel alignment would generally be less than the demand considered under Alternative 1 (Project) because the offshore tunnel length for Alternative 2 (Project) would be approximately 38,100 feet, which is 27,100 feet less than the offshore tunnel length for Alternative 1 (Project). Not only would the projected water supply meet the estimated demand for potable water during construction, the demand on the potable water supply would be temporary and would be limited to the duration of construction. As such, impacts would be less than those estimated under Alternative 1 (Project); therefore, impacts for the Wilmington to PV Shelf offshore tunnel alignment would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered direct impacts.

CEQA Impact Determination

Construction of Alternative 2 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 2 (Project) would not require new or expanded entitlements because sufficient water supplies would not be available to serve the project. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UTL-6. Would Alternative 2 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?

Tunnel Alignment – Wilmington to Palos Verdes Shelf (Offshore), and Riser/Diffuser Area – Palos Verdes Shelf

Construction

CEQA Analysis

The offshore excavated material generated by construction of the offshore tunnel would be barged for disposal at an ODMDS, as described in Alternative 1. Because the overall volume of excavated material would be less under Alternative 2, impacts would be less than those described under Alternative 1. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered direct impacts.

CEQA Impact Determination

Construction of Alternative 2 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 2 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UTL-8. Would Alternative 2 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?

Tunnel Alignment – Wilmington to Palos Verdes Shelf (Offshore)

Construction

CEQA Analysis

It is assumed that the LADWP would provide power for the Wilmington to PV Shelf offshore tunnel at the LAXT shaft site if one TBM were traveling south from LAXT to the PV Shelf. Therefore, only one provider would be responsible for providing the energy demand associated with the offshore tunnel construction.

The amount of energy required for the construction of the offshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by the LADWP. The power construction demand is an estimated 19,050 kVA for the offshore tunnel alignment, and construction would be completed in 2020 (see Table 20-14). The LADWP estimates a power demand of approximately 6,876,000 kVA in 2020, as shown in Table 20-13. Therefore, the demand of the offshore tunnel alignment would result in an addition of less than 0.3 percent of the projected energy demand for the LADWP in 2020. The LADWP estimates that it would have an excess of projected supply when compared to projected demand (approximately 7,721,000 in 2020). This excess supply would be able to provide power throughout its service area. The power demand created by the construction of the offshore tunnel alignment would be negligible compared to the power supply and demand for the LADWP service area during the construction period. Furthermore, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, project power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described above for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered direct impacts.

CEQA Impact Determination

Construction of Alternative 2 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 2 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

20.4.4.3 Impact Summary – Alternative 2

Impacts on utilities, service systems, and energy for Alternative 2 (Program), which are the same as Alternative 1 (Program), are summarized in Table 20-17. Impacts analyzed in this EIR/EIS for Alternative 2 (Project) are summarized in Table 20-19. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the table.

Table 20-19. Impact Summary – Alternative 2 (Project)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Impact UTL-3. Would Alternative 2 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-19 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-4. Would Alternative 2 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?				
Tunnel Alignment				
Wilmington to PV Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Wilmington to PV Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-19 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-6. Would Alternative 2 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?				
Tunnel Alignment				
Wilmington to PV Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Wilmington to PV Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-19 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Riser/Diffuser Area				
PV Shelf	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-8. Would Alternative 2 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?				
Tunnel Alignment				
Wilmington to PV Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Wilmington to PV Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP East	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
TraPac	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-19 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
LAXT	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Southwest Marine	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

20.4.5 Alternative 3

20.4.5.1 Program

Alternative 3 (Program) is the same as Alternative 1 (Program).

20.4.5.2 Project

The impacts for the riser and diffuser area on the PV Shelf for Alternative 3 (Project) would be the same as those described for Alternative 2 (Project).

