Draft Environmental Impact Report
SCH No. 2013091023

Los Angeles Groundwater Replenishment Project

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EXECUTIVE SUMMARY

ES.1 Introduction

This Draft Environmental Impact Report (EIR) has been prepared by the City of Los Angeles (City), as represented by the Los Angeles Department of Water and Power (LADWP) and the Los Angeles Department of Public Works Bureau of Sanitation (LASAN), to evaluate potential environmental effects that would result from development of the proposed Los Angeles Groundwater Replenishment (LAGWR) Project (Proposed Project or Project). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code Section 2100 et seq., as amended) and its implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et. seq., 2014). LADWP is identified as the lead agency for the Proposed Project under CEQA.

In accordance with the Administrative Code of the City of Los Angeles, LADWP is authorized and obligated to supply potable water to meet the needs of the City's residents, businesses, and other functions. LADWP has traditionally relied on four primary sources to provide for this need, including imported water under the City's water rights in the Mono Basin and Owens River watershed in the Eastern Sierra, which is conveyed to the City via the Los Angeles Aqueduct system; purchases from the Metropolitan Water District of Southern California (MWD), which are conveyed from the Colorado River via the Colorado River Aqueduct and from the State Water Project via the California Aqueduct; local groundwater supplied via wells located throughout the City; and recycled water, which is currently used for non-potable reuse (NPR) functions, such as large-scale irrigation.

Historically, during normal precipitation years, imported water from both LADWP-controlled sources and MWD purchases has accounted for nearly 90 percent of annual supply, with MWD purchases accounting for over 50 percent in recent years. Although imported water supplies have served the City for over a century, numerous factors, including frequent and prolonged droughts, increased populations served by the imported resources, diversions of water to meet environmental commitments, and judicial decisions limiting importation, have converged to threaten the long-term reliability of imported supplies. In addition, dependence on imported water is costly, less environmentally sustainable, and provides less security during emergency circumstances, such as an earthquake along the San Andreas Fault, when imported supplies may become unavailable for extended periods.

In response to these challenges related to traditional imported water supplies, the City has embarked upon an aggressive effort to maintain reliable and sustainable sources of water. Long-term strategies outlined in the 2010 Los Angeles Urban Water Management Plan (UWMP) intended to "meet the City's water needs while maximizing local resources and minimizing the need to import water" include increasing water conservation, increasing water recycling, enhancing stormwater capture, and accelerating groundwater cleanup. These strategies are not alternative means to achieve local water supply goals but are complementary and mutually inclusive.

Consistent with the Los Angeles Mayor's 2014 Executive Directive No. 5 (Emergency Drought Response) and 2015 Sustainable City Plan, these strategies will help achieve the goals of reducing per capita water use by 25 percent by 2035, decreasing the purchase of imported water supplies by 50 percent by 2025, and sourcing 50 percent of the City's water from local supplies by 2035.

In relation to recycled water, the UWMP established a goal to increase the use of recycled water within the City to 59,000 acre-feet per year (AFY) by 2035. As an implementing plan to achieve this goal, the 2012 Recycled Water Master Plan (RWMP), prepared jointly by LADWP and LASAN, determined based on the available capacity of recycled water treatment that 30,000 AFY should be dedicated to groundwater replenishment (GWR) to help enhance the City's ability to use groundwater from the San Fernando Groundwater Basin (SFB) aquifer. The 2012 Groundwater Replenishment Master Plan (GWRMP) further evaluated the facility requirements and siting factors related to achieving the GWR goal identified in the RWMP.

The Proposed Project presented in this Draft EIR is an outcome of this planning process and reflects policies to reduce reliance on imported water, increase the use of recycled water, and replenish the groundwater basin in order to maintain a sustainable, safe, and reliable supply of potable water to meet the needs of the City of Los Angeles.

ES.2 Project Overview

To maintain the reliability of the City of Los Angeles' potable water supply and reduce dependence on imported sources of water, the City, as represented by LADWP and the LASAN, proposes to implement the Proposed Project to replenish the SFB with up to 30,000 AFY of purified recycled water (purified water) from the Donald C. Tillman Water Reclamation Plant (DCTWRP). Achieving this replenishment goal would entail operating DCTWRP at the plant's full existing capacity.

The purified water that would be produced under the Proposed Project is also a form of recycled water. However, to create purified water, recycled water that has been treated to a tertiary level at DCTWRP would be further treated utilizing purification processes and technologies that may include ozonation, biologically activated carbon (BAC), multiple-barrier filtration (e.g., microfiltration [MF] and reverse osmosis [RO]), and/or advanced oxidation processes (AOP). Purified water would be used under the Proposed Project to replenish the SFB.

The primary purpose of the Proposed Project is to reduce the City's dependence on imported water sources by increasing the local groundwater supply available for potable use. The Project would consist of three basic elements: 1) *treatment* would entail the construction and operation of new advanced water purification facilities (AWPF) and related facilities that would provide additional levels of treatment of recycled water generated by the existing DCTWRP facilities to produce purified water; 2) *conveyance* would entail the use of existing and newly constructed pipelines to transport the purified water from the AWPF to existing spreading grounds; and 3) *replenishment* would entail the spreading of the purified water at the existing spreading grounds so that it would percolate into the SFB. An overview of the Proposed Project is shown in Figure ES-1.

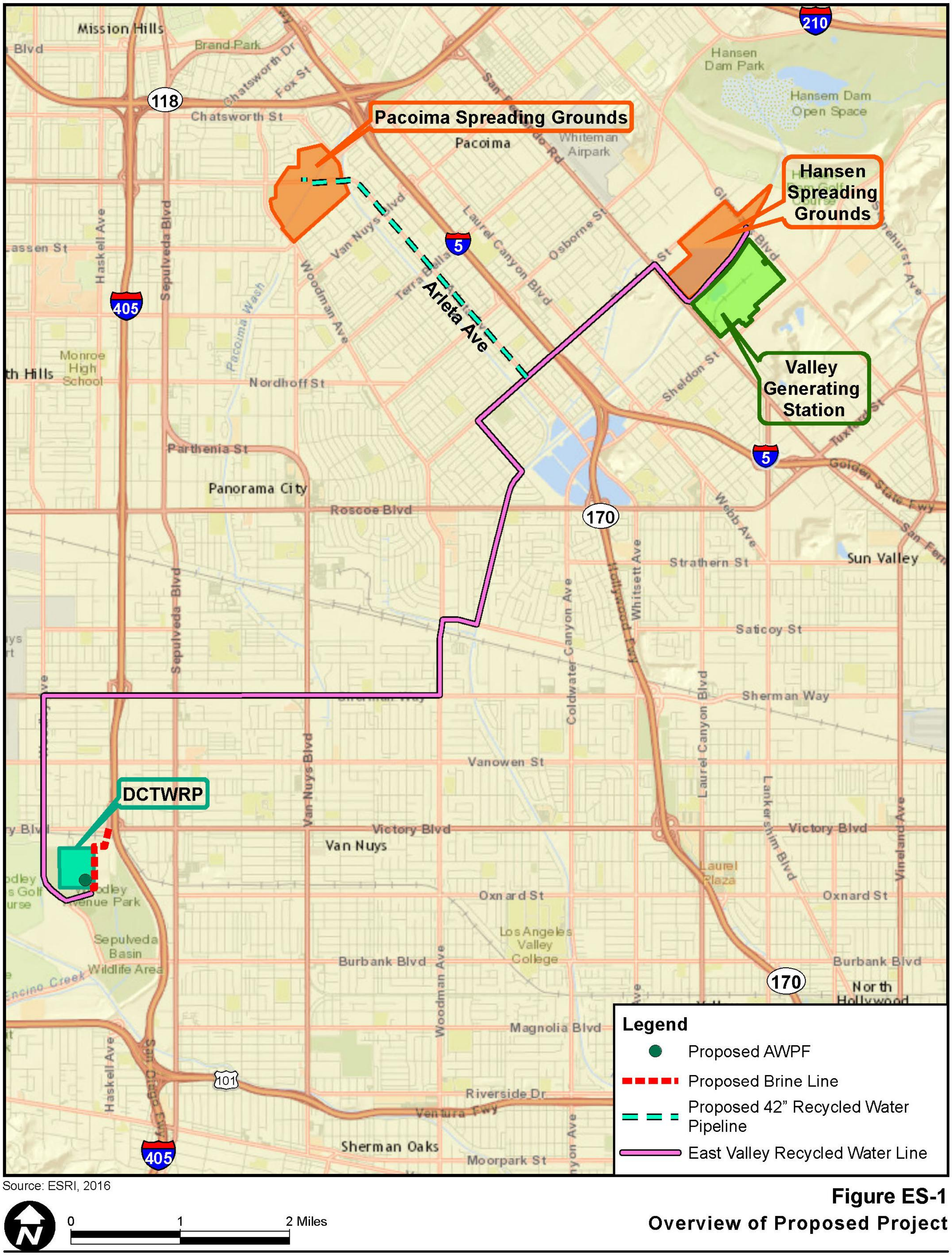

Figure ES-1
Overview of Proposed Project

ES.3 Project Background

The preparation of an UWMP is required of urban water suppliers (such as LADWP) by the State of California Department of Water Resources to address issues and develop strategies related to providing adequate water supplies to meet customer demand. Ensuring an adequate supply of water, including through reductions in demand, has become increasingly crucial in the face of more frequent and prolonged droughts and diminishing sources. As one element of the most recent City of Los Angeles UWMP, completed in 2010, a goal was established to increase the use of recycled water within the City to 59,000 AFY by 2035. Based on this goal, LADWP and LASAN jointly developed the RWMP, finalized in 2012. The RWMP established guidance to accomplish nearer-term recycled water planning goals through 2035 as well as longer-term goals for an additional 50 years beyond 2035.

Approximately 10,000 AFY of recycled water is currently used in the City for NPR, and LADWP is currently developing new infrastructure projects to reach additional irrigation and industrial customers with about 9,350 AFY of recycled water. With these existing and planned projects, LADWP would achieve a goal of providing about 19,350 AFY of recycled water use. The purpose of the RWMP was to establish the most effective approach to develop and deliver the additional 39,650 AFY of recycled water necessary to attain the goal of 59,000 AFY identified in the 2010 UWMP. Several options, each composed of a varying mix of NPR using recycled water and GWR using purified water, were considered in the planning process. The SFB has ample storage capacity available for groundwater replenishment, and opportunities to replenish the aquifer with additional sources of water, including purified water, would help facilitate use of the SFB, including as a potable water supply. Based on the potential availability of recycled water from DCTWRP, it was determined in the RWMP that the most cost effective and achievable option to deliver the additional 39,650 AFY of recycled water (and thereby offset an equivalent amount of imported water) is by dedicating a greater portion (30,000 AFY) to GWR and the balance (9,650 AFY) to NPR. The City's groundwater pumping entitlements in the SFB would be increased on an annual basis in the form of stored credits in an amount equal to the GWR provided under the Proposed Project in accordance with the RWMP goals.

There were several other important considerations that contributed to this determination related to the allocation of recycled water for GWR. The existing DCTWRP, located in the San Fernando Valley, has the capacity to treat up to 80 million gallons per day (mgd) of wastewater if both the existing 40-mgd phases are operational. Only a single phase (i.e., 40 mgd) is currently operated at a given time due to insufficient demand and/or infrastructure for recycled water delivery. The wastewater that would otherwise be treated in the second phase at DCTWRP instead currently bypasses the plant and is conveyed to Hyperion Treatment Plant in Playa Del Rey, where it undergoes a secondary level of treatment and is discharged into Santa Monica Bay. However, based on the combined capacity of both phases and accounting for the loss of volume that occurs during the treatment process, DCTWRP can produce about 73 mgd of recycled water, which would meet existing and already planned NPR, other existing uses of recycled water, and provide sufficient influent to the AWPF to support the goal of producing up to 30,000 AFY of purified water for GWR. In this regard, the recycled water influent required for the Proposed Project would be provided by simultaneously operating both existing phases of the wastewater treatment at DCTWRP. In addition to the available treatment capacity at DCTWRP, the existing Hansen Spreading Grounds (HSG) and Pacoima Spreading Grounds (PSG), from which water percolates into the SFB, have the capacity to accept an additional 30,000 AFY for GWR. Lastly, an approximately 10-mile long pipeline designated to carry recycled water with enough available capacity to transport 30,000 AFY already interconnects DCTWRP and HSG and passes within 2 miles of PSG. Therefore, based on the analyses and determinations in the RWMP, the fundamental components of the Project include the use of recycled water produced at DCTWRP as the influent for the AWPF and the use of HSG and PSG as the sites for spreading recycled water produced at the AWPF for GWR.

As part of the RWMP process, the GWRMP was prepared by the City in 2012 to evaluate in greater detail factors related to the actual siting and development of the AWPF. Based on this analysis, five sites were selected for more detailed evaluation in the GWRMP. Each of these five sites was located in proximity to either DCTWRP or HSG to most effectively utilize the existing treatment, conveyance, and replenishment facilities. The five sites included two located at DCTWRP within the area protected by the existing flood control berm; two located at DCTWRP outside the area protected by the existing flood control berm; and one located at the LADWP Valley Generating Station (VGS), adjacent to HSG. While none of the five sites were eliminated from consideration in the GWRMP, a preferred site was identified for the AWPF located in the southwest corner of DCTWRP complex (DCT SW) based on various criteria, including maintaining flexibility for future planned phase expansions of DCTWRP recycled water treatment facilities, minimizing conflicts with Sepulveda Dam Flood Control Basin (Sepulveda Basin) functions, and maintaining the functional and logistical integrity of LASAN operations.

Based on its selection as the preferred site in the GWRMP, DCT SW was the location for the AWPF indicated in the Notice of Preparation (NOP) for the Proposed Project Draft EIR, dated September 6, 2013. However, since the publication of the NOP, more detailed analysis for the Proposed Project has occurred, including further considerations related to preserving future potential expansion capability for both recycled water treatment and advanced water purification processes at DCTWRP. Based on this analysis, it was determined that DCT SW provided very limited capability to further expand the AWPF, if necessary in the future, because the site was physically constrained by adjacent uses. Therefore, a site in the southeast corner of the DCTWRP complex (DCT SE), which was also one of the five sites evaluated in the GWRMP, was further analyzed to determine its potential to preserve future expansion capability at DCTWRP.

DCT SE was not identified as the preferred site for the AWPF in the GWRMP because its location had previously been established as part of the area required for future phase expansions of the recycled water treatment facilities based on the Ultimate Development Plan for DCTWRP prepared in 1991. At the time of completion of the Ultimate Development Plan, the two existing 40-mgd recycled water treatment phases had been implemented, one in 1984 and one in 1991. However, since the preparation of the Ultimate Development Plan, technological advancements have significantly reduced the physical area requirements for recycled water treatment. Therefore it has now been determined that the AWPF could be accommodated at DCT SE without compromising a potential expansion of the recycled water treatment facilities within the area protected by the existing berm at DCTWRP. In addition, the DCT SE site would also provide greater flexibility than DCT SW to expand the AWPF in the future, if required, within the area protected by the existing berm. DCT SE has therefore been identified as the Proposed Project site to be analyzed in this Draft EIR.

ES.4 San Fernando Groundwater Basin

The Proposed Project is located in the central and eastern portions of the San Fernando Valley of the City of Los Angeles, which is underlain by the SFB. The 112,000-acre SFB includes water-bearing sediments beneath the San Fernando Valley, Tujunga Valley, Browns Canyon, and the alluvial areas surrounding the Verdugo Mountains near La Crescenta and Eagle Rock. The SFB is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills. Groundwater levels in the SFB vary seasonally and by locality, with levels in the western section of the SFB at approximately 50 feet below ground surface and levels in the eastern section at between 200 and 500 feet below ground surface. LADWP currently holds adjudicated water rights to extract 87,000 AFY from the SFB. However, as mentioned above, allowable pumping would increase an amount equal to the GWR of the basin provided by the Proposed Project.

ES.4.1 Donald C. Tillman Water Reclamation Plant

DCTWRP is located at 6100 Woodley Avenue, in the Encino and Van Nuys communities of the City of Los Angeles. The DCTWRP property is designated as Public Facilities and Open Space in the City of Los Angeles General Plan. It is located within the Encino-Tarzana Community Plan area. The zoning designation for the DCTWRP property is [Q]PF-1XL (Public Facilities) and OS-1XL (Open Space). DCTWRP is surrounded by, although not abutting, Victory Boulevard to the north, Woodley Avenue to the west and south, and Interstate 405 (I-405) to the east. It is immediately surrounded by Woodley Avenue Park on the west, south, and east, and by an Air National Guard facility on the north.