Impact UTL-3. Would Alternative 3 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Shaft Sites – JWPCP West and Angels Gate

Construction

CEQA Analysis

During shaft and tunnel construction, soil at the shaft sites would be exposed, and the onsite drainage pattern would be altered for a period of 2 to 3 years. Construction could change both the volume and velocity of runoff generated during storm events. It could also change the discharge locations of stormwater runoff on and off site based on alterations to the drainage pattern. The Sanitation Districts would adhere to the development construction control measures of Chapter 8 of the City of Carson Municipal Code and Chapter IX of the City of Los Angeles Municipal Code as described under Sections 20.3.3.8 and 20.3.3.9, as required. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. Therefore, impacts would be less than significant.

NEPA Analysis
Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination
Construction of Alternative 3 (Project) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts under CEQA would be less than significant.

Mitigation
No mitigation is required.

Residual Impacts
The Sanitation Districts would comply with all applicable city and county municipal codes regarding stormwater control for construction at the JWPCP West and Angels Gate shaft sites. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. The SWPPP would identify applicable water quality BMPs to effectively control construction-related pollutants and stormwater generation, including alteration of the drainage patterns and changes in volume and velocity of flow. Therefore, with the preparation of a SWPPP for construction at the JWPCP West and Angels Gate shaft sites, construction of new stormwater drainage facilities or expansion of existing facilities would not be required, and impacts would be less than significant.

NEPA Impact Determination
Construction of Alternative 3 (Project) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant, as described under the CEQA impact determination.

Impact UTL-4. Would Alternative 3 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?

Tunnel Alignment – Figueroa/Gaffey to Palos Verdes Shelf (Onshore and Offshore), and Shaft Sites – JWPCP West and Angels Gate

Construction

CEQA Analysis
The volume of potable water required for the construction of project elements would be greater than the existing demand for water at these sites; however, the estimated water demand for construction is well within the estimated future projected supply for water provided by the LADWP. It is estimated the total

construction of the Figueroa/Gaffey to PV Shelf onshore and offshore tunnel as well as the construction of the JWPCP West and Angels Gate shaft sites would require less than 103 AFY of water. The LADWP would provide approximately 103 AFY of potable water for constructing the JWPCP West and Angels Gate shaft sites and the onshore and offshore tunnel. The service provider's projected future supply and demand are described in Table 20-20.

Table 20-20. Alternative 3 (Project) Service Provider's Future Water Supply and Demand (Acre-Feet per Year)

	Year	Service Provider Supply	Service Provider Demand[a]	Difference
LADWP	2030	934,200	776,103	158,097

[a] Includes the estimated allocated demand of 103 AFY.

The LADWP's contribution of 103 AFY would be approximately 0.01 percent of the projected future supply of the LADWP for 2030. There is still a projected excess supply with the additional project demand; therefore, the LADWP is projected to have sufficient future water supplies to support the construction of Alternative 3 (Project). Not only would the projected water supply exceed the estimated demand for potable water during construction, the demand on the potable water supply would be temporary and would be limited to the duration of construction. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts for the onshore tunnel and the shaft sites. Impacts would be considered direct for the offshore tunnel.

CEQA Impact Determination

Construction of Alternative 3 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 3 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UTL-6. Would Alternative 3 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?

Tunnel Alignment – Figueroa/Gaffey to Palos Verdes Shelf (Onshore and Offshore), and Shaft Sites – JWPCP West and Angels Gate

Construction

CEQA Analysis

The project elements would generate excavated material as discussed under Alternative 1. The shaft site construction and onshore tunneling excavated material would be handled the same way as described in Alternative 1 and the daily volumes would be similar to those described in Alternative 1. However, in Alternative 3, the excavated material from the offshore tunneling would be sent back to the JWPCP West shaft site and disposed of at an inland disposal facility. It would not be barged to an ODMDS. Similar volumes of maximum excavated material per day would go to an inland disposal facility under this Alternative when compared to Alternative 1. Therefore, impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts for the onshore tunnel and the shaft sites. Impacts would be considered direct for the offshore tunnel.

CEQA Impact Determination

Construction of Alternative 3 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 3 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UTL-8. Would Alternative 3 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?

Tunnel Alignment – Figueroa/Gaffey to Palos Verdes Shelf (Onshore)

Construction

CEQA Analysis

It is assumed that the LADWP would provide power for the Figueroa/Gaffey to PV Shelf onshore tunnel at the JWPCP West shaft site for the TBM traveling south from the JWPCP West shaft site to the Angels Gate shaft site. Therefore, only one provider would be responsible for providing the energy demand associated with the onshore tunnel construction.

The amount of energy required for the construction of the onshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by the LADWP. The length of onshore tunneling for Alternative 3 (Project) would be longer than that which is planned for Alternative 1 (Project), and would result in a more prolonged energy demand. Construction would be completed prior to 2020. Power for the onshore portion of the alignment would originate at the JWPCP West shaft site. The estimated energy demand for the construction of the onshore tunnel alignment is approximately 20,400 kVA (see Table 20-14). The LADWP estimates a demand of approximately 6,876,000 kVA in 2020, as shown in Table 20-13. The estimated onshore tunnel demand would result in an addition of approximately 0.3 percent of the estimated power demand for the LADWP throughout construction. The LADWP estimates it would have an excess of projected supply (approximately 7,721,000 kVA) when compared to demand in 2020.

The energy demand from construction of the onshore tunnel would be negligible compared to the projected demand in the LADWP service area, and there would be sufficient supply to the meet the demand. Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, Alternative 3 (Project) power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

Tunnel Alignment – Figueroa/Gaffey to Palos Verdes Shelf (Offshore)

Construction

CEQA Analysis

It is assumed that the LADWP would provide power for the Figueroa/Gaffey to PV Shelf offshore tunnel at the JWPCP West shaft site for the TBM traveling south from the Angels Gate shaft site to the

PV Shelf. Therefore, only one provider would be responsible for providing the energy demand associated with the offshore tunnel construction.

The amount of energy required for the construction of the offshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by the LADWP. Power supply impacts for the offshore tunnel alignment would be less than those considered under Alternative 1 (Project) because the length of this offshore alignment and the construction time would be less than that which is estimated for Alternative 1 (Project). The estimated power requirement for the offshore tunnel alignment is 5,700 kVA (see Table 20-14), and construction would be completed in 2020. The LADWP estimates a demand of approximately 6,876,000 kVA in 2020, as shown in Table 20-13. Therefore, the demand for the offshore tunnel alignment would result in an addition of approximately 0.08 percent of the energy demand for the LADWP in 2020. The LADWP estimates that it would have an excess of projected supply (approximately 7,721,000 kVA in 2020) when compared to demand. As such, the power demand created by the construction of the offshore tunnel alignment would be negligible compared to the projected power supply for the LADWP service area. Therefore, power demand would be provided by power purchase made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alternations to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered direct impacts.

Shaft Sites – JWPCP West and Angels Gate

Construction

CEQA Analysis

The energy provider for the JWPCP West and Angels Gate shaft sites would be the LADWP. The power supply estimates include the equipment necessary for the JWPCP West and the Angels Gate shaft site construction and the maintenance of the shaft site during tunnel construction. As such, it is appropriate to assume the amount of power demand at the JWPCP West and Angels Gate shaft sites would be within the estimates provided for the onshore tunnel alignment located between the JWPCP West shaft site and the Angels Gate shaft site. The energy demand from construction at the JWPCP West and Angels Gate shaft sites would be negligible compared to the projected demand for the LADWP throughout the construction period, and there would be sufficient supply to meet the demand (see Table 20-7, Table 20-13, and Table 20-14). The shafts would be constructed primarily with standard diesel-powered equipment that would not draw from the local utility provider. Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With

respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination

Construction of Alternative 3 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 3 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

20.4.5.3 Impact Summary – Alternative 3

Impacts on utilities, service systems, and energy for Alternative 3 (Program), which are the same as Alternative 1 (Program), are summarized in Table 20-17. Impacts analyzed in this EIR/EIS for Alternative 3 (Project) are summarized in Table 20-21. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the table.