The DCTWRP property is located within the Sepulveda Basin, which is owned and managed by the United States Army Corps of Engineers (Corps) for the purposes of flood control, recreation opportunities, natural resources preservation and enhancement, and other uses. DCTWRP is operated by LASAN under a lease agreement with the Corps. The currently developed portions of the DCTWRP complex are generally separated from the surrounding Sepulveda Basin property by a berm or wall, which protects the property from flooding up to an elevation of 712.0 feet above mean sea level. Based on updated flood control requirements issued by the Corps and on revised estimates for the flood potential in the basin, the existing berm and wall at DCTWRP will be raised to an elevation of about 716.5 feet, which will provide protection to the existing facilities from a Probable Maximum Flood event. These improvements to the berm and wall are anticipated to commence in 2016 and be completed in 2017, prior to the initiation of construction for the proposed LAGWR Project.

DCTWRP began operating in 1985 as a water reclamation facility. While the DCTWRP lease encompasses approximately 96 acres within the Sepulveda Basin, the current wastewater treatment facilities, including support functions such as administration, storage, and maintenance, occupy only about 50 acres, which, as mentioned above, are protected by a flood control berm and wall. DCTWRP is a biological nutrient removal, activated sludge treatment facility with an 80-mgd treatment capacity consisting of two separate 40-mgd phases. Wastewater is received at the headworks facility located in the northern part of DCTWRP from the 96-inch Additional Valley Outfall Relief Sewer (AVORS) and the 80-inch East Valley Interceptor Sewer (EVIS) and undergoes primary treatment, biological nutrient removal, filtration, and disinfection to provide a tertiary level of wastewater treatment.

The Japanese Garden, dedicated in 1984, occupies about 6.5 acres in the northwest corner of the DCTWRP property, and is also located within the area protected by the flood control berm and wall. Recycled water from DCTWRP is currently delivered to the Japanese Garden lake. Access to the garden is from Woodley Avenue at the southwest corner of the DCTWRP property. A parking lot for about 100 vehicles is located south of and adjacent to the garden.

The Balboa Pump Station, located in the southeast corner of the DCTWRP property, consists of three 18-cubic feet per second, 1,000 horsepower pumps, with provisions to add three more pumps. An existing 10-mile-long, 54-inch-diameter pipeline, the East Valley Recycled Water Line (EVRWL), currently connects the Balboa Pump Station to HSG and the Hansen Storage Tank, which is located at VGS, adjacent to HSG. The pump station and pipeline are currently used to convey DCTWRP recycled water to irrigation and industrial customers in the San Fernando Valley. Although the EVRWL connects to HSG, no recycled water is currently delivered to the spreading grounds itself.

As mentioned above, DCTWRP has a capacity to treat up to 80 mgd of wastewater if both the existing 40-mgd phases are operational. However, only a single phase is currently operated at a given time because the demand and infrastructure for recycled water is insufficient to warrant operating both phases simultaneously. The wastewater that would otherwise reach DCTWRP via the AVORS and EVIS and be treated in the second 40-mgd phase instead currently bypasses the plant and is conveyed to Hyperion Treatment Plant in Playa Del Rey, where it undergoes a secondary level of treatment and is discharged into Santa Monica Bay.

The recycled water currently produced at DCTWRP is used in several ways. A small portion (about 2 mgd) is needed for various in-plant processes. An average of approximately 4 mgd is used for NPR, such as large irrigation customers and industrial process customers. The large majority of the recycled water is directed through a network of pipes to various water bodies located in the Sepulveda Basin. Recycled water from these water bodies, which include the Japanese Garden lake, Lake Balboa, and the Wildlife Lake, ultimately flows to the Los Angeles River. The flow-through process at the lakes serves to maintain water quality within the lakes to prevent fish kills, odor problems, and algae blooms. Additionally, intermittent overflows from an operational safety weir within DCTWRP discharge into a pipeline which also carries stormwater and flows from the Japanese Garden lake to the Los Angeles River at a discharge point, located south of Sepulveda Dam.

Consistent with the goal of expanding NPR use, connections were completed by early 2015 to large NPR customers served by recycled water generated at DCTWRP. With the exception of a few smaller NPR customers that are scheduled to come online in 2016, with the inclusion of these large customers, the NPR program from DCTWRP is complete. Therefore, 2015 is representative of the existing annual operations relative to the distribution of recycled water from DCTWRP and is reflective of the expected pre-Project flows to the lakes and the Los Angeles River. These flows fluctuate throughout the year based on several factors, including variable rates of production, in-plant use, and NPR consumption related to weather and other circumstances. The average daily flow from DCTWRP to the Los Angeles River via the lakes and the weir throughout the year was about 27.1 mg.

ES.4.2 Hansen Spreading Grounds

HSG is located in the Sun Valley community of the City of Los Angeles, along the northwest side of the Tujunga Wash Channel. It is bordered by Branford Street to the northwest, Glenoaks Boulevard to the northeast, the Tujunga Wash Channel to the southeast, and San Fernando Road to the southwest. HSG is operated by the Los Angeles County Department of Public Works (LACDPW). It is designated as Open Space in the City of Los Angeles General Plan. It is located within the Sun Valley-La Tuna Canyon Community Plan area. The zoning designation for HSG is OS-1XL (Open Space). The Hansen Dam Recreation Area is located to the northeast. HSG is surrounded by open space, light manufacturing uses, and VGS.

HSG receives controlled flows from Hansen Dam and Big Tujunga Dam. It occupies 156 gross acres and includes eight medium spreading basins occupying 117 wetted acres. It has an estimated maximum storage volume of 460 million gallons (mg), an intake capacity of 380 mgd, and an average percolation rate of approximately 100 mgd.

ES.4.3 Pacoima Spreading Grounds

PSG is located in the Pacoima community of the City of Los Angeles, adjacent to Pacoima Wash and the Pacoima Diversion Channel. It is bordered by residential neighborhoods to the northwest and west, Woodman Avenue to the southwest, Filmore Street to the southeast, and Arleta Avenue to the northeast. PSG is also traversed by Devonshire Street, east to west. PSG is operated by LACDPW. It is designated primarily as Open Space in the City of Los Angeles General Plan, with some small areas of Public Facilities. Parts of PSG are located within both the Arleta-Pacoima Community Plan area and the Mission Hills-Panorama City-North Hills Community Plan area. The zoning designation for PSG is primarily OS-1XL-O, with some small areas of PF-1XL-O. PGS abuts Devonwood and Devonshire Arleta Parks and is surrounded by residential uses.

PSG receives controlled flows from Pacoima Dam, partially controlled flows from Lopez Flood Control Basin, and uncontrolled storm flows from East Canyon Channel and Pacoima Wash. It also receives imported water for groundwater replenishment. PSG occupies 169 gross acres and includes twelve shallow spreading basins occupying 107 wetted acres. It presently has an estimated maximum storage volume of 173 mg, an intake capacity of 388 mgd, and an average percolation rate of approximately 42 mgd. However, LACDPW is undertaking a project that would modify the configuration of PSG to increase detention capacity and recharge rate and to provide the maximum storage flexibility between the different basins. The total storage volume will be increased to 390 mg, and the percolation rate will be increased to 92 mgd. Construction is anticipated to commence in 2016 and be completed in 2018, prior to the initiation of construction at PSG for the proposed LAGWR Project.

ES.5 Project Purpose, Need, and Objectives

The primary objective and fundamental purpose of the Proposed Project is to supplement the City of Los Angeles' local potable water supply through GWR with up to 30,000 AFY of purified water in order to reduce dependence on imported water and diversify the City's water portfolio, thereby increasing system reliability and sustainability. In normal precipitation years, the City relies on four sources to meet its water needs: 1) approximately 36 percent from snowmelt from the Eastern Sierra conveyed to the City by the Los Angeles Aqueduct system; 2) approximately 52 percent from purchased water from the Metropolitan Water District of Southern California (MWD) conveyed from the Colorado River through the Colorado River Aqueduct and from the State Water Project via the California Aqueduct; 3) approximately 11 percent from local groundwater; and 4) approximately 1 percent from recycled water, which is currently used for NPR. Although imported water resources have served the City for over a century, several factors, including environmental commitments and climatic and weather conditions, have converged that threaten the long-term reliability of these supplies.

In response to the challenges related to its traditional imported water supplies, the City has embarked upon an aggressive effort to maintain reliable and sustainable sources of water. The five strategies developed by the City include: 1) increasing water conservation; 2) increasing water recycling (including GWR); 3) enhancing stormwater capture; 4) accelerating groundwater cleanup; and 5) implementing green building initiatives. These strategies are not alternative means to achieve water supply goals but are complementary and mutually inclusive. As discussed above, in relation to the strategy of increasing water recycling, LADWP is currently in the process of developing infrastructure and projects that would provide a total of 19,350 AFY of recycled water NPR. The remaining 39,650 AFY required to meet the established goal of 59,000 AFY of recycled water use by 2035 includes about 9,605 AFY for additional NPR and 30,000 AFY of purified water for GWR.

Specific objectives related to the fundamental purpose of the Project to increase local GWR to help reduce dependence on imported water include:

- Providing up to 30,000 AFY of purified water for GWR in the SFB.
- Utilizing the available underused treatment capacity of DCTWRP to provide recycled water for the advanced water purification process.
- Utilizing the available spreading capacity of HSG and PSG to replenish the SFB through the percolation of purified water.
- Utilizing existing infrastructure, to the extent feasible, to convey recycled water from DCTWRP to HSG and PSG.
- Maintaining the existing levels of recycled water supplies for NPR customers and other beneficial uses.
- Maintaining the functional and logistical integrity of LASAN operations.
- Preserving future potential expansion capability for recycled water treatment and advanced water purification processes.

ES.6 Project Description

ES.6.1 DCTWRP

Advanced Water Purification Facilities

The AWPF is the primary facility required to purify the recycled water produced by the existing DCTWRP recycled water treatment facilities. The AWPF would be located in the southeast corner of the DCTWRP complex, within the existing flood protection berm. The site for the AWPF is approximately 1.75 acres and is currently vacant. As presently planned, the AWPF would utilize purification processes and technologies that may include ozonation, BAC, MF, RO, and/or AOP systems to produce purified water. However, other purification processes and technologies will be evaluated during pilot testing for efficiency and cost effectiveness and remain under consideration for the AWPF. If these alternative processes and technologies prove to be feasible and are ultimately selected for the Proposed Project AWPF, they are not anticipated to require any addition physical space or construction activity beyond that required for the processes currently under consideration in this Draft EIR. The MF/RO functions would require a total of about 64,000 square feet. However, because of the limited size of the existing site (less than 2 acres), the MF/RO functions would be divided equally between two stories, with a building height of approximately 54 feet. Other AWPF functions would be housed in single story structures or under canopies. In addition, a portion of the existing disinfection contact tanks, which would not be required for either the recycled water treatment or the water purification process, would be converted for the ozonation and BAC processes. To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the AWPF.

Warehouse and Maintenance Facilities

Although maintenance and warehouse facilities currently exist at DCTWRP, they would require expansion to support the advanced water purification processes in terms of material, equipment, and shops. The existing warehouse and maintenance functions are located in the southwestern corner of DCTWRP, but there is inadequate space available adjacent to the facilities to expand to accommodate the AWPF support functions. Therefore, in order to provide for the expansion of these facilities and to consolidate like functions (i.e., all warehouse functions and all maintenance functions) at DCTWRP, a new warehouse would be constructed in the northwest corner of the complex. This site is approximately 0.75 acres and is currently vacant and partially used for materials storage. This facility would accommodate all warehousing functions at DCTWRP to support both the recycled water treatment and advanced water purification processes.

By relocating and consolidating the warehousing functions to the northern part of DCTWRP, all maintenance functions (i.e., for both recycled water treatment and advanced water purification processes) could be located at the site of the existing maintenance/warehouse complex in the southwest corner of DCTWRP. However, some modification and/or expansion of the existing facilities would be required. These improvements would remain within the overall footprint of the existing maintenance/warehouse facilities site, including vehicle access and parking areas.

Flow Equalization Tank

An expanded flow equalization tank would provide storage capacity to temporarily retain influent, which could then be released into the treatment system at a controlled rate to help maintain a constant volume of influent into the system even while external flows into the plant may vary considerably on a diurnal basis. Maintaining uniform conditions maximizes the capacity of the treatment system while improving efficiency and reliability by minimizing potentially wide fluctuations in volume. The proposed equalization tank would provide about 6.5 mg of influent storage capacity. It would be located in the northeastern part of the DCTWRP complex. The site for the equalization tanks is approximately 1.75 acres and is currently vacant.

Ancillary Facilities

Some ancillary facilities would also be required to support the AWPF and GWR operations at DCTWRP. Due to the electric power demand to operate the AWPF, a new substation would be constructed. It would be located in the south-central part of DCTWRP, between the existing disinfection contact tanks. This site is approximately 0.2 acres and is currently occupied by a dechlorination facility, which is no longer utilized and would be demolished.

The existing Balboa Pump Station, located adjacent to the berm in the far southeast corner of the DCTWRP complex, would also be expanded to support the pumping of the purified water produced at the AWPF to HSG via the existing EVRWL and to PSG via the EVRWL and a proposed 42-inch line. The improvements at the pump station would involve adding three additional pumps at a previously constructed but unused connection to the EVRWL.

Brine Line

The RO system in the AWPF would remove dissolved solids from the recycled water by forcing it under pressure through a semi-permeable membrane that allows the passage of water molecules but leaves behind a concentrated brine solution. This brine solution must be routed to the sewer system to be transmitted with other wastewater streams to the Hyperion Treatment Plant in Playa Del Rey for further processing. Although the AVORS line traverses the DCTWRP property, it cannot be used to transport brine because flows from the AVORS are collected downstream at the Los Angeles-Glendale Water Reclamation Plant for recycling. The nearby Valley Outfall Relief Sewer (VORS), which runs eastward along Victory Boulevard and turns southward east of I-405, is connected to a diversion structure that can direct the brine to Hyperion Treatment Plant. To reach the VORS from the AWPF, a 24-inch-diameter brine line would be routed easterly from the AWPF beneath the existing flood control berm, northerly along the road located west of the cricket fields, easterly and then northeasterly along the DCTWRP access road, passing beneath the Orange Line Busway, and following Haskell Avenue to connect with the VORS in Victory Boulevard west of the I-405. The length of the brine line would be approximately 3,000 feet, with approximately 300 feet located within public roads.

AWPF Treatment Capacity

By operating both existing 40-mgd phases of DCTWRP simultaneously, as well as expanding the flow equalization tanks under the Proposed Project, the full 80-mgd treatment capacity of DCTWRP would become readily available on a consistent basis. The treatment process would provide approximately 73 mgd of recycled water. As previously discussed, about 2 mgd of the recycled water is required for various in-plant processes. An annual average of approximately 27 mgd is provided to various lakes within the Sepulveda Basin and the Los Angeles River, and after Project implementation, a minimum annual average of 27 mgd of the tertiary-treated recycled water would continue to be provided to the lakes and the river from DCTWRP. All Alternatives considered in the 2006 Draft EIR for the City's Integrated Resources Plan (IRP) for wastewater, runoff, and recycled water programs assume an annual average of 27 mgd would be discharged from DCTWRP to the Los Angeles River through Lake Balboa, the Wildlife Lake, and the Japanese Garden lake. This volume of flow is consistent with "Go-Policy" #5 (Los Angeles River Flows) from the 2012 City of Los Angeles Water IRP 5-Year Review, which directs the City "to continue to provide water from DCT to Lake Balboa, Wildlife Lake, and the Japanese Garden at Sepulveda Basin, and the LA River to meet baseline needs for habitat (i.e., approximately 27 mgd through flow-through lakes)." The IRP 5-Year Review concluded that this policy "is valid and in line with LARRMP [Los Angeles River Revitalization Master Plan] considerations [for water quality, ecological function, and habitat value], provided that water discharged from DCTWRP continues to meet state and federal water quality mandates and that an average of 27 mgd (approximately 30,000 AFY) from DCTWRP is supplied to the Los Angeles River." After the use of recycled water from DCTWRP for in-plant functions (2 mgd) and flows to the lakes and river (27 mgd), a balance of about 44 mgd of recycled water would be available as influent for the AWPF processes.

Some loss of volume would also occur during the advanced water purification treatment in the AWPF, primarily in relation to MF and RO processes that filter small particles and dissolved solids from the water. Based on conservative projections for these losses, about 35 mgd of purified water effluent would be produced from the AWPF based on 44 mgd of recycled water influent. In addition to the inherent losses associated with the advanced water purification processes, the production of purified water at the AWPF would be reduced by the number of days the facilities would not be in operation due to routine maintenance or unforeseen interruptions. The AWPF would also generally be taken offline when HSG and/or PSG would be unavailable for GWR due to stormwater capture. Based on these factors, an average of about 35,000 AFY of purified water would be produced, of which 5,000 AFY would be used to meet NPR demands and 30,000 AFY would be used for GWR.