Table 20-21. Impact Summary – Alternative 3 (Project)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Impact UTL-3. Would Alternative 3 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Angels Gate	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction

Table 20-21 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-4. Would Alternative 3 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?				
Tunnel Alignment				
Figueroa/ Gaffey to PV Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Figueroa/ Gaffey to PV Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Angels Gate	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-6. Would Alternative 3 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?				
Tunnel Alignment				
Figueroa/ Gaffey to PV Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Figueroa/ Gaffey to PV Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction

Table 20-21 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Angels Gate	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Riser/Diffuser Area				
PV Shelf	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-8. Would Alternative 3 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?				
Tunnel Alignment				
Figueroa/ Gaffey to PV Shelf (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Figueroa/ Gaffey to PV Shelf (Offshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Direct	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction

Table 20-21 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Angels Gate	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

20.4.6 Alternative 4 (Recommended Alternative)

20.4.6.1 Program

Alternative 4 (Program) is the same as Alternative 1 (Program).

20.4.6.2 Project

The impacts for the JWPCP West shaft site for Alternative 4 (Project) would be the same as for Alternative 3 (Project), except tunnel construction would occur over a period of 4 years instead of 5 years.

Impact UTL-3. Would Alternative 4 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Shaft Site – Royal Palms

Construction

CEQA Analysis

During shaft and tunnel construction, and tunnel connection to the existing ocean outfall manifold, soil at the shaft site would be exposed and the onsite drainage pattern would be altered for a period of 2 to 3 years. Construction could change both the volume and velocity of runoff generated during storm events. It could also change the discharge locations of stormwater runoff on and off site based on alterations to the drainage pattern. The Sanitation Districts would adhere to Chapter IX of the City of Los Angeles Municipal Code as described under Section 20.3.2.9 as required. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. Therefore, impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination

Construction of Alternative 4 (Project) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts under CEQA would be less than significant.

Mitigation

No mitigation is required.

Residual Impacts

The Sanitation Districts would comply with all applicable city and county municipal codes regarding stormwater control for construction at the JWPCP West and Royal Palms shaft sites. Compliance with the Construction General Permit (NPDES) would require a site-specific SWPPP to be developed and implemented prior to construction if the site includes 1 acre or more of disturbed area. The SWPPP would identify applicable water quality BMPs to effectively control construction-related pollutants and stormwater generation, including alteration of the drainage patterns and changes in volume and velocity of flow. Therefore, with the preparation of a SWPPP for construction at the JWPCP West and Royal Palms shaft sites, construction of new stormwater drainage facilities or expansion of existing facilities would not be required, and impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 4 (Project) would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation

No mitigation is required.

Residual Impacts

Impacts would be less than significant, as described under the CEQA impact determination.

Impact UTL-4. Would Alternative 4 (Project) require new or expanded entitlements because sufficient water supplies would be available to serve the project?

Tunnel Alignment – Figueroa/Western to Royal Palms (Onshore), and Shaft Site – Royal Palms

Construction

CEQA Analysis

The volume of potable water required for the construction of project elements would be greater than the existing demand for water at these sites; however, the estimated water demand for construction is well within the estimated future projected supply for water provided by the LADWP. It is estimated the construction of the onshore tunnel and Royal Palms shaft sites would require less than 103AFY of water. The LADWP would provide the potable water demand as discussed in Alternative 3 (Project). The service provider's projected supply and demand are described in Table 20-20.

The LADWP's contribution of 103AFY of water would be approximately 0.01 percent of the projected future supply of the LADWP for 2030. There is still a projected excess supply with the additional project demand; therefore, the LADWP is projected to have sufficient future water supplies to support the construction of Alternative 4 (Project). Not only would the projected water supply exceed the estimated demand for potable water during construction, the demand on the potable water supply would be temporary and would be limited to the duration of construction. Impacts would be less than significant.

NEPA Analysis
Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination
Construction of Alternative 4 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under CEQA would be less than significant.

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

NEPA Impact Determination
Construction of Alternative 4 (Project) would not require new or expanded entitlements because sufficient water supplies would be available to serve the project. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact UTL-6. Would Alternative 4 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?

Tunnel Alignment – Figueroa/Western to Royal Palms (Onshore), and Shaft Site – Royal Palms

Construction

CEQA Analysis
Excavated material generated by the onshore tunnel would be sent to the JWPCP West shaft site and disposed of at an inland disposal facility. Impacts associated with Alternative 4 would be the same as those described in Alternative 1 for non-hazardous and hazardous excavated materials. There would be

no offshore tunnel; therefore, offshore sediment would not need to be disposed of at an ODMDS. Therefore, impacts would be less than significant.

NEPA Analysis
Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination
Construction of Alternative 4 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under CEQA would be less than significant.

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

NEPA Impact Determination
Construction of Alternative 4 (Project) would not be served by landfills with insufficient permitted capacity to accommodate the solid waste disposal. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact UTL-8. Would Alternative 4 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?

Tunnel Alignment – Figueroa/Western to Royal Palms (Onshore)

Construction

CEQA Analysis
It is assumed that the LADWP would provide power for the Figueroa/Western to Royal Palms onshore tunnel from the JWPCP West shaft site to Royal Palms. Therefore, only one provider would be responsible for providing the energy demand associated with the onshore tunnel construction.

The amount of energy required for the construction of the onshore tunnel would be greater than the existing demand for energy along this alignment; however, the estimated energy demand for construction is well within the estimated future projected supply for energy provided by the LADWP. The maximum peak power demand is estimated to be approximately 21,960 kVA (see Table 20-14), and construction of the Alternative 4 (Project) onshore tunnel alignment would be completed prior to 2020. The LADWP estimates a demand of approximately 6,876,000 kVA in 2020, as shown in Table 20-13. The estimated onshore tunnel demand would result in an addition of approximately 0.3 percent of the energy demand for

the LADWP in 2020. The LADWP estimates that it would have an excess of projected supply (approximately 7,721,000 kVA in 2020) when compared to project demand.

The power demand created by construction of the onshore tunnel alignment would be negligible when compared to the projected power supply and demand for the LADWP service area. Furthermore, the Sanitation Districts have already met with the LADWP about providing power during construction, and it was confirmed that there is sufficient power in the electrical grid where the shaft sites are located to support the tunneling operations without having to construct additional power generation facilities (Parsons 2011). Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, Alternative 4 (Project) power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alternations to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

Shaft Sites – Royal Palms

Construction

CEQA Analysis

The energy provider for the Royal Palms shaft site would be the LADWP. The power supply estimates include the equipment necessary for the Royal Palms shaft site construction and the maintenance of the shaft site during tunnel construction. As such, it is appropriate to assume the amount of power demand at the Royal Palms shaft site would be within the estimates provided for the onshore tunnel alignment located between the JWPCP West shaft site and the Royal Palms shaft site. The energy demand from construction at the Royal Palms shaft site would be negligible compared to the projected demand for the LADWP throughout the construction period, and there would be sufficient supply to meet the demand (see Table 20-7, Table 20-13, and Table 20-14). The shaft would be constructed primarily with standard diesel-powered equipment that would not draw from the local utility provider. Additionally, the demand on the energy supply would be temporary and would be limited to the duration of construction. Therefore, power demand would be provided by power purchases made from the LADWP and would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alteration to existing facilities. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

CEQA Impact Determination

Construction of Alternative 4 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under CEQA would be less than significant.

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

NEPA Impact Determination
Construction of Alternative 4 (Project) would not require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

Mitigation
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

20.4.6.3 Impact Summary – Alternative 4

Impacts on utilities, service systems, and energy for Alternative 4 (Program), which are the same as Alternative 1 (Program), are summarized in Table 20-17. Impacts analyzed in this EIR/EIS for Alternative 4 (Project) are summarized in Table 20-22. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the table.