ES.6.2 Recycled Water Pipeline

Purified water produced at the AWPF would be conveyed to HSG using the existing EVRWL, which currently conveys recycled water from the Balboa Pump Station to the Hansen Storage Tank at VGS, adjacent to HSG. However, a new pipeline branch would need to be constructed from the EVRWL to PSG. The new 42-inch-diameter pipeline would start at the intersection of Branford Street and Arleta Avenue and proceed northwesterly along Arleta Avenue to PSG. This pipeline segment would be approximately 11,000 feet long. A continuation of this pipeline would be located within PSG property to connect to proposed outlet structures adjacent to Devonshire Street, as further discussed below.

ES.6.3 PSG

As mentioned above, purified water would be conveyed to PSG through a new 42-inch-diameter pipeline connecting to the EVRWL and extending from Branford Street northwest along Arleta Avenue. However, additional improvements would be required to deliver the purified water to the individual spreading basins within PSG. A gate structure would be installed within the PSG property near the intersection of Arleta Avenue and Devonshire Street, at the end of the proposed 42-inch recycled water pipeline. The 42-inch pipeline would then continue from the gate structure westerly within PSG adjacent to Devonshire Street. A crossing in Devonshire Street would also be necessary to connect the southern and northern portions of PSG. This pipeline within PSG would be approximately 1,500 feet in length. Outlet structures to discharge purified water to one or more of the basins would also be installed.

ES.6.4 HSG

As mentioned above, purified water would be conveyed to HSG through the existing EVRWL from DCTWRP. However, additional ancillary facilities would be constructed at HSG to allow for system flexibility, including directing purified water to various spreading basins individually or in combination. A new pipeline of approximately 200 linear feet and an outlet structure would be installed from the existing EVRWL to a location in the southwest part of the basin. A gate valve would also be installed at the end of the existing line in the northeast part of the basin. These facilities would provide the ability to control the flow of the purified water to different basins within HSG as necessary.

ES.7 Project Construction

Construction of the Proposed Project would commence in fourth quarter of 2018 and is expected to last over 4 years, ending in late 2022. Construction would be conducted in several phases, which may partially overlap in schedule, especially since construction would occur at several physically separated sites (i.e., DCTWRP, HSG, PSG, and within City streets). Construction activities would typically occur from 7:00 a.m. to 3:30 p.m., but construction in major City streets would generally not begin before 9:00 a.m. in accordance with the City of Los Angeles Mayor’s Executive Directive No. 2, which prohibits construction on selected roads between 6:00 a.m. and 9:00 a.m. and between 3:30 p.m. and 7:00 p.m.

ES.8 Notice of Preparation Scoping Process

In accordance with the CEQA Guidelines, an NOP, including the Initial Study, for the Draft EIR was prepared and distributed on September 6, 2013, to public agencies, interested organizations, and the general public. The purpose of the NOP was to provide notification that

LADWP planned to prepare an EIR and to solicit input on the scope and content of the EIR. The NOP was distributed to approximately 47 agencies, organizations, and other parties.

Three public meetings were held during the public review period on September 25, October 3, and October 12, 2013. The purpose of the meetings was to seek input from public agencies, organizations, and the general public regarding the environmental issues and concerns related to implementation of the Proposed Project.

A total of 15 written comment letters were received during the NOP scoping period and are included in Appendix A. Based on the nature and scope of the Proposed Project, the evaluation contained in the Initial Study, and the comments received from agencies and members of the public during review of the NOP scoping process, resource topics that have the potential to involve significant adverse environmental impacts have been evaluated in the Draft EIR.

ES.9 Summary of Environmental Impacts

An analysis of environmental impacts potentially caused by the Proposed Project has been conducted and is contained in this Draft EIR. Seventeen environmental issue areas are analyzed in detail in Chapter 3.0. Table ES-1 provides a summary of the environmental impacts that would result during construction and operation of the Proposed Project, mitigation measures that would lessen significant environmental impacts, and the level of significance of the environmental impacts that would remain after implementation of mitigation. For those impacts determined to be less than significant and requiring no mitigation measures, a “Not Applicable” determination is stated under the “Level of Significance After Mitigation” column within Table ES-1.

The Proposed Project would create short-term significant impacts to air quality, biological resources, cultural resources, noise, and transportation and traffic requiring mitigation measures to reduce the impacts to a less than significant level. Specific mitigation measures have been identified to reduce the short-term impacts to a less than significant level, except for noise and traffic. With incorporation of mitigation measures, temporary construction impacts for noise in relation to the Japanese Garden and traffic in relation to the proposed recycled water pipeline installation in Arleta Avenue would be reduced but would remain significant and unavoidable. The Proposed Project would not lead to any long-term significant impacts during post-construction operations.

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
AESTHETICS			
AES-1: The Proposed Project would not have a substantial adverse effect on a scenic vista.	No impact	No mitigation measures are required.	Not applicable
AES-2: The Proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No impact	No mitigation measures are required.	Not applicable
AES-3: The Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings.	Less than significant	No mitigation measures are required.	Not applicable
AES-4: The Proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than significant	No mitigation measures are required.	Not applicable
AGRICULTURE AND FORESTRY RESOURCES			
AG-1: The Proposed Project would not convert farmland to another non-agricultural use.	No impact	No mitigation measures are required.	Not applicable
AG-2: The Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract.	No impact	No mitigation measures are required.	Not applicable
AG-3: The Proposed Project would not conflict with existing zoning, or cause rezoning of, forest land or timberland.	No impact	No mitigation measures are required.	Not applicable
AG-4: The Proposed Project would not result in loss of forest land or conversion of forest land to non-forest use.	No impact	No mitigation measures are required.	Not applicable
AG-5: The Proposed Project would not involve changes in the existing environment which, due to their location or nature, would result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.	No impact	No mitigation measures are required.	Not applicable
AIR QUALITY			
AQ-1: The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than significant	No mitigation measures are required.	Not applicable
AQ-2: The Proposed Project would cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation as a result of daily NO_x emissions and localized construction PM10 emissions	Significant	**AQ-A** The City shall ensure that diesel-powered construction equipment greater than 50 horsepower meets the USEPA Tier 3 emission standards.	Less than significant

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
during construction activities.			
AQ-3: The Proposed Project would result in a cumulatively considerable net increase of criteria pollutant emissions associated with construction of the Proposed Project.	Significant	See **Mitigation Measure AQ-A** above.	Less than significant
AQ-4: The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations that would result in a health risk for the residents.	Less than significant	No mitigation measures are required.	Not applicable
AQ-5: The Proposed Project would not create objectionable odors affecting a substantial number of people.	Less than significant	No mitigation measures are required.	Not applicable
BIOLOGICAL RESOURCES			
BIO-1: The Proposed Project would cause a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS).	Significant	**BIO-A** The following measures shall be implemented to avoid and minimize impacts to special-status species and sensitive habitats: 1. Work areas shall be clearly delineated with fencing or other boundary markers prior to the start of construction. 2. The project limits shall be clearly marked on project maps provided to the construction contractor(s) by the City, and areas outside of the project limits shall be designated as “no construction” zones. A construction manager shall be present during all construction activities to ensure that work is limited to designated project limits. 3. During construction, construction workers shall strictly limit their activities, vehicles, equipment, and construction materials to the designated construction limits. 4. During construction, all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas outside of jurisdictional wetlands or waters and within the fenced project limits. Fueling of equipment shall take place within	Less than significant

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
		existing paved areas greater than 100 feet from water features. Contractor equipment shall be checked daily for leaks prior to operation and repaired as necessary. 5. During construction, the construction work zone shall be kept as clean of debris as possible to avoid attracting predators of sensitive wildlife. All food-related trash items shall be enclosed in sealed containers and removed daily from the construction work zone. 6. Pets of project personnel shall not be allowed on the project site during construction. 7. Disposal or temporary placement of excess fill, brush, or other debris shall be strictly prohibited in or along the banks of water features during construction. Stockpile areas shall be designated prior to the start of construction and shall be located in disturbed areas presently lacking vegetation and delineated on grading plans. 8. Prior to the start of construction, a Stormwater Pollution Prevention Plan (SWPPP) shall be prepared to reduce the potential for accidental releases of fuel, pesticides, and other materials. This plan shall outline refueling locations, emergency response procedures, and reporting requirements. During construction, equipment for immediate cleanup shall be kept on-site. This plan shall also include erosion control measures to control surface runoff, erosion, and sedimentation outside of the project footprints.	

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
		BIO-B If feasible, the clearance of vegetation during construction activities shall occur outside of the nesting bird season (generally February 15 through September 15). If avoidance of construction within this time period is not feasible, the following additional measures shall be employed: 1. A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded. 2. If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, a qualified biologist shall monitor the nest on a weekly basis and the construction activity shall be postponed until the biologist determines that the nest is no longer active. 3. If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the appropriate resource agency before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.	
BIO-2: The Proposed Project would cause a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.	Significant	See **Mitigation Measure BIO-A** above.	Less than significant

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
BIO-3: The Proposed Project would cause a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Significant	See **Mitigation Measure BIO-A** above.	Less than significant
BIO-4: The Proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant	No mitigation measures are required.	Not applicable
BIO-5: The Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	No impact	No mitigation measures are required.	Not applicable
BIO-6: The Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	No impact	No mitigation measures are required.	Not applicable
CULTURAL RESOURCES			
CR-1: The Proposed Project would not cause a substantial adverse change in the significance of a historical resource.	Less than significant	No mitigation measures are required.	Not applicable
CR-2: The Proposed Project would potentially cause a substantial adverse change in the significance of an archaeological resource during Project construction.	Significant	**CR-A** A qualified archaeological consultant shall conduct training of construction personnel and supervisory staff on possible archaeological resources that may be present in the area in order to establish an understanding of what to look for during ground-disturbing activities and apprise them of appropriate handling of such resources. In the event archaeological resources are encountered, the City shall be notified immediately and work in the vicinity of the discovery shall be halted until appropriate treatment of the resource is determined by a qualified archaeological Principal Investigator in accordance with the provisions of CEQA Guidelines Section 15064.5 and Section 106 of the National Historic Preservation Act. The archaeological Principal Investigator shall have	Less than significant

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
		the authority to redirect construction equipment and activities in the event potential archaeological resources are encountered. Work may continue on other parts of the Project while consultation and treatment are conducted. If prehistoric archaeological sites are encountered within the Project area, a trained Native American consultant shall be engaged to monitor ground-disturbing work in the area containing the Native American cultural resources. This monitoring shall occur on an as-needed basis and shall be intended to ensure that Native American concerns are taken into account during the construction process.	
CR-3: The Proposed Project would potentially cause a substantial adverse change in the significance of a paleontological resource during Project construction.	Significant	**CR-B** If paleontological deposits are encountered during excavation, the City would contact a qualified paleontologist to evaluate and determine appropriate treatment for the resource in accordance with California Public Resource Code Section 21083.2(i). If any paleontological resources are encountered during ground-disturbing activities, work would be temporarily halted in the vicinity of the find and the paleontologist would be called to the Project site to examine and evaluate the resource in accordance with the provisions of CEQA. Work may continue on other parts of the Project while consultation and treatment are conducted.	Less than significant
CR-4: The Proposed Project would potentially disturb human remains during Project construction.	Significant	**CR-C** If human remains are discovered, work in the immediate vicinity of the discovery shall immediately be suspended and the Los Angeles County Coroner shall be contacted. If the remains are deemed Native American in origin, the Coroner shall contact the Native American Heritage Commission (NAHC) and identify a Most Likely Descendant (MLD)	Less than significant

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
		pursuant to Public Resources Code Section 5097.98 and CCR Section 15064.5. Work may commence only after consultation and treatment have been concluded. Work may continue on other parts of the Project while consultation and treatment are conducted.	
GEOLOGY AND SOILS			
GEO-1: The Proposed Project would not expose people or structures to risk of loss, injury, or death involving fault rupture or landslides. The Proposed Project would not result in exposure of people or structures to risk of loss, injury, or death involving seismic ground shaking or liquefaction.	Less than significant	No mitigation measures are required.	Not applicable
GEO-2: The Proposed Project would not result in substantial soil erosion or the loss of topsoil.	Less than significant	No mitigation measures are required.	Not applicable
GEO-3: The Proposed Project would not be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse resulting from unstable soils.	Less than significant	No mitigation measures are required.	Not applicable
GEO-4: The Proposed Project would not create risks to life or property resulting from expansive soils.	Less than significant	No mitigation measures are required.	Not applicable
GEO-5: The Proposed Project does not include the use of septic tanks or alternative waste water disposal systems.	No impact	No mitigation measures are required.	Not applicable
GREENHOUSE GAS EMISSIONS AND ENERGY			
GHG-1: Operation of the Proposed Project would not generate GHG emissions exceeding the SCAQMD threshold.	Less than significant	No mitigation measures are required.	Not applicable
GHG-2: The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions.	Less than significant	No mitigation measures are required.	Not applicable
GHG-3: Construction and operation of the Proposed Project would not result in wasteful, inefficient, and unnecessary consumption of energy.	Less than significant	No mitigation measures are required.	Not applicable
HAZARDS AND HAZARDOUS MATERIALS			
HAZ-1: The Proposed Project would not create a significant	Less than significant	No mitigation measures are required.	Not applicable

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.			
HAZ-2: The Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than significant	No mitigation measures are required.	Not applicable
HAZ-3: The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than significant	No mitigation measures are required.	Not applicable
HAZ-4: The Proposed Project may be located on or immediately adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, it would not create a significant hazard to the public or the environment.	Less than significant	No mitigation measures are required.	Not applicable
HAZ-5: The Proposed Project is located within 2 miles of a public airport or public use airport; however, it would not result in a safety hazard for people residing or working in the project area.	Less than significant	No mitigation measures are required.	Not applicable
HAZ-6: The Proposed Project is not within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project area.	No impact	No mitigation measures are required.	Not applicable
HAZ-7: The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation measures are required.	Not applicable
HAZ-8: The Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.	No impact	No mitigation measures are required.	Not applicable
HYDROLOGY, WATER QUALITY, AND GROUNDWATER			
HWQ-1: The Proposed Project would not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality.	Less than significant	No mitigation measures are required.	Not applicable
HWQ-2: The Proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	No impact	No mitigation measures are required.	Not applicable

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
HWQ-3: The Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	Less than significant	No mitigation measures are required.	Not applicable
HWQ-4: The Proposed Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Less than significant	No mitigation measures are required.	Not applicable
HWG-5: The Proposed Project would not substantially degrade water quality.	Less than significant	No mitigation measures are required.	Not applicable
HWQ-6: The Proposed Project would not place within a 100-year flood hazard area structures which would impede or redirect flood flows.	Less than significant	No mitigation measures are required.	Not applicable
HQW-7: The Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	Less than significant	No mitigation measures are required.	Not applicable
LAND USE AND PLANNING			
LUP-1: The Proposed Project would not physically divide an established community.	No impact	No mitigation measures are required.	Not applicable
LUP-2: The Proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Not applicable
LUP-3: The Proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.	Less than significant	No mitigation measures are required.	Not applicable
MINERAL RESOURCES			
MIN-1: The Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	Less than significant	No mitigation measures are required.	Not applicable
MIN-2: The Proposed Project would not result in the loss of availability of a locally-important mineral resource recovery	Less than significant	No mitigation measures are required.	Not applicable

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
site delineated on a local general plan, specific plan or other land use plan.			
NOISE			
NOI-1: Short-term and temporary construction activity at DCTWRP, along the proposed recycled water pipeline, and at PSG would expose persons to or generate noise levels in excess of applicable standards established in the local general plan or noise ordinance.	Significant	**NOI-A** For construction activities lasting more than three months in one location and within 500 feet of a sensitive receptors, temporary barriers (e.g., noise blankets) shall be placed between the equipment and sensitive receptor. **NOI-B** Construction equipment shall be properly maintained and equipped with mufflers. **NOI-C** Rubber-tired equipment, rather than tracked equipment, shall be used when feasible. **NOI-D** Equipment shall be turned off when not in use for an excess of five minutes, except for equipment that requires idling to maintain performance. **NOI-E** A public liaison shall be appointed for project construction who would be responsible for addressing public concerns about construction activities, including excessive noise. As needed, the liaison shall determine the cause of the concern (e.g., starting too early, bad muffler) and implement measures to address the concern. **NOI-F** The public shall be notified in advance of the location and dates of construction hours and activities. **NOI-G** Truck routes shall be limited to major arterial roads located within non-residential areas, when feasible. **NOI-H** Construction activities shall be prohibited between the hours of 9:00 p.m. and 7:00 a.m. when located within 500 feet of occupied sleeping quarters or other land uses sensitive to increased nighttime noise levels. **NOI-I** The site administrator for the Japanese Garden	Significant and Unavoidable (warehouse at DCTWRP)

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
		shall be consulted to discuss construction activities associated with the warehouse that may generate high noise levels (e.g., heavy-duty equipment activity near the warehouse). If construction-related noise interferes with an event at the Japanese Garden, the activity shall be stopped until the event is over, or another construction technique is used that eliminates the noise disturbance.	
NOI-2: Construction of the warehouse at DCTWRP, although temporary, would generate vibration levels that would expose persons to excessive groundborne vibration or groundborne noise levels and interfere with events at the Japanese Garden.	Significant	**NOI-J** The site administrator for the Japanese Garden shall be consulted to discuss construction activities associated with the warehouse that may generate perceptible vibration (e.g., heavy-duty equipment activity). If construction-related vibration interferes with an event at the Japanese Garden, the activity shall be stopped until the event is over, or another construction technique is used that eliminates perceptible vibration.	Less than significant
NOI-3: Operation of the Proposed Project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the Project.	Less than significant	No mitigation measures are required.	Not applicable
NOI-4: Construction of the Proposed Project would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Significant	See **Mitigation Measure NOI-A though NOI-I** above.	Significant and unavoidable (warehouse at DCTWRP)
NOI-5: The Proposed Project would not expose people working or residing in the project area to excessive noise associated with an airport land use plan or within two miles of a public airport.	Less than significant	No mitigation measures are required.	Not applicable
NOI-6: The Proposed Project would not expose people working or residing in the project area to excessive noise associated with a private airstrip.	No impact	No mitigation measures are required.	Not applicable
POPULATION AND HOUSING			
POP-1: The Proposed Project would not induce substantial population growth, either directly or indirectly.	Less than significant	No mitigation measures are required.	Not applicable

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
POP-2: The Proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.	No impact	No mitigation measures are required.	Not applicable
PUBLIC SERVICES AND RECREATION			
PSR-1: The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives.	Less than significant	No mitigation measures are required.	Not applicable
PSR-2: The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives.	Less than significant	No mitigation measures are required.	Not applicable
PSR-3: The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives.	No impact	No mitigation measures are required.	Not applicable
PSR-4: The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities.	No impact	No mitigation measures are required.	Not applicable
PSR-5: The Proposed Project would not result in a substantial increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	No impact	No mitigation measures are required.	Not applicable
PSR-6: The Proposed Project would not require the construction or expansion of parks and recreational facilities.	No impact	No mitigation measures are required.	Not applicable
PSR-7: The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities in order to maintain acceptable service ratios or other performance objectives.	No impact	No mitigation measures are required.	Not applicable

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
TRANSPORTATION AND TRAFFIC			
TRA-1: Construction of the Proposed Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.	Significant	**TRA-A** The City, prior to the start of construction, shall coordinate with LADOT to prepare a Traffic Management Plan (TMP). The TMP shall be prepared by a registered traffic or civil engineer, as appropriate, based on City of Los Angeles permit guidelines. The TMP shall consist of traffic control plans showing striping changes, and a traffic signal plan for any signalized intersections indicating modifications to existing traffic signals and associated controllers to be adjusted during the construction phase. Methods to inform the public regarding project construction, and roadway, bike path, and pedestrian facility detours and closures shall be implemented as part of the TMP. Additional measures to be incorporated into the TMP to improve traffic flow shall include the following: a. Directional capacity (generally southbound in the morning peak hour and northbound in the evening peak hour) shall be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lanes for the opposite direction of traffic flow, shall be used to alleviate any potential poor level of service conditions. b. Provide continued through access via detours for vehicles and to provide for adequate pedestrian and bicycle circulation. Signed detour routes and other potential routes that drivers would	Significant and Unavoidable (recycled water pipeline alignment)

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
		utilize during the construction period would become alternate routes for a proportion of the vehicles that would otherwise travel along the corridor where construction would be taking place. c. For the project detour routes, wayfinding signs and other relevant traffic control devices shall be placed on all major roadways into the larger area around each construction closure locations, and shall be repositioned for each construction segment (as the construction zones progress along the recycled water pipeline alignment). Wayfinding signs shall be placed at major detour decision points to keep vehicles on-track through the detour route, and shall also be placed at the next major intersection location in advance of the first detour decision point. d. Consult with Metro to minimize impacts to passenger loading areas and to minimize travel times on scheduled bus routes. All affected transit agencies shall be contacted to provide for any required modifications or temporary relocation of transit facilities.	
TRA-2: The Proposed Project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	Less than significant	No mitigation measures are required.	Not applicable
TRA-3: The Proposed Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	No impact	No mitigation measures are required.	Not applicable
TRA-4: The Proposed Project would not substantially increase hazards due to a design feature (e.g., sharp	No impact	No mitigation measures are required.	Not applicable

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance After Mitigation
curves or dangerous intersections) or incompatible uses (e.g., farm equipment).			
TRA-5: The Proposed Project would not result in inadequate emergency access.	Less than significant	No mitigation measures are required.	Not applicable
TRA-6: Construction of the Proposed Project may conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, otherwise decrease the performance or safety of such facilities.	Significant	See **Mitigation Measure TRA-A** above.	Less than significant
UTILITIES AND SERVICE SYSTEMS			
USS-1: The Proposed Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less than significant	No mitigation measures are required.	Not applicable
USS-2: The Proposed Project would not require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects. Additionally, the Proposed Project would not result in a determination by the wastewater treatment provider that serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation measures are required.	Not applicable
USS-3: The Proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than significant	No mitigation measures are required.	Not applicable
USS-4: Sufficient water supplies are available to serve the Proposed Project from existing entitlements and resources.	Less than significant	No mitigation measures are required.	Not applicable
USS-5: The Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than significant	No mitigation measures are required.	Not applicable
USS-6: The Proposed Project would comply with federal, state, and local statutes and regulations related to solid waste.	Less than significant	No mitigation measures are required.	Not applicable

ES.10 Alternatives to the Proposed Project

In accordance with the California Environmental Quality Act (CEQA) Guidelines, alternatives to the Proposed Project have been considered in the Draft EIR to foster informed decision-making and public participation. According to CEQA Guidelines Section 15126.6(a), an Environmental Impact Report (EIR) "shall describe a range of reasonable alternatives to the proposed project, or to the location of the proposed project, which would feasibly attain most of the basic objectives of the proposed project, but would avoid or substantially lessen any of the significant effects of the proposed project, and evaluate the comparative merits of the alternatives." The CEQA Guidelines state that an EIR need not consider every conceivable alternative or consider alternatives that are infeasible. The alternatives analysis must also include a comparative evaluation of a No Project Alternative. Through evaluation of alternatives, the advantages and disadvantages of each alternative, compared with the Proposed Project, can be determined. Several alternatives were presented but not considered for evaluation in this Draft EIR and several alternatives were considered but dismissed from detailed evaluation, as discussed in Chapter 5. The alternatives summarized below are reviewed in detail in Chapter 5.

ES.10.1 Valley Generating Station AWPF

Under the VGS Alternative, the AWPF and the associated support facilities would be located on a site within VGS, which is an active LADWP electrical generating station located adjacent to HSG and about 6 miles northeast of DCTWRP. VGS was also one of the alternative AWPF sites identified in the GWRMP. The VGS water purification facilities would function as an entirely independent operation, physically segregated from other VGS functions by fencing. Under the VGS Alternative, the expansion to the flow equalization tanks and the Balboa Pump Station would still occur at DCTWRP, on property leased from the Corps in the Sepulveda Basin within the existing DCTWRP flood protection berm. The improvements at HSG and PSG would be essentially the same under the VGS Alternative as under the Proposed Project.

Since the AWPF would be located at VGS rather than DCTWRP, the primary operational difference between the VGS Alternative and the Proposed Project would be that the existing EVRWL, which would convey purified water from DCTWRP to HSG under the Proposed Project, would instead convey tertiary recycled water from DCTWRP to VGS, where it would undergo the advanced treatment required to produce purified water. Because the EVRWL would function as a tertiary recycled water line under the VGS Alternative, new conveyance pipelines to transfer purified water from VGS to HSG and PSG would be required; these new conveyance lines would be about twice the length as required under the Proposed Project (about 4 miles versus 2 miles), all located within public roadways. Similar to the Proposed Project, the backwash and brine solution generated as a byproduct of the MF and RO processes at the AWPF must be routed to the sewer system to be transmitted with other wastewater streams to the Hyperion Treatment Plant in Playa Del Rey for further processing. As with the Project, this would require a new brine line connection to the VORS. However, the brine line for the VGS Alternative would be approximately 7 miles in length, all within public roadways (this compares with a 3,000-foot brine line required for the Proposed Project, only approximately 300 feet of which would be located within public roadways).

Because most facilities would be relocated from DCTWRP to VGS, the VGS Alternative would eliminate or reduce the potential noise impacts to the Japanese Garden and Woodley Park related to Project construction activity at DCTWRP. In addition, while some limited improvements would still be required at DCTWRP, the primary water purification facilities (i.e., the AWPF and necessary support functions) would be located on property entirely owned and controlled by the City of Los Angeles rather than on leased land owned by a non-City entity (the Corps). However, in order to locate the AWPF at VGS, both the recycled water pipeline and the brine line would be substantially longer than under the Proposed Project. Therefore, due to the increased construction activity related to the recycled water pipeline installation, air quality and traffic impacts would be considerably more significant under the VGS Alternative than under the Proposed Project.

ES.10.2 No Project Alternative

A No Project Alternative is required under CEQA. Under the No Project alternative, the Proposed Project would not be implemented in any manner. No AWPF or support facilities would be constructed at DCTWRP or any alternative location, and none of the other improvements necessary to implement the Project, including conveyance lines or spreading grounds improvements would occur. The No Project Alternative is technically feasible since no action would be taken. Furthermore, the No Project Alternative would eliminate the short-term direct impacts associated with construction of the Proposed Project since no construction activities would occur. However, it would not meet any of the Project objectives related to the fundamental purpose of the Project to supplement the City of Los Angeles' potable water supply through local GWR in order to reduce dependence on imported water and diversify the City's water portfolio, thereby increasing system reliability and sustainability. Therefore, while the direct environmental impacts from the Project would be eliminated under the No Project Alternative, indirect impacts related to the continued importation of water to meet demand may be created. While these impacts are not specifically ascertainable, they could include those associated with the diversion of imported water from other uses or in relation to the construction of new storage and conveyance facilities necessary to provide redundancy and security for imported water in the face of dwindling and unpredictable supplies.

ES.10.3 Environmentally Superior Alternative

In accordance with the CEQA Guidelines, an EIR shall identify an environmentally superior alternative among the feasible alternatives, including the Proposed Project. As discussed above, the No Project Alternative would eliminate all direct impacts associated with the construction and operation of the Project, but it may also result in greater long-term impacts related to the continued importation of potable water into the Los Angeles Basin. Furthermore, the No Project Alternative would not achieve any of the Project objectives related to supplementing the City of Los Angeles' potable water supply through local GWR, thereby reducing dependence on imported water supplies. CEQA also requires that an environmentally superior alternative be identified from among the alternatives other than the No Project Alternative. In comparison to the VGS Alternative, the Proposed Project would represent an environmentally superior alternative because it would result in the least impact to the physical environment that can be reasonably ascertained.

CHAPTER 1
INTRODUCTION

This Draft Environmental Impact Report (EIR) has been prepared by the City of Los Angeles (City), as represented by the Los Angeles Department of Water and Power (LADWP) and the Los Angeles Department of Public Works Bureau of Sanitation (LASAN), to evaluate potential environmental effects that would result from development of the proposed Los Angeles Groundwater Replenishment (LAGWR) Project (Proposed Project or Project). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code Section 2100 et seq., as amended) and its implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et. seq., 2014).

In accordance with the Administrative Code of the City of Los Angeles, LADWP is authorized and obligated to supply potable water to meet the needs of the City's residents, businesses, and other functions. LADWP has traditionally relied on four primary sources to provide for this need, including imported water under the City's water rights in the Mono Basin and Owens River watershed in the Eastern Sierra, which is conveyed to the City via the Los Angeles Aqueduct system; purchases from the Metropolitan Water District of Southern California (MWD), which are conveyed from the Colorado River via the Colorado River Aqueduct and from the State Water Project via the California Aqueduct; local groundwater supplied via wells located throughout the City; and recycled water, which is currently used for non-potable reuse (NPR) functions, such as large-scale irrigation.

Historically, during normal precipitation years, imported water from both LADWP-controlled sources and MWD purchases has accounted for nearly 90 percent of annual supply, with MWD purchases accounting for over 50 percent in recent years. Although imported water supplies have served the City for over a century, numerous factors, including frequent and prolonged droughts, increased populations served by the imported resources, diversions of water to meet environmental commitments, and judicial decisions limiting importation, have converged to threaten the long-term reliability of imported supplies. In addition, dependence on imported water is costly, less environmentally sustainable, and provides less security during emergency circumstances, such as an earthquake along the San Andreas Fault, when imported supplies may become unavailable for extended periods.

In response to these challenges related to traditional imported water supplies, the City has embarked upon an aggressive effort to maintain reliable and sustainable sources of water. Long-term strategies outlined in the 2010 Los Angeles Urban Water Management Plan (UWMP) intended to "meet the City's water needs while maximizing local resources and minimizing the need to import water" include increasing water conservation, increasing water recycling, enhancing stormwater capture, and accelerating groundwater cleanup. These strategies are not alternative means to achieve local water supply goals but are complementary and mutually inclusive.

Consistent with the Los Angeles Mayor's 2014 Executive Directive No. 5 (Emergency Drought Response) and 2015 Sustainable City Plan, these strategies will help achieve the goals of reducing per capita water use by 25 percent by 2035, decreasing the purchase of imported water supplies by 50 percent by 2025, and sourcing 50 percent of the City's water from local supplies by 2035.

In relation to recycled water, the UWMP established a goal to increase the use of recycled water within the City to 59,000 acre-feet per year (AFY) by 2035. As an implementing plan to achieve this goal, the 2012 Recycled Water Master Plan (RWMP), prepared jointly by LADWP and LASAN, determined based on the available capacity of recycled water treatment that 30,000 AFY should be dedicated to groundwater replenishment (GWR) to help enhance the City's ability to use groundwater from the San Fernando Groundwater Basin (SFB) aquifer. The 2012 Groundwater Replenishment Master Plan (GWRMP) further evaluated the facility requirements and siting factors related to achieving the GWR goal identified in the RWMP.

The Proposed Project presented in this Draft EIR is an outcome of this planning process and reflects policies to reduce reliance on imported water, increase the use of recycled water, and replenish the groundwater basin in order to maintain a sustainable, safe, and reliable supply of potable water to meet the needs of the City of Los Angeles.

1.1 Summary of the Proposed Project

To maintain the reliability of the City of Los Angeles' potable water supply and reduce dependence on imported sources of water, the City proposes to implement the Proposed Project to replenish the SFB with up to 30,000 AFY of purified recycled water[1] (purified water) from the Donald C. Tillman Water Reclamation Plant (DCTWRP). Achieving this replenishment goal would entail operating DCTWRP at the plant's full capacity to treat up to 80 million gallons per day (mgd) of wastewater.

The Project would consist of three basic elements: 1) *treatment* would entail the construction and operation of new advanced water purification facilities (AWPF) and related facilities that would provide additional levels of treatment of recycled water generated by the existing DCTWRP facilities to produce purified water; 2) *conveyance* would entail the use of existing and newly constructed pipelines to transport the purified water from the AWPF to existing spreading grounds; and 3) *replenishment* would entail the spreading of the purified water at the existing spreading grounds so that it would percolate into the SFB.

Several public agencies would have a key role in the approval and/or implementation of the Proposed Project. As the public agencies responsible for water resources in the City of Los Angeles, LADWP and LASAN are working jointly to plan, design, implement, and operate the Project. LADWP, as the supplier of potable water to the City of Los Angeles, would maintain final use and control of the purified water produced at DCTWRP under the Project and would provide funding to support Project implementation and operations. As such, LADWP is serving as the Lead Agency under CEQA for the Project. The City of Los Angeles Board of Water and Power Commissioners, in order to approve the Proposed Project or alternative to the Project, must certify that the Project EIR was prepared in accordance with CEQA and other applicable codes and guidelines, and it must take into account the conclusions contained in the EIR when considering approval of the Project. LASAN, which is the operator of DCTWRP, also plays an integral role in the Proposed Project, since it would own and operate the AWPF and related facilities to produce purified water. Therefore, LASAN, as part of the City of Los Angeles Department of Public Works, is a responsible agency under CEQA for the Project. The City of Los Angeles Board of Public Works must also take into account the conclusions contained in the EIR when considering various permits and approval of a Memorandum of Agreement

1 "Purified recycled water" is wastewater that has undergone multiple treatment steps, beyond standard wastewater treatment. To create purified recycled water, highly treated wastewater (known as recycled water) is further treated through advanced water treatment processes, such as ozonation, biologically activated carbon, multiple barrier filtration (microfiltration and reverse osmosis) and/or advanced oxidation processes.

between LADWP and LASAN for the design, construction, operation, maintenance, and reimbursements for the AWPF and related facilities at DCTWRP. The Los Angeles County Department of Public Works is also a CEQA responsible agency because it owns and operates Hansen Spreading Grounds (HSG) and Pacoima Spreading Grounds (PSG) and therefore must approve construction at the spreading grounds and the use of the spreading grounds by LADWP for groundwater replenishment. The Los Angeles County Department of Public Works would continue to own and operate HSG and PSG with implementation of the proposed project. It must also take into account the EIR when considering approval of a Memorandum of Understanding for operations and maintenance related to spreading of purified water at HSG and PSG. In addition, because DCTWRP is located on land within the Sepulveda Dam Flood Control Basin (Sepulveda Basin) that is leased from the United States Army Corps of Engineers (Corps), the Corps is a federal agency that must approve the construction and operation of those portions of the Project located within the Basin. The Corps may utilize the CEQA-Plus EIR document (see below) to consider this approval in relation to NEPA-required environmental actions and issues.