Table 20-22. Impact Summary – Alternative 4 (Project)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Impact UTL-3. Would Alternative 4 (Project) require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Royal Palms	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

Table 20-22 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
Impact UTL-4. Would Alternative 4 (Project) require new or expanded entitlements because sufficient water supplies would not be available to serve the project?				
Tunnel Alignment				
Figueroa/ Western to Royal Palms (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Royal Palms	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-6. Would Alternative 4 (Project) be served by landfill(s) with insufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation?				
Tunnel Alignment				
Figueroa/ Western to Royal Palms (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Royal Palms	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction

Table 20-22 (Continued)

Project Element	Impact Determination Before Mitigation	NEPA Direct or Indirect	Mitigation	Residual Impact After Mitigation
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Impact UTL-8. Would Alternative 4 (Project) require new, offsite energy supply and distribution infrastructure or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs?				
Tunnel Alignment				
Figueroa/ Western to Royal Palms (Onshore)	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Shaft Site				
JWPCP West	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction
Royal Palms	CEQA Less Than Significant Impact During Construction	N/A	No mitigation is required.	CEQA Less Than Significant Impact During Construction
	NEPA Less Than Significant Impact During Construction	Indirect	No mitigation is required.	NEPA Less Than Significant Impact During Construction

20.4.7 Alternative 5 (No-Project Alternative)

Pursuant to CEQA, an EIR must evaluate a no-project alternative. A no-project Alternative describes the no-build scenario and what reasonably would be expected to occur in the foreseeable future if the project were not approved. Under the No-Project Alternative for the Clearwater Program, the Sanitation Districts would continue to expand, upgrade, and operate the JOS in accordance with the JOS 2010 Master Facilities Plan (2010 Plan) (Sanitation Districts 1994), which includes all program elements proposed under the Clearwater Program, excluding process optimization at the WRPs, as described in Section 3.4.1.5. A new or modified ocean discharge system would not be constructed. As a result, there would be a greater potential for an emergency discharge into various water courses, as described in Section 3.4.1.5.

Because there would be no construction of a new or modified JWPCP ocean discharge system, the Corps would not make any significance determinations under NEPA and would not issue any permits or discretionary approvals for dredge or fill actions or for transport or ocean disposal of dredged material.

20.4.7.1 Program

Alternative 5 (Program) would consist of the implementation of the 2010 Plan. The impacts for conveyance improvements, plant expansion at the SJCWRP, WRP effluent management, JWPCP solids processing, and JWPCP biosolids management for Alternative 5 (Program) would be the same as for Alternative 1 (Program) and would be subject to mitigation in accordance with the EIR prepared for the 2010 Plan (Jones & Stokes 1994).

20.4.7.2 Project

Alternative 5 does not include a project; therefore, a new or modified ocean discharge system would not be constructed. As a consequence of taking no action, there would be a greater potential for an emergency discharge of secondary effluent into the Wilmington Drain as described in Section 3.4.1.5. For additional details regarding capacity of the Wilmington Drain, see discussion under Impact HYD-7 in Chapter 11. Discharges into the Wilmington Drain would flow into Machado Lake (also known as Harbor Lake) in Ken Malloy Harbor Regional Park. The temporary release of secondary treated effluent to Machado Lake would be considered a violation of the JWPCP's NPDES permit.

The Wilmington Drain has the capacity to handle a discharge from the JWPCP during normal flow or dry-weather flow events. However, during a storm event, the combined stormflow and discharge from the JWPCP could exceed the capacity of the Wilmington Drain. If sufficient capacity were not available in the Wilmington Drain, the sewers tributary to the JWPCP could overflow and untreated wastewater could enter various water courses. Untreated wastewater overflowing out of the sewers would likely enter the adjacent stormdrains tributary to the Dominguez Channel and the Los Angeles River. Although the existing capacities could be exceeded, no new stormwater drains or expansion of stormwater drains would be constructed because the Sanitation Districts cannot legally discharge into the Wilmington Drain or allow an overflow to enter any stormwater drains. Therefore, Alternative 5 (Project) would not require or result in the expansion of existing stormwater drainage facilities.