1.2 CEQA Environmental Process

CEQA requires preparation of an EIR when there is substantial evidence supporting a fair argument that a proposed project may have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informational document that fully discloses the environmental effects of a proposed project. The EIR process is intended to facilitate the evaluation of potentially significant direct, indirect, and cumulative environmental impacts of a proposed project, and to identify feasible mitigation measures and alternatives that might reduce or avoid the project's significant effects. In addition, CEQA specifically requires that an EIR identify those adverse impacts determined to remain significant after the application of mitigation measures.

1.2.1 Notice of Preparation and Initial Study

As the lead agency for the Proposed Project, LADWP must complete an environmental review to determine if implementation of the Project would result in significant adverse environmental impacts. To fulfill the purpose of CEQA, an Initial Study was prepared to assist in making that determination.

In accordance with the CEQA Guidelines, a Notice of Preparation (NOP) of an EIR, including an Initial Study of potential environmental impacts, was prepared and distributed on September 6, 2013, to public agencies, interested organizations, and the general public. The purpose of the NOP was to provide notification that LADWP planned to prepare an EIR and to solicit input on the scope and content of the EIR. The NOP was distributed to approximately 47 agencies, organizations, and other parties.

Three public meetings were held during the public review period on September 25, October 3, and October 12, 2013. The purpose of the meetings was to seek input from public agencies, organizations, and the general public regarding the environmental issues and concerns related to implementation of the Proposed Project.

The following is a timeline of the public involvement and the public notices that have occurred:

- **August 29, 2013**. The NOP was filed with the Los Angeles City Clerk.

- **September 5, 2013**. LADWP released the NOP and Initial Study to agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The State Clearinghouse assigned State Clearinghouse Number 2013091023 to the CEQA documents.

- **September 5, 2013**. The NOP was filed with the Los Angeles County Clerk and published in the Los Angeles Times.

- **September 6, 2013**. The NOP was published in La Opinion, and the NOP and Initial Study were posted by LADWP on its website and made available in hard copy at local libraries in the San Fernando Valley and at LADWP's Headquarters in downtown Los Angeles.

- **September 25, October 3, and October 12, 2013**. LADWP held three public scoping meetings for the NOP.

- **October 21, 2013**. The comment period for the NOP ended.

A total of 15 written comments were received during the NOP scoping period, and they are included in Appendix A. Based on the nature and scope of the Proposed Project, the evaluation contained in the Initial Study, and the comments received from agencies and members of the public during review of the NOP scoping process, resource topics that have the potential to involve significant adverse environmental impacts have been evaluated in the Draft EIR.

1.2.2 CEQA-Plus

The City may pursue federal funding for the Proposed Project through the Clean Water State Revolving Fund, which is partially funded by the United States Environmental Protection Agency. This fund, which is administered through the State Water Resources control Board's Division of Financial Assistance, implements the Clean Water Act and various state laws by providing funding for wastewater treatment facilities, recycled water facilities, and other water quality facilities that "protect and promote health, safety and welfare of the inhabitants of the state".[2] Due to the possibility of federal funding and of approval by the Corps, the Proposed Project would be subject to federal environmental regulations, as applicable. Therefore, this document has been prepared in accordance with the *Environmental Review Guide for Special Appropriation Grants* and the *Environmental Review Process Guidelines for State Revolving Fund Applicants*.[3,4] Based on these guidelines, this Draft EIR includes additional "CEQA-Plus" information pertaining to federally designated endangered species, cultural resource protection, conformity with applicable air management plans, environmental justice, and other federal executive orders and federal regulations (see Appendix B).

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2 State Water Resources Control Board. *Clean Water State Revolving Fund*. Available online at: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/. Accessed February 18, 2015.

3 United States Environmental Protection Agency. *Environmental Review Guide for Special Appropriation Grants.* April 2008. Available online at: http://www.epa.gov/oecaerth/resources/policies/nepa/environmental-review-guide-grants-pg.pdf. Accessed February 18, 2015.

4 State Water Resources Control Board, Division of Financial Assistance. *Environmental Review Process Guidelines for State Revolving Fund Loan Applicants.* September 2004. Available online at: http://energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf. Accessed February 18, 2015.

1.3 Organization of the EIR

This Draft EIR is organized as follows:

The **Executive Summary** provides an overview of the information provided in detail in subsequent sections. It consists of an introduction; a brief description of the Proposed Project and its alternatives; areas of controversy and issues to be resolved; and a summary the potential environmental impacts in each environmental resource category, the significance determination for those impacts, mitigation measures, and significance of impacts after mitigation.

Chapter 1.0 (Introduction) provides a brief overview of the Proposed Project and the CEQA environmental review process, including a section describing the organization of the Draft EIR.

Chapter 2.0 (Project Description) provides a detailed description of the Proposed Project. Project objectives are identified, and information on the Project characteristics and construction scenario is provided. This chapter also includes a description of the intended uses of the Draft EIR and public agency actions.

Chapter 3.0 (Environmental Setting and Project Impacts) describes for each environmental resource area the environmental setting, including the baseline conditions; the regulatory setting; the criteria employed for judging whether an impact is significant; the impact assessment methodology; the impacts that would result from Project implementation; and the applicable mitigation measures that would eliminate or reduce any identified significant impacts. The following topics are addressed in the Draft EIR.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology, Water Quality, and Groundwater
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Traffic
- Utilities and Service Systems

For each environmental issue, the analysis and discussion are organized into five subsections, as described below:

Environmental Setting: This subsection describes, from a local and regional perspective, the physical environmental conditions in the vicinity of the Proposed Project. The environmental setting establishes the baseline conditions by which the determination of specific Project-related impacts were made.

Regulatory Setting: This subsection describes any federal, state, regional, and/or local regulations that are applicable to the Proposed Project in relation to potential environmental impacts.

Environmental Impacts: This subsection provides the methodology used to assess environmental impacts; applicable significance criteria and established thresholds for the resource topic; detailed information on the environmental impacts of the Proposed Project; and whether the impacts would exceed the established significance criteria.

Mitigation Measures: This subsection identifies potentially feasible mitigation measures that would avoid or substantially reduce significant adverse impacts.

Level of Significance after Mitigation: This subsection indicates whether Project-related impacts would be reduced to below a level of significance with implementation of the identified mitigation measures. This subsection also identifies any residual significant and unavoidable adverse impacts of the Project that would result even after the mitigation measures have been implemented.

Chapters 4.0 (Impact Overview) presents other mandatory CEQA sections, including the following:

Cumulative Impacts: This subsection addresses the potentially significant cumulative impacts that may result from the Proposed Project when taking into account related or cumulative impacts resulting from other past, present, and reasonably foreseeable future projects.

Unavoidable Significant Adverse Impacts: This subsection identifies and summarizes the unavoidable significant impacts described in detail in Chapter 3.0.

Irreversible Environmental Changes: This subsection addresses the extent to which the Proposed Project would result in the commitment of nonrenewable resources.

Growth-Inducing Impacts: This subsection describes the potential of the Proposed Project to induce economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Chapter 5.0 (Alternatives) describes and evaluates the comparative merits of a reasonable range of alternatives to the Proposed Project that would feasibly attain most of the basic objectives of the Project and avoid or substantially lessen potentially significant Project-related impacts. This chapter also describes preliminary analysis and rationale for selecting the range of alternatives discussed in the Draft EIR and identifies alternatives that were not considered or that were considered but dismissed from further detailed discussion in the Draft EIR. Additionally, Chapter 5.0 includes a discussion of the environmental impacts of the No Project Alternative and identifies the environmentally superior alternative.

Chapter 6.0 (Acronyms and Abbreviations) provides a list of acronyms and abbreviations used in this EIR.

Chapter 7.0 (List of Preparers) identifies those persons responsible for the preparation of this Draft EIR.

Chapter 8.0 (References) lists the sources of information and data used in the preparation of this Draft EIR.

CHAPTER 2
DESCRIPTION OF THE PROPOSED PROJECT

2.1 Project Overview

To maintain the reliability of the City of Los Angeles' potable water supply and reduce dependence on imported sources of water, the City, as represented by the Los Angeles Department of Water and Power (LADWP) and the Los Angeles Department of Public Works Bureau of Sanitation (LASAN), proposes to implement the Los Angeles Groundwater Replenishment (LAGWR) Project (the Proposed Project or Project) to replenish the San Fernando Groundwater Basin (SFB) with up to 30,000 acre-feet per year (AFY) of purified recycled water (purified water) from the Donald C. Tillman Water Reclamation Plant (DCTWRP). Achieving this replenishment goal would entail operating DCTWRP at the plant's full existing capacity.

The SFB underlies most of the San Fernando Valley. Through numerous extraction wells, the basin serves as an important source of potable water supply for the City. Local groundwater has provided about 11 percent of the City's water supply over the past decade during normal precipitation years and about 30 percent of the supply during drought years. Groundwater is also an important source of potable water during potential emergency circumstances (such as an earthquake along the San Andreas Fault), when imported water supplies may be unavailable for a relatively extended period. The SFB represents over 80 percent of the groundwater supply available to the City based on the storage capacity of the basin and the City's water rights.

The recycled water from DCTWRP is highly treated wastewater that has undergone multiple levels of treatment, traditionally referred to as tertiary treatment, to ensure that it meets health and safety standards first established by California Department of Public Health and now administered by the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) under Title 22, Division 4, Chapter 3 of the California Code of Regulations (Title 22). In accordance with Title 22, recycled water is not suitable for direct potable consumption. Therefore, the City employs Title 22 recycled water produced at DCTWRP for various non-potable uses, which do not currently include replenishing groundwater basins that are a source of potable water supply.

The purified water that would be produced under the Proposed Project is also a form of recycled water. However, to create purified water, recycled water that has been treated to a tertiary level at DCTWRP would be further treated utilizing purification processes and technologies that may include ozonation, biologically activated carbon (BAC), multiple-barrier filtration (e.g., microfiltration [MF] and reverse osmosis [RO]), and/or advanced oxidation processes (AOP). Purified water would be used under the Proposed Project to replenish the SFB.

The primary purpose of the Proposed Project is to reduce the City's dependence on imported water sources by increasing the local groundwater supply available for potable use. The Project would consist of three basic elements: 1) *treatment* would entail the construction and operation of new advanced water purification facilities (AWPF) and related facilities that would provide additional levels of treatment of recycled water generated by the existing DCTWRP facilities to produce purified water; 2) *conveyance* would entail the use of existing and newly constructed pipelines to transport the purified water from the AWPF to existing spreading grounds; and 3) *replenishment* would entail the spreading of the purified water at the existing spreading grounds so that it would percolate into the SFB.

2.2 Project Background

The Los Angeles Mayor's Sustainable City Plan establishes a planning framework for the City over the next 2 decades addressing not just the City's physical environment but also its economic health and a commitment to social equity as key elements of sustainability. A major component of the plan is an emphasis on local water sources as a critical factor to achieve environmental, economic, and social sustainability in the City. The plan goals related to developing the local water supply include reducing per capita water use by 25 percent by 2035, decreasing the purchase of imported water supplies by 50 percent by 2025, and sourcing 50 percent of the City's water from local supplies by 2035. According to the plan, increases in the availability of local water supplies would be realized through greater stormwater capture, accelerated groundwater cleanup, and the expanded use of recycled water. As explained below, the goals and strategies outlined in the Sustainable City Plan provide a foundation for and are consistent with other planning efforts in the City regarding water supply and quality, including the increased use of recycled water for groundwater replenishment (GWR) that would be facilitated by the Proposed Project.

2.2.1 Recycled Water Master Plan

The preparation of an Urban Water Management Plan (UWMP) is required of urban water suppliers (such as LADWP) by the State of California Department of Water Resources to address issues and develop strategies related to providing adequate water supplies to meet customer demand. Ensuring an adequate supply of water, including through reductions in demand, has become increasingly crucial in the face of more frequent and prolonged droughts and diminishing sources. As one element of the most recent City of Los Angeles UWMP, completed in 2010, a goal was established to increase the use of recycled water within the City to 59,000 AFY by 2035. Based on this goal, LADWP and LASAN jointly developed the Recycled Water Master Plan (RWMP), finalized in 2012. The RWMP established guidance to accomplish nearer-term recycled water planning goals through 2035 as well as longer-term goals for an additional 50 years beyond 2035.

Recycled water in the City is currently produced at three water reclamation plants that are owned and operated by LASAN: DCTWRP, the Los Angeles-Glendale Water Reclamation Plant, and the Terminal Island Water Reclamation Plant. This recycled water is served to customers for various non-potable reuse (NPR) functions, including large-scale irrigation, dust control, and cooling tower use. In addition, wastewater that has undergone secondary treatment at the City's Hyperion Treatment Plant is provided to the West Basin Municipal Water District for additional treatment to produce recycled water, some of which is sent to customers in Los Angeles. LADWP operates four recycled water service areas: Harbor, Metro, Valley, and Westside. There are currently approximately 58 miles of pipelines, two storage tanks, and three pumping stations in the City's recycled water distribution system.

Approximately 10,000 AFY of recycled water is currently used in the City for irrigation, industrial, and other NPR, and for injection into the Dominguez Gap Barrier, which acts to prevent seawater intrusion into coastal groundwater aquifers. LADWP is currently developing new infrastructure projects, including the extension of the "purple-pipe" recycled water network to reach new irrigation and industrial customers with about 9,350 AFY of additional recycled water. With these existing and planned projects, LADWP would achieve a goal of providing about

19,350 AFY of recycled water use. The purpose of the RWMP was to establish the most effective approach to develop and deliver the additional 39,650 AFY of recycled water necessary to attain the goal of 59,000 AFY identified in the 2010 UWMP. Several options, each composed of a varying mix of NPR using recycled water and GWR using purified water, were considered in the planning process.

With the continued proliferation of impervious surfaces in the San Fernando Valley, surface runoff has progressively increased and natural recharge to the SFB has progressively decreased over the last century. Consequently, the SFB has ample storage capacity available for groundwater replenishment. Opportunities to replenish the aquifer with additional sources of water, including purified water, would help facilitate use of the SFB, including as a potable water supply. Based on the potential availability of recycled water from DCTWRP, it was determined in the RWMP that the most cost effective and achievable option to deliver the additional 39,650 AFY of recycled water (and thereby offset an equivalent amount of imported water) is by dedicating a greater portion (30,000 AFY) to GWR and the balance (9,650 AFY) to NPR. The City's groundwater pumping entitlements in the SFB would be increased on an annual basis in the form of stored credits in an amount equal to the GWR provided under the Proposed Project in accordance with the RWMP goals.

There were several other important considerations that contributed to this determination related to the allocation of recycled water for GWR. The existing DCTWRP, located in the San Fernando Valley, has the capacity to treat up to 80 mgd of wastewater if both the existing 40-mgd phases are operational. Only a single phase (i.e., 40 mgd) is currently operated at a given time due to insufficient demand and/or infrastructure for recycled water delivery. The wastewater that would otherwise be treated in the second phase at DCTWRP instead currently bypasses the plant and is conveyed to Hyperion Treatment Plant in Playa Del Rey, where it undergoes a secondary level of treatment and is discharged into Santa Monica Bay. However, based on the combined capacity of both phases and accounting for the loss of volume that occurs during the treatment process, DCTWRP can produce about 73 mgd of recycled water, which would meet existing and already planned NPR, other existing uses of recycled water, and provide sufficient influent to the AWPF to support the goal of producing up to 30,000 AFY of purified water for GWR. In this regard, the recycled water influent required for the Proposed Project would be provided by simultaneously operating both existing phases of wastewater treatment at DCTWRP. In addition to the available treatment capacity at DCTWRP, the existing Hansen Spreading Grounds (HSG) and Pacoima Spreading Grounds (PSG), from which water percolates into the SFB, have the capacity to accept an additional 30,000 AFY for GWR. Lastly, an approximately 10-mile long pipeline designated to carry recycled water with enough available capacity to transport 30,000 AFY already interconnects DCTWRP and HSG and passes within 2 miles of PSG. Therefore, based on the analyses and determinations in the RWMP, the fundamental components of the Project include the use of recycled water produced at DCTWRP as the influent for the AWPF and the use of HSG and PSG as the sites for spreading purified water produced at the AWPF for GWR.