However, a discharge of secondary effluent into the Wilmington Drain or a sewer overflow would both result in exceeding wastewater treatment requirements of the RWQCB. In the case of a sewer overflow, there could be disruptions to utilities, such as wastewater and stormwater conveyance systems, due to the increased flow demands. Additionally, sewer overflow that is not captured by stormdrains could result in intrusion and contamination of entrenched utilities, groundwater, and local fresh water production wells. Therefore, various utilities could be adversely impacted.

It is unlikely that an emergency discharge into the Wilmington Drain or a sewer overflow would be captured and treated subsequently. There are no feasible mitigations that would reduce these impacts. Therefore, impacts would be significant and unavoidable.

20.4.7.3 Impact Summary – Alternative 5

Impacts on utilities, service systems, and energy for Alternative 5 (Program) would be the same as those summarized for Alternative 1 (Program) in Table 20-17, excluding process optimization. Note that the mitigation measures for Alternatives 1 through 4 (Program) are not applicable to Alternative 5 (Program). Significant impacts for Alternative 5 (Project) are summarized in Table 20-23.

Table 20-23. Impact Summary – Alternative 5 (Project)

Project Element	Impact Determination Before Mitigation	Mitigation	Residual Impact After Mitigation
Impact UTL-1. Would Alternative 5 (Project) exceed wastewater treatment requirements of the applicable regional water quality control board?			
Emergency Discharge	CEQA Significant Impact During Operation	No mitigation is feasible.	CEQA Significant and Unavoidable Impact During Operation

20.4.8 Alternative 6 (No-Federal-Action Alternative)

Pursuant to NEPA, an environmental impact statement (EIS) must evaluate a no-federal-action alternative. The No-Federal-Action Alternative for the Clearwater Program consists of the activities that the Sanitation Districts would perform without the issuance of the Corps' permits. The Corps' permits would be required for the construction of the offshore tunnel, construction of the riser and diffuser, the rehabilitation of the existing ocean outfalls, and the ocean disposal of dredged material. Without a Corps permit to work on the aforementioned facilities, the Sanitation Districts would not construct the onshore tunnel and shaft sites. Therefore, none of the project elements would be constructed under the No-Federal-Action Alternative. The Sanitation Districts would continue to use the existing ocean discharge system, which could result in emergency discharges into various water courses, as described in Sections 3.4.1.5 and 20.4.7.2. The program elements for the recommended Alternative would be implemented in accordance with CEQA requirements. However, based on the NEPA scope of analysis established in Sections 3.1.4.2 and 3.5, these elements would not be subject to NEPA because the Corps would not make any significance determinations and would not issue any permits or discretionary approvals.

20.4.8.1 Program

The program elements are beyond the NEPA scope of analysis.

20.4.8.2 Project

The impact analysis for Alternative 6 (Project) is the same as described for Alternative 5 (Project).

20.4.8.3 Impact Summary – Alternative 6

The program is not analyzed under Alternative 6. Significant impacts for Alternative 6 would be the same as summarized in Table 20-23 for Alternative 5 (Project).

20.4.9 Comparison of Significant Impacts and Mitigation for All Alternatives

A summary of significant impacts on utilities, service systems, and energy resulting from the construction and/or operation of program and/or project elements is provided in Table 20-24 Impacts are compared by alternative. Proposed mitigation, where feasible, and the significance of the impact following mitigation under CEQA and NEPA are also listed in the table.

Table 20-24. Comparison of Significant Impacts and Mitigation for Utilities, Service Systems, and Energy for All Alternatives

Element	Impact Before Mitigation	Mitigation Measure	Residual Impact After Mitigation
Alternative 5 (Project)			
Impact UTL-1. Would Alternative 5 (Project) exceed wastewater treatment requirements of the applicable regional water quality control board?			
Emergency Discharge	CEQA Significant Impact During Operation	No mitigation is feasible.	CEQA Significant and Unavoidable Impact During Operation
Alternative 6 (Project)			
Impact UTL-1. Would Alternative 6 (Project) exceed wastewater treatment requirements of the applicable regional water quality control board?			
Emergency Discharge	NEPA Significant Impact During Operation	No mitigation is feasible.	NEPA Significant and Unavoidable Impact During Operation