2.2.2 Groundwater Replenishment Master Plan

As part of the RWMP process, the Groundwater Replenishment Master Plan (GWRMP) was prepared by the City in 2012 to evaluate in greater detail factors related to the actual siting and development of the AWPF, which, as outlined in the RWMP, would be the primary new facility under the LAGWR Project. The GWRMP initially considered approximately 60 sites for the AWPF, each of which was screened in accordance with a set of threshold criteria, including zoning compliance, adjacent land use compatibility, site acreage and configuration, and other various site-specific development constraints. Based on this screening analysis, five sites were selected for more detailed evaluation in the GWRMP.

In addition to meeting the threshold screening criteria, each of these five sites was located in proximity to either DCTWRP or HSG to most effectively utilize the existing treatment, conveyance, and replenishment facilities. The five sites included two located at DCTWRP within the area protected by the existing flood control berm; two located at DCTWRP outside the area protected by the existing flood control berm; and one located at the LADWP Valley Generating Station (VGS), adjacent to HSG. While none of the five sites were eliminated from consideration in the GWRMP, a preferred site was identified for the AWPF located in the southwest corner of DCTWRP complex (DCT SW) based on various criteria, including maintaining flexibility for future planned phase expansions of DCTWRP recycled water treatment facilities, minimizing conflicts with Sepulveda Dam Flood Control Basin (Sepulveda Basin) functions, and maintaining the functional and logistical integrity of LASAN operations.

2.2.3 Draft EIR Proposed Project Site

Based on its selection as the preferred site in the GWRMP, DCT SW was the location for the AWPF indicated in the Notice of Preparation (NOP) for the Proposed Project Draft EIR, dated September 6, 2013. However, since the publication of the NOP, more detailed analysis for the Proposed Project has occurred, including further considerations related to preserving future potential expansion capability for both recycled water treatment and advanced water purification processes at DCTWRP. Based on this analysis, it was determined that DCT SW provided very limited capability to further expand the AWPF, if necessary in the future, because the site was physically constrained by adjacent uses. Therefore, a site in the southeast corner of the DCTWRP complex (DCT SE), which was also one of the five sites evaluated in the GWRMP, was further analyzed to determine its potential to preserve future expansion capability at DCTWRP.

DCT SE was not identified as the preferred site for the AWPF in the GWRMP because its location had previously been established as part of the area required for future phase expansions of the recycled water treatment facilities based on the Ultimate Development Plan for DCTWRP prepared in 1991. At the time of completion of the Ultimate Development Plan, the two existing 40-mgd recycled water treatment phases had been implemented, one in 1984 and one in 1991. However, since the preparation of the Ultimate Development Plan, technological advancements have significantly reduced the physical area requirements for recycled water treatment. Therefore it has now been determined that the AWPF could be accommodated at DCT SE without compromising a potential expansion of the recycled water treatment facilities within the area protected by the existing berm at DCTWRP. In addition, the DCT SE site would also provide greater flexibility than DCT SW to expand the AWPF in the future, if required, within the area protected by the existing berm. DCT SE has therefore been identified as the Proposed Project site to be analyzed in this Draft EIR.

2.3 Existing Setting

2.3.1 San Fernando Groundwater Basin

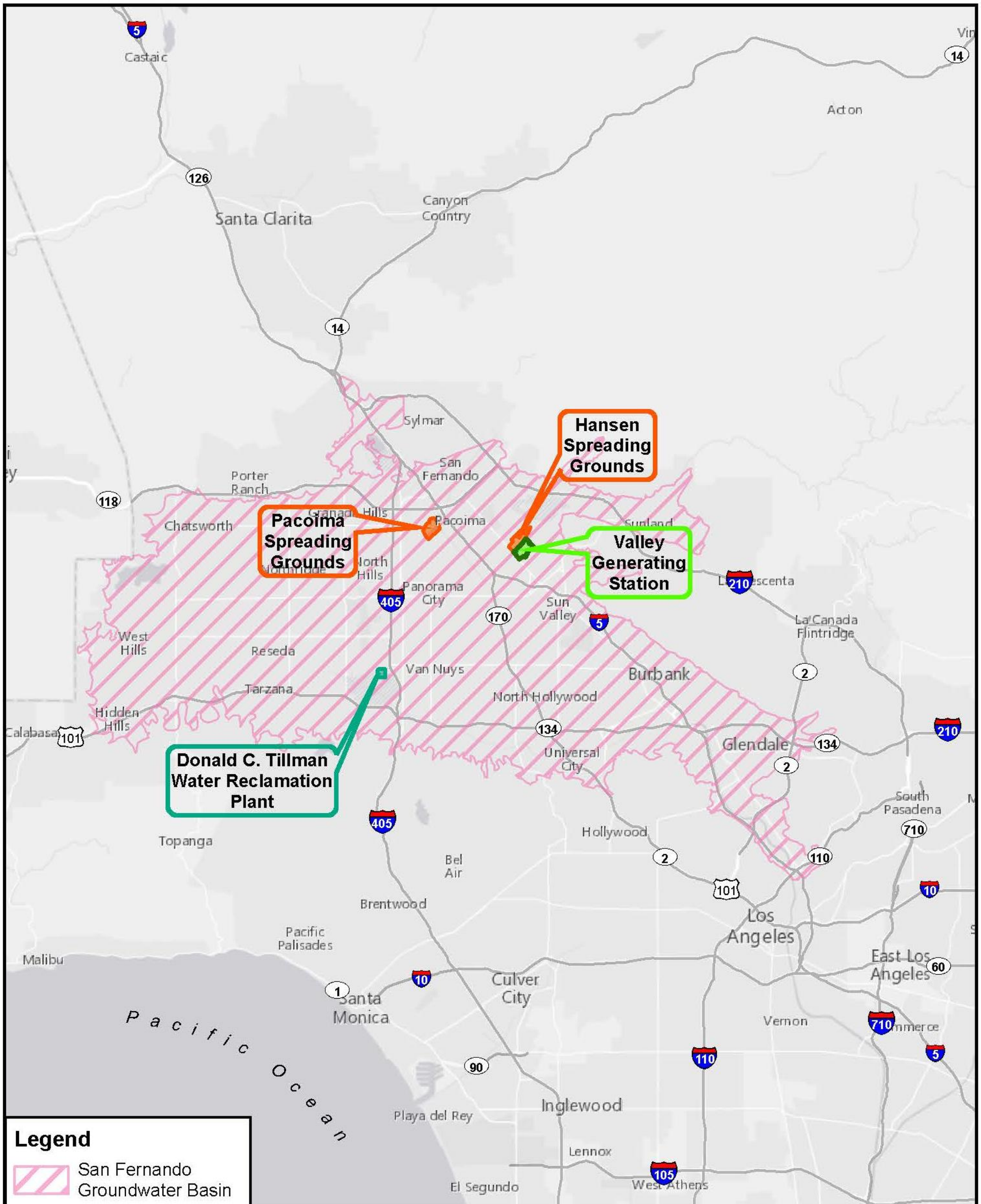
The Proposed Project is located in the central and eastern portions of the San Fernando Valley of the City of Los Angeles, which is underlain by the SFB (see Figure 2-1). The 112,000-acre SFB includes water-bearing sediments beneath the San Fernando Valley, Tujunga Valley, Browns Canyon, and the alluvial areas surrounding the Verdugo Mountains near La Crescenta and Eagle Rock. The SFB is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills. Groundwater levels in the SFB vary seasonally and by locality, with levels in the western section of the SFB at approximately 50 feet below ground surface and levels in the eastern section at between 200 and 500 feet below ground surface. LADWP currently holds adjudicated water rights to extract 87,000 AFY from the SFB. However, as mentioned above, allowable pumping would increase an amount equal to the GWR of the basin provided by the Proposed Project.

2.3.2 Donald C. Tillman Water Reclamation Plant

DCTWRP is located at 6100 Woodley Avenue, in the Encino and Van Nuys communities of the City of Los Angeles (see Figure 2-2 and Figure 2-3). The DCTWRP property is designated as Public Facilities and Open Space in the City of Los Angeles General Plan. It is located within the Encino-Tarzana Community Plan area. The zoning designation for the DCTWRP property is [Q]PF-1XL (Public Facilities) and OS-1XL (Open Space). DCTWRP is surrounded by, although not abutting, Victory Boulevard to the north, Woodley Avenue to the west and south, and Interstate 405 (I-405) to the east. It is immediately surrounded by Woodley Park on the west, south, and east, and by an Air National Guard facility on the north.

The DCTWRP property is located within the Sepulveda Basin, which is owned and managed by the United States Army Corps of Engineers (Corps) for the purposes of flood control, recreation opportunities, natural resources preservation and enhancement, and other uses. DCTWRP is operated by LASAN under a lease agreement with the Corps. The currently developed portions of the DCTWRP complex are generally separated from the surrounding Sepulveda Basin property by berms or walls, which have a top elevation of 715.0 feet above mean sea level. These berms and walls protect the property from flooding from a 100-year storm flood event, which may reach an elevation of 712.0 feet. Based on updated flood control requirements issued by the Corps and on revised estimates for the flood potential in the basin, the existing berm and wall at DCTWRP will be raised to provide protection to the existing facilities from a Probable Maximum Flood event, which may reach an elevation of about 716.5 feet. These improvements to the berm and wall are anticipated to commence in 2016 and be completed in 2017, prior to the initiation of construction for the proposed LAGWR Project.

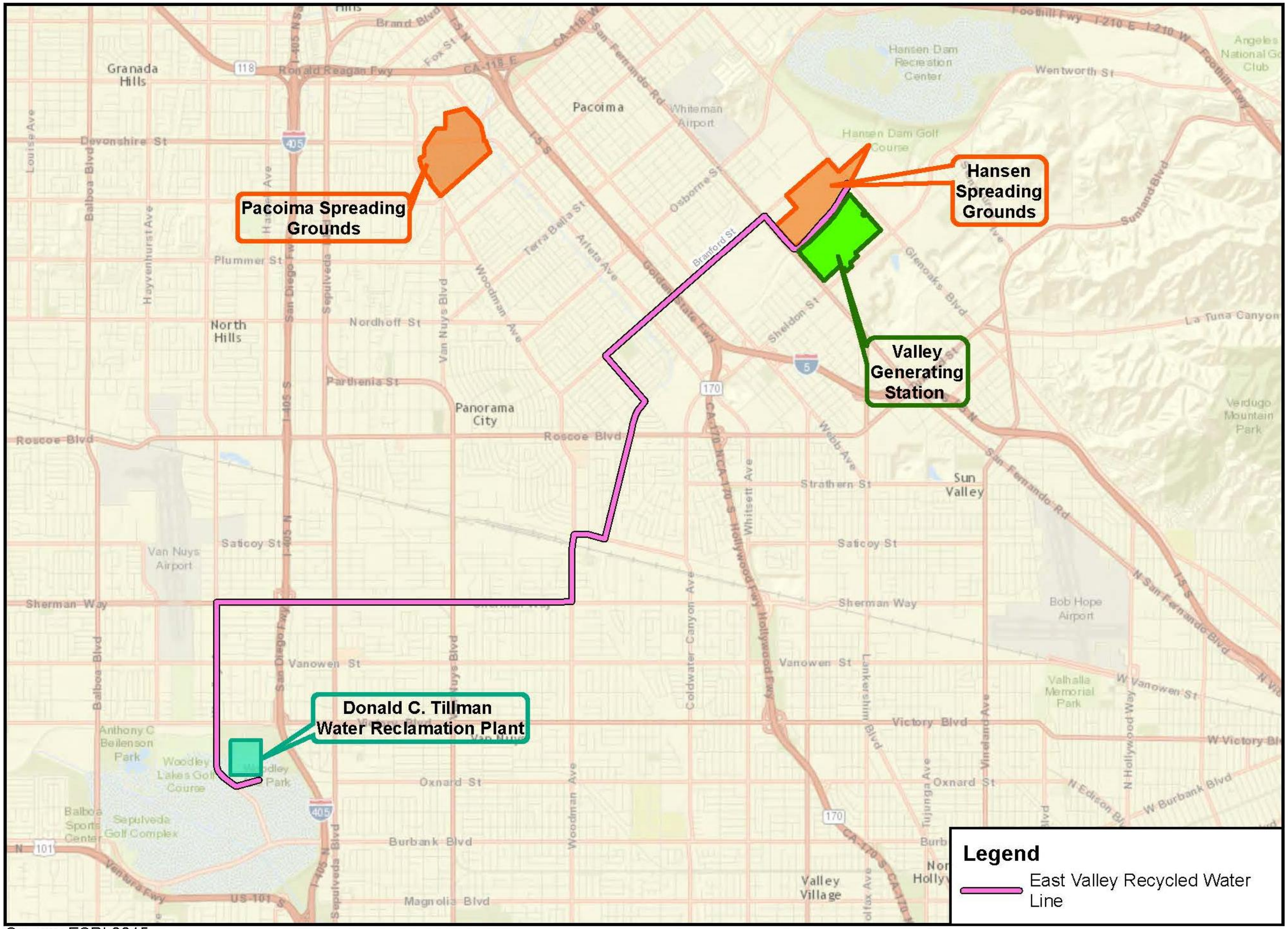
DCTWRP began operating in 1985 as a water reclamation facility. While the DCTWRP lease encompasses approximately 96 acres within the Sepulveda Basin, the current wastewater treatment facilities, including support functions such as administration, storage, and maintenance, occupy only about 50 acres, which, as mentioned above, are protected by a flood control berm and wall. DCTWRP is a biological nutrient removal, activated sludge treatment facility with an 80-mgd treatment capacity consisting of two separate 40-mgd phases. Wastewater is received at the headworks facility located in the northern part of DCTWRP from the 96-inch Additional Valley Outfall Relief Sewer (AVORS) and the 80-inch East Valley Interceptor Sewer (EVIS) and undergoes primary treatment, biological nutrient removal, filtration, and disinfection to provide a tertiary level of wastewater treatment.



Source: ESRI 2015

0 5 10 Miles

Figure 2-1
Regional Location Map



Source: ESRI 2015

Figure 2-2
Existing Facilities Overview

Figure 2-3
DCTWRP Vicinity Map

The Japanese Garden, dedicated in 1984, occupies about 6.5 acres in the northwest corner of the DCTWRP property, and is also located within the area protected by the flood control berm and wall. Recycled water from DCTWRP is currently delivered to the Japanese Garden lake. Access to the garden is from Woodley Avenue at the southwest corner of the DCTWRP property. A parking lot for about 100 vehicles is located south of and adjacent to the garden. The Balboa Pump Station, located in the southeast corner of the DCTWRP property, consists of three 18-cubic feet per second, 1,000 horsepower pumps, with provisions to add three more pumps. An existing 10-mile-long, 54-inch-diameter pipeline, the East Valley Recycled Water Line (EVRWL), currently connects the Balboa Pump Station to HSG and the Hansen Storage Tank, which is located at VGS, adjacent to HSG. The pump station and pipeline are currently used to convey DCTWRP recycled water to irrigation and industrial customers in the San Fernando Valley. Although the EVRWL connects to HSG, no recycled water is currently delivered to the spreading grounds itself.

2.3.3 Hansen Spreading Grounds

HSG is located in the Sun Valley community of the City of Los Angeles, along the northwest side of the Tujunga Wash Channel (see Figure 2-4). It is bordered by Branford Street to the northwest, Glenoaks Boulevard to the northeast, the Tujunga Wash Channel to the southeast, and San Fernando Road to the southwest. HSG is operated by the Los Angeles County Department of Public Works (LACDPW). It is designated as Open Space in the City of Los Angeles General Plan. It is located within the Sun Valley-La Tuna Canyon Community Plan area. The zoning designation for HSG is OS-1XL (Open Space). The Hansen Dam Recreation Area is located to the northeast. HSG is surrounded by open space, light manufacturing uses, and VGS.

HSG receives controlled flows from Hansen Dam and Big Tujunga Dam. It occupies 156 gross acres and includes eight medium spreading basins occupying 117 wetted acres. It has an estimated maximum storage volume of 460 million gallons (mg), an intake capacity of 380 mgd, and an average percolation rate of approximately 100 mgd.

2.3.4 Pacoima Spreading Grounds

PSG is located in the Pacoima community of the City of Los Angeles, adjacent to Pacoima Wash and the Pacoima Diversion Channel (see Figure 2-5). It is bordered by residential neighborhoods to the northwest and west, Woodman Avenue to the southwest, Filmore Street to the southeast, and Arleta Avenue to the northeast. PSG is also traversed by Devonshire Street, east to west. PSG is operated by LACDPW. It is designated primarily as Open Space in the City of Los Angeles General Plan, with some small areas of Public Facilities. Parts of PSG are located within both the Arleta-Pacoima Community Plan area and the Mission Hills-Panorama City-North Hills Community Plan area. The zoning designation for PSG is primarily OS-1XL-O, with some small areas of PF-1XL-O. PGS abuts Devonwood and Devonshire Arleta Parks and is surrounded by residential uses.

PSG receives controlled flows from Pacoima Dam, partially controlled flows from Lopez Flood Control Basin, and uncontrolled storm flows from East Canyon Channel and Pacoima Wash. It also receives imported water for groundwater replenishment. PSG occupies 169 gross acres and includes twelve shallow spreading basins occupying 107 wetted acres. It presently has an estimated maximum storage volume of 173 mg, an intake capacity of 388 mgd, and an average percolation rate of approximately 42 mgd.

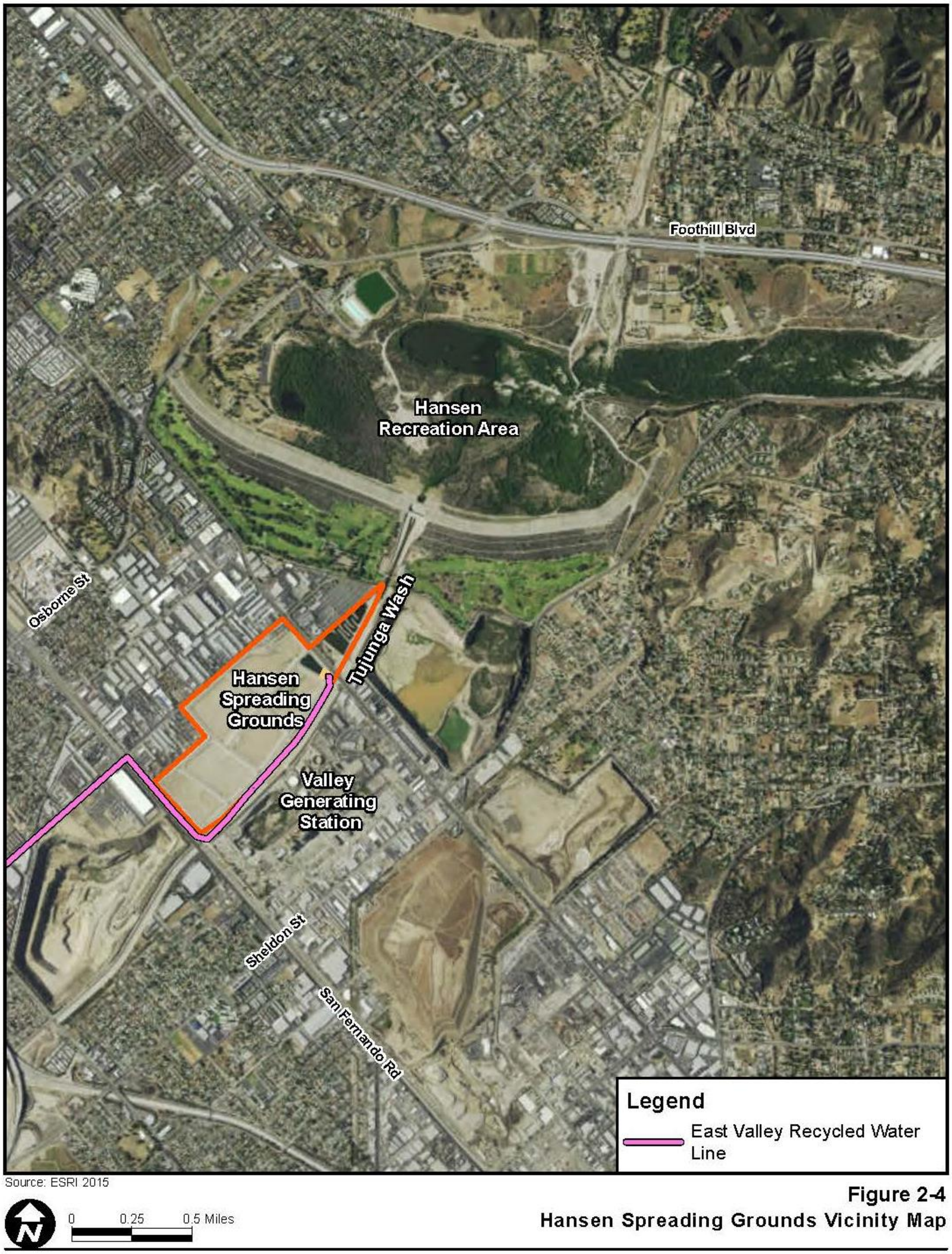
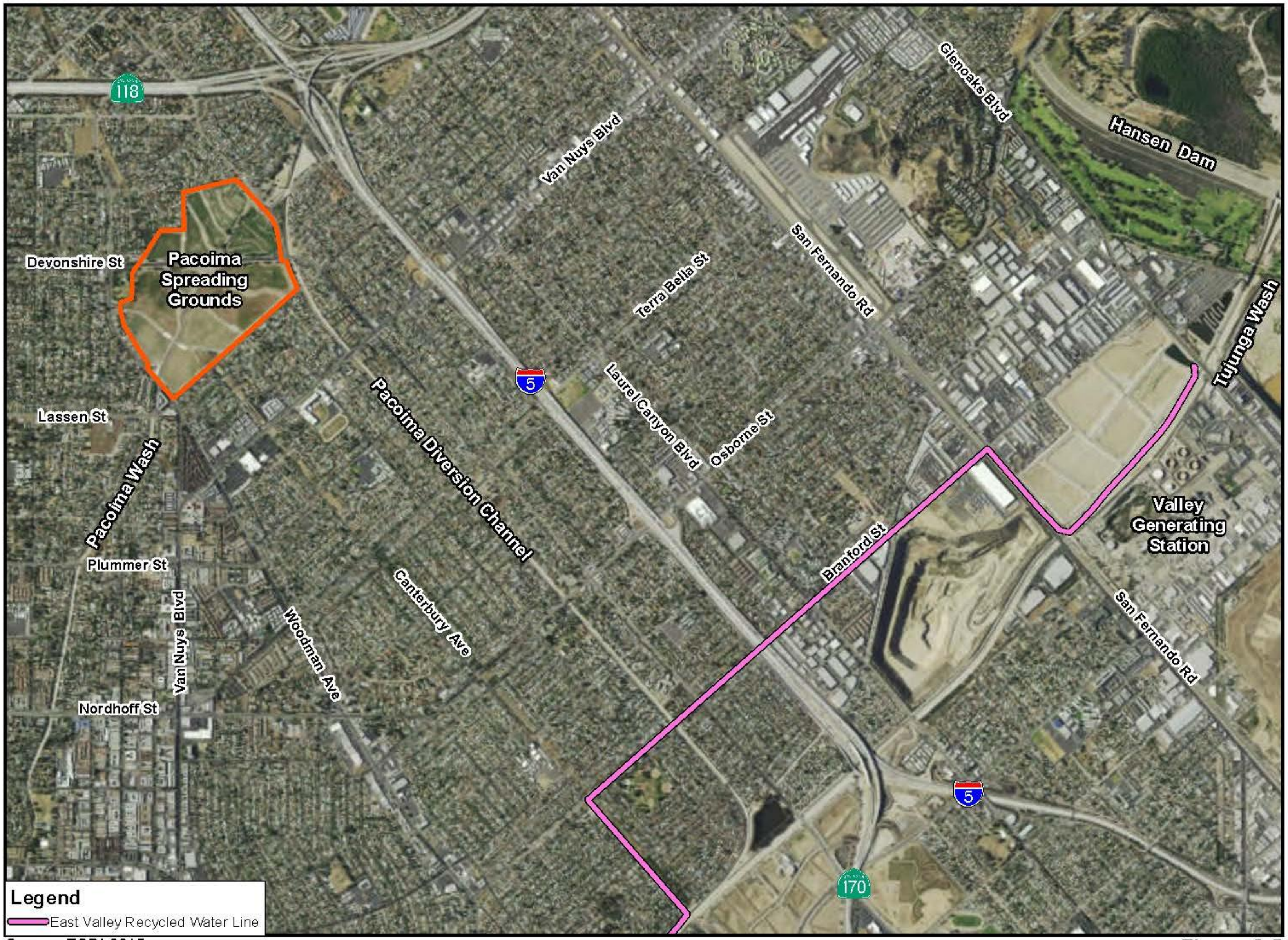


Figure 2-4
Hansen Spreading Grounds Vicinity Map



Source: ESRI 2015

0 0.5 1 Miles

Figure 2-5
Pacoima Spreading Grounds Vicinity Map

However, LACDPW is undertaking a project that would modify the configuration of PSG to increase detention capacity and recharge rate and to provide the maximum storage flexibility between the different basins. The total storage volume would be increased to 390 mg, and the percolation rate would be increased to 92 mgd. Construction is anticipated to commence in 2016 and be completed in 2018, prior to the initiation of construction at PSG for the Proposed LAGWR Project.

2.3.5 DCTWRP Existing Operations and Outflows

As discussed above, DCTWRP currently has a capacity to treat up to 80 mgd of wastewater if both the existing 40-mgd phases are operational. However, only a single phase is currently operated at a given time because the demand and infrastructure for recycled water is insufficient to warrant operating both phases simultaneously. This limited demand is partially attributable to discontinuing earlier proposed projects utilizing the recycled water effluent from DCTWRP for groundwater replenishment due to public concerns about the use of recycled water as an indirect source of potable water. The wastewater that would otherwise reach DCTWRP via the AVORS and EVIS and be treated in the second 40-mgd phase instead currently bypasses the plant and is conveyed to Hyperion Treatment Plant in Playa Del Rey, where it undergoes a secondary level of treatment and is discharged into Santa Monica Bay.

The recycled water currently produced at DCTWRP is used in several ways. A small portion (about 2 mgd) is needed for various in-plant processes. An average of approximately 4 mgd is used for NPR, such as large irrigation customers and industrial process customers. The large majority of the recycled water is directed through a network of pipes to various water bodies located in the Sepulveda Basin. These include the Japanese Garden lake (adjacent to the DCTWRP complex), Lake Balboa (approximately 0.75 miles west of DCTWRP), and the Wildlife Lake (approximately 0.25 miles southeast of DCTWRP). This water reaches the Los Angeles River from overflow from the lakes. This flow-through process serves to maintain water quality within the lakes to prevent fish kills, odor problems, and algae blooms. Additionally, intermittent overflows from an operational safety weir within DCTWRP discharge into a pipeline which also carries stormwater and flows from the Japanese Garden lake to the Los Angeles River at a discharge point located south of Sepulveda Dam, approximately 1.1 miles south of DCTWRP (see Figure 2-6).

Consistent with the goal of expanding NPR use, connections were completed by early 2015 to large NPR customers served by recycled water generated at DCTWRP. With the exception of a few smaller NPR customers that are scheduled to come online in 2016, with the inclusion of these large customers, the NPR program from DCTWRP is complete. Therefore, 2015 is representative of the existing annual operations relative to the distribution of recycled water from DCTWRP and is reflective of the expected pre-Project flows to the lakes and the Los Angeles River. The average daily flows for each month during 2015 are shown in Table 2-1. The flows over the weir were calculated by deducting the metered flows to the lakes and metered NPR use from the total recycled water production at DCTWRP. The flows at the weir fluctuate throughout the year based on several factors, including variable rates of production, in-plant use, and NPR consumption related to weather and other circumstances. The average daily flow from DCTWRP to the Los Angeles River via the lakes and the weir throughout the year was about 27.1 mg.

Table 2-1
Flows to Lakes and Los Angeles River (mgd)

	Lake Balboa	Japanese Garden Lake	Wildlife Lake	Total Lakes	Operational Safety Weir	Total to River
Jan 2015[1]	7.6	3.8	4.9	16.3	13.7	30.0
Feb 2015	15.2	3.9	4.0	23.1	5.7	28.8
Mar 2015	15.7	4.1	3.8	23.6	6.2	29.8
Apr 2015	14.1	4.2	4.5	22.8	5.7	28.5
May 2015	13.4	4.3	4.9	22.6	3.1	25.7
Jun 2015	14.4	4.1	4.8	23.3	2.8	26.1
Jul 2015	14.6	4.0	4.8	23.4	2.5	25.9
Aug 2015	14.3	4.1	4.9	23.2	2.1	25.4
Sep 2015	14.0	4.0	5.0	23.0	2.9	25.9
Oct 2015	14.6	4.1	4.5	23.2	4.2	27.4
Nov 2015	15.3	4.1	4.7	24.1	3.9	28.0
Dec 2015[2]	10.8	4.1	4.4	19.3	3.8	23.1
Average	13.7	4.1	4.6	22.3	4.7	27.1

1. Pump at Lake Balboa was inoperative for part of January 2015, resulting in lower flows to the lake and higher flows over the weir.

2. Switchover of operational phases at DCTWRP resulted in reduced monthly production and lower flows to Lake Balboa.

Figure 2-6
DCTWRP Discharge Flows

2.4 Project Purpose, Need, and Objectives

2.4.1 Purpose and Need

The primary objective and fundamental purpose of the Proposed Project is to supplement the City of Los Angeles' local potable water supply through GWR with up to 30,000 AFY of purified water in order to reduce dependence on imported water and diversify the City's water portfolio, thereby increasing system reliability and sustainability. In normal precipitation years, the City relies on four sources to meet its water needs: 1) approximately 36 percent from snowmelt from the Eastern Sierra conveyed to the City by the Los Angeles Aqueduct system; 2) approximately 52 percent from purchases from the Metropolitan Water District of Southern California (MWD) conveyed from the Colorado River through the Colorado River Aqueduct and from the State Water Project via the California Aqueduct; 3) approximately 11 percent from local groundwater; and 4) approximately 1 percent from recycled water, which is currently used for NPR. Although imported water resources have served the City for over a century, several factors have converged that threaten the long-term reliability of these supplies. Climatic conditions, including consecutive years of below historically average snowfall, and environmental commitments have severely impacted imported water supply sources, as explained below.

The City's right to import water from the Eastern Sierra is based on approximately 185 water rights from various rivers, lakes, and creeks in the Mono Basin and Owens River watershed. The City also owns the majority of land (approximately 315,000 acres) and associated riparian water rights in the Owens Valley. The Los Angeles Aqueduct system deliveries from the Eastern Sierra have historically varied with rainfall and snowpack conditions. However, over the last two decades, the City's water deliveries from the aqueducts have also been substantially reduced due to reallocation of water for environmental mitigation and enhancement activities. Among these are commitments related to the State Water Resources Control Board's Mono Lake Decision, which reduced LADWP's ability to export water from the Mono Basin from 90,000 AFY to 16,000 AFY; implementation of the Owens Lake Dust Mitigation Program, according to which the LADWP is currently delivering up to 95,000 AFY to the lake; implementation of the 1997 Memorandum of Understanding (MOU) between LADWP and the MOU Ad Hoc Group, which commits LADWP to supply 1,600 AFY for various environmental mitigation efforts; and the rewatering of the Lower Owens River, which reduces water exports by approximately 17,000 AFY. These actions have resulted in a total loss of up to 188,000 AFY of water imports from the Eastern Sierra.

MWD's sources of water (the Colorado River, the State Water Project, local surface and groundwater storage, and stored/transferred water from Central Valley and Colorado River agencies) are subject to great uncertainty due to climate variability and environmental issues. Environmental conditions in the San Francisco Bay/Sacramento-San Joaquin Delta led to a Federal Court decision that resulted in MWD receiving up to 30 percent less of the previously anticipated State Water Project deliveries. Between April 2009 and April 2011, MWD implemented an allocation plan that limited supplies to member agencies and imposed penalties for exceeding water usage targets. Based on recent mandatory conservation orders from the State of California, MWD has also implemented an additional 15 percent average reduction in wholesale water deliveries to member agencies.

In response to these challenges related to its traditional imported water supplies, the City has embarked upon an aggressive effort to maintain reliable and sustainable sources of water. The five strategies developed by the City include: 1) increasing water conservation; 2) increasing water recycling; 3) enhancing stormwater capture; 4) accelerating groundwater cleanup; and

5) implementing green building initiatives. These strategies are not alternative means to achieve water supply goals but are complementary and mutually inclusive. As discussed above, in relation to the strategy of increasing water recycling, LADWP is currently in the process of developing infrastructure and projects that would provide a total of 19,350 AFY of recycled water NPR. The remaining 39,650 AFY required to meet the established goal of 59,000 AFY of recycled water use by 2035 includes about 9,605 AFY for additional NPR and 30,000 AFY of purified water for GWR.

To achieve the GWR goal, the Proposed Project would capitalize on existing facilities, including the existing DCTWRP, which has currently underutilized capacity to provide the recycled water influent necessary for the proposed AWPF; the existing 10-mile EVRWL interconnecting DCTWRP and HSG, which has capacity to transport the required volume of purified water to support the GWR objective; and the existing HSG and PSG, which have available capacity to accommodate the spreading of purified water for GWR. While the use of these existing facilities would provide for a number of the major components of the Proposed Project, several new facilities would also be required. These would include an AWPF and support facilities located at DCT SE; a new 3,000-foot brine pipeline to transport the brine flow from the new AWPF to an existing sewer main for processing at the Hyperion Treatment Plant; three new pumps at the existing Balboa Pump Station, also located in the southeast corner of DCTWRP; approximately 2.5 miles of new pipeline to transport purified water from the EVRWL to PSG; and new outlet and gate structures at HSG and PSG.

2.4.2 Project Objectives

Specific objectives related to the fundamental purpose of the Project to increase local GWR to help reduce dependence on imported water include:

- Providing up to 30,000 AFY of purified water for GWR in the SFB.
- Utilizing the available underused treatment capacity of DCTWRP to provide recycled water for the advanced water purification process.
- Utilizing the available spreading capacity of HSG and PSG to replenish the SFB through the percolation of purified water.
- Utilizing existing infrastructure, to the extent feasible, to convey recycled water from DCTWRP to HSG and PSG.
- Maintaining the existing levels of recycled water supplies for NPR customers and other beneficial uses.
- Maintaining the functional and logistical integrity of LASAN operations.
- Preserving future potential expansion capability for recycled water treatment and advanced water purification processes.

2.5 Project Facilities

As mentioned above, a number of facilities, both within and outside the DCTWRP complex, would be required to provide the treatment, conveyance, and replenishment functions for the Proposed Project. Table 2-2 provides a summary of the Proposed Project components.

Table 2-2
Summary of Proposed Project Components

Project Component	Key Facts	Proposed Facilities
Treatment		
DCT SE	§ AWPF at DCT SE § Treat up to 44 mgd of recycled water to generate up to 35 mgd of purified water § 16 additional full time staff to operate	§ AWPF, including approximately 32,000 square feet for MF and 32,000 square feet for RO functions contained in 2 story building § Expansion of primary flow equalization tanks § New electrical power substation § Three new pumps added to Balboa Pump Station § Expansion/modification of DCTWRP maintenance building § New DCTWRP warehouse building § 3,000 linear feet of new 24-inch brine pipeline to sewer connection
Conveyance		
	§ Use existing EVRWL from DCTWRP to HSG	§ 11,000 linear feet of new 42-inch pipeline from EVRWL to PSG along Arleta Avenue
Replenishment		
HSG	§ Up to 19,000 AFY of GWR from Project (up to 30,000 AFY when combined with GWR at PSG)	§ 1 new outlet structure § 200 linear feet of new pipeline within HSG
PSG	§ Up to 23,000 AFY of GWR from Project (up to 30,000 AFY when combined with GWR at HSG)	§ 2 new outlet structures § 1,500 linear feet of new pipeline within PSG

2.5.1 DCTWRP

Advanced Water Purification Facilities

The AWPF is the primary facility required to purify the recycled water produced by the existing DCTWRP recycled water treatment facilities. The AWPF would be located in the southeast corner of the DCTWRP complex, within the existing flood protection berm, as depicted in Figure 2-7. The site for the AWPF is approximately 1.75 acres and is currently vacant. As presently planned, the AWPF would utilize purification processes and technologies that may include ozonation, BAC, MF, RO, and/or AOP systems to produce purified water. However, other purification processes and technologies will be evaluated during pilot testing for efficiency and cost effectiveness and remain under consideration for the AWPF. If these alternative processes and technologies prove to be feasible and are ultimately selected for the Proposed Project AWPF, they are not anticipated to require any addition physical space or construction activity beyond that required for the processes currently under consideration in this Draft EIR. The MF/RO functions would require a total of about 64,000 square feet. However, because of the limited size of the existing site (less than 2 acres), the MF/RO functions would be divided equally between two stories, with a building height of approximately 54 feet. Other AWPF functions would be housed in single story structures or under canopies. In addition, a portion of the existing disinfection contact tanks, which would not be required for either the recycled water treatment or the water purification process, would be converted for the ozonation and BAC processes. To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the AWPF.

Figure 2-7
Proposed Project, DCTWRP Facilities

Warehouse and Maintenance Facilities

Although maintenance and warehouse facilities currently exist at DCTWRP, they would require expansion to support the advanced water purification processes in terms of material, equipment, and shops. The existing warehouse and maintenance functions are located in the southwestern corner of DCTWRP, but there is inadequate space available adjacent to the facilities to expand to accommodate the AWPF support functions. Therefore, in order to provide for the expansion of these facilities and to consolidate like functions (i.e., all warehouse functions and all maintenance functions) at DCTWRP, a new warehouse would be constructed in the northwest corner of the complex, as depicted in Figure 2-7. This site is approximately 0.75 acres and is currently vacant and partially used for materials storage. This facility would accommodate all warehousing functions at DCTWRP to support both the recycled water treatment and advanced water purification processes.

By relocating and consolidating the warehousing functions to the northern part of DCTWRP, all maintenance functions (i.e., for both recycled water treatment and advanced water purification processes) could be located at the site of the existing maintenance/warehouse complex in the southwest corner of DCTWRP (see Figure 2-7). However, some modification and/or expansion of the existing facilities would be required. These improvements would remain within the overall footprint of the existing maintenance/warehouse facilities site, including vehicle access and parking areas.

Flow Equalization Tank

The expansion of the flow equalization tanks would provide storage capacity to temporarily retain influent, which could then be released into the treatment system at a controlled rate to help maintain a constant volume of influent into the system even while external flows into the plant may vary considerably on a diurnal basis. Maintaining uniform conditions maximizes the capacity of the treatment system while improving efficiency and reliability by minimizing potentially wide fluctuations in volume. The proposed equalization tank would provide about 7 mg of influent storage capacity. It would be located in the northeastern part of the DCTWRP complex, as depicted in Figure 2-7. The site for the equalization tanks is approximately 1.75 acres and is currently vacant.

Ancillary Facilities

Some ancillary facilities would also be required to support the AWPF and GWR operations at DCTWRP. Due to the electric power demand to operate the AWPF, a new substation would be constructed. It would be located in the south-central part of DCTWRP, between the existing disinfection contact tanks. This site is approximately 0.2 acres and is currently occupied by a dechlorination facility, which is no longer utilized and would be demolished.

The existing Balboa Pump Station, located adjacent to the berm in the far southeast corner of the DCTWRP complex, would also be expanded to support the pumping of the purified water produced at the AWPF to HSG via the existing EVRWL and to PSG via the EVRWL and a proposed 42-inch line. The improvements at the pump station would involve adding three additional pumps at a previously constructed but unused connection to the EVRWL.

Brine Line

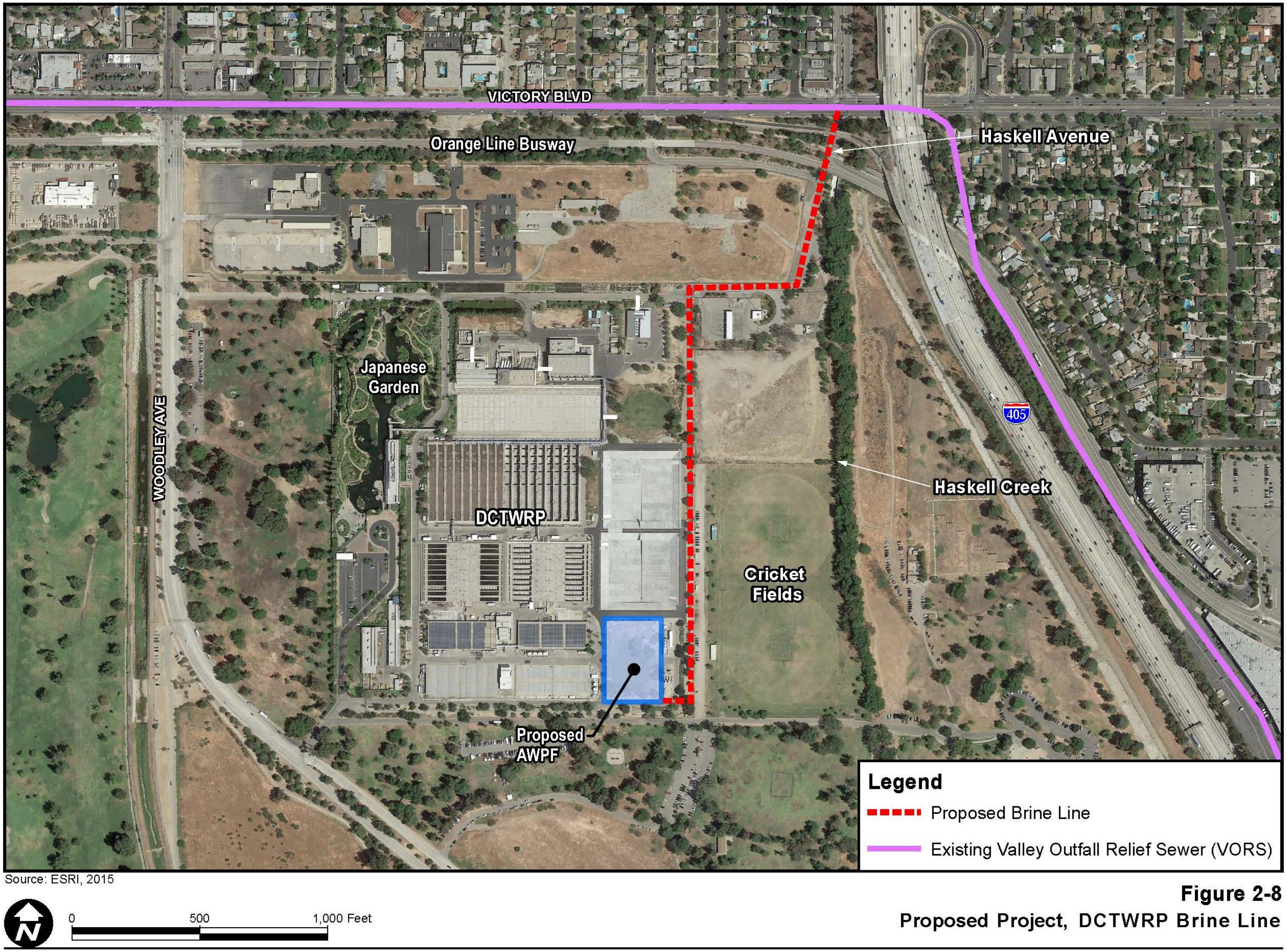
The RO system in the AWPF would remove dissolved solids from the recycled water by forcing it under pressure through a semi-permeable membrane that allows the passage of water molecules but leaves behind a concentrated brine solution. This brine solution must be routed to the sewer system to be transmitted with other wastewater streams to the Hyperion Treatment Plant in Playa Del Rey for further processing. Although the AVORS line traverses the DCTWRP property, it cannot be used to transport brine because flows from the AVORS are collected downstream at the Los Angeles-Glendale Water Reclamation Plant for recycling. The nearby Valley Outfall Relief Sewer (VORS), which runs eastward along Victory Boulevard and turns southward east of I-405, is connected to a diversion structure that can direct the brine to Hyperion Treatment Plant. To reach the VORS from the AWPF, a 24-inch-diameter brine line would be routed easterly from the AWPF beneath the existing flood control berm, northerly along the road located west of the cricket fields, easterly and then northeasterly along the DCTWRP access road, passing beneath the Orange Line Busway, and following Haskell Avenue to connect with the VORS in Victory Boulevard west of the I-405 (see Figure 2-8). The length of the brine line would be approximately 3,000 feet, with approximately 300 feet located within public roads.

2.5.2 Recycled Water Pipeline

Purified water produced at the AWPF would be conveyed to HSG using the existing EVRWL, which currently conveys recycled water from the Balboa Pump Station to the Hansen Storage Tank at VGS, adjacent to HSG. However, a new pipeline branch would need to be constructed from the EVRWL to PSG, as shown in Figure 2-9. The new 42-inch-diameter pipeline would start at the intersection of Branford Street and Arleta Avenue and proceed northwesterly along Arleta Avenue to PSG. This pipeline segment would be approximately 11,000 feet long. A continuation of this pipeline would be located within PSG property to connect to proposed outlet structures adjacent to Devonshire Street, as further discussed below.

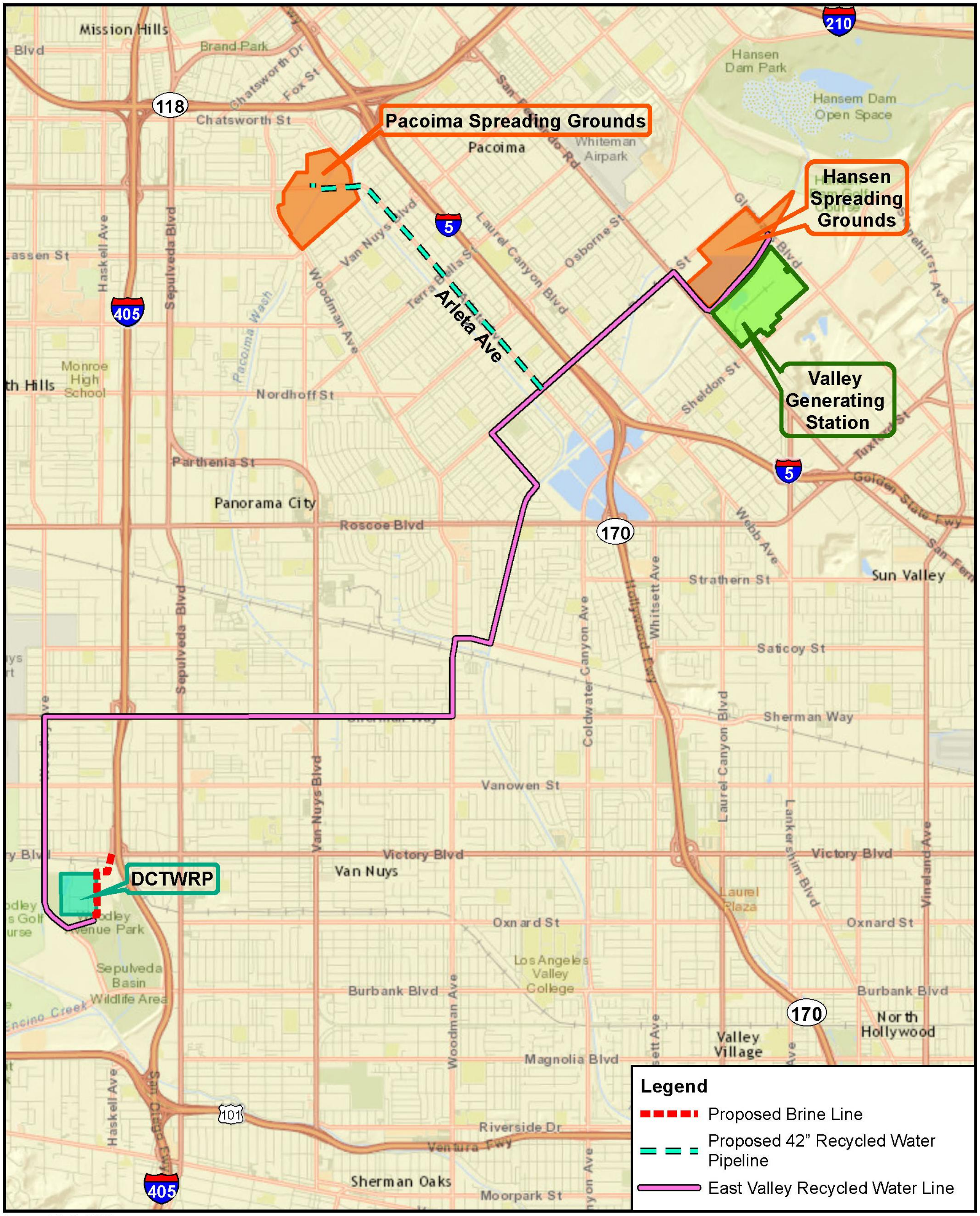
2.5.3 Pacoima Spreading Grounds

As mentioned above, purified water would be conveyed to PSG through a new 42-inch-diameter pipeline connecting to the EVRWP and extending from Branford Street northwest along Arleta Avenue. However, additional improvements would be required to deliver the purified water to the individual spreading basins within PSG. A gate structure would be installed within the PSG property near the intersection of Arleta Avenue and Devonshire Street, at the end of the proposed 42-inch pipeline. The 42-inch pipeline would then continue from the gate structure westerly within PSG adjacent to Devonshire Street. A crossing in Devonshire Street would also be necessary to connect the southern and northern portions of PSG. This pipeline would be approximately 1,500 feet in length. Outlet structures to discharge purified water to one or more of the basins would also be installed, as shown in Figure 2-10.



Source: ESRI, 2015

Figure 2-8
Proposed Project, DCTWRP Brine Line



Source: ESRI, 2016

0 1 2 Miles

Figure 2-9
Existing and Proposed Pipelines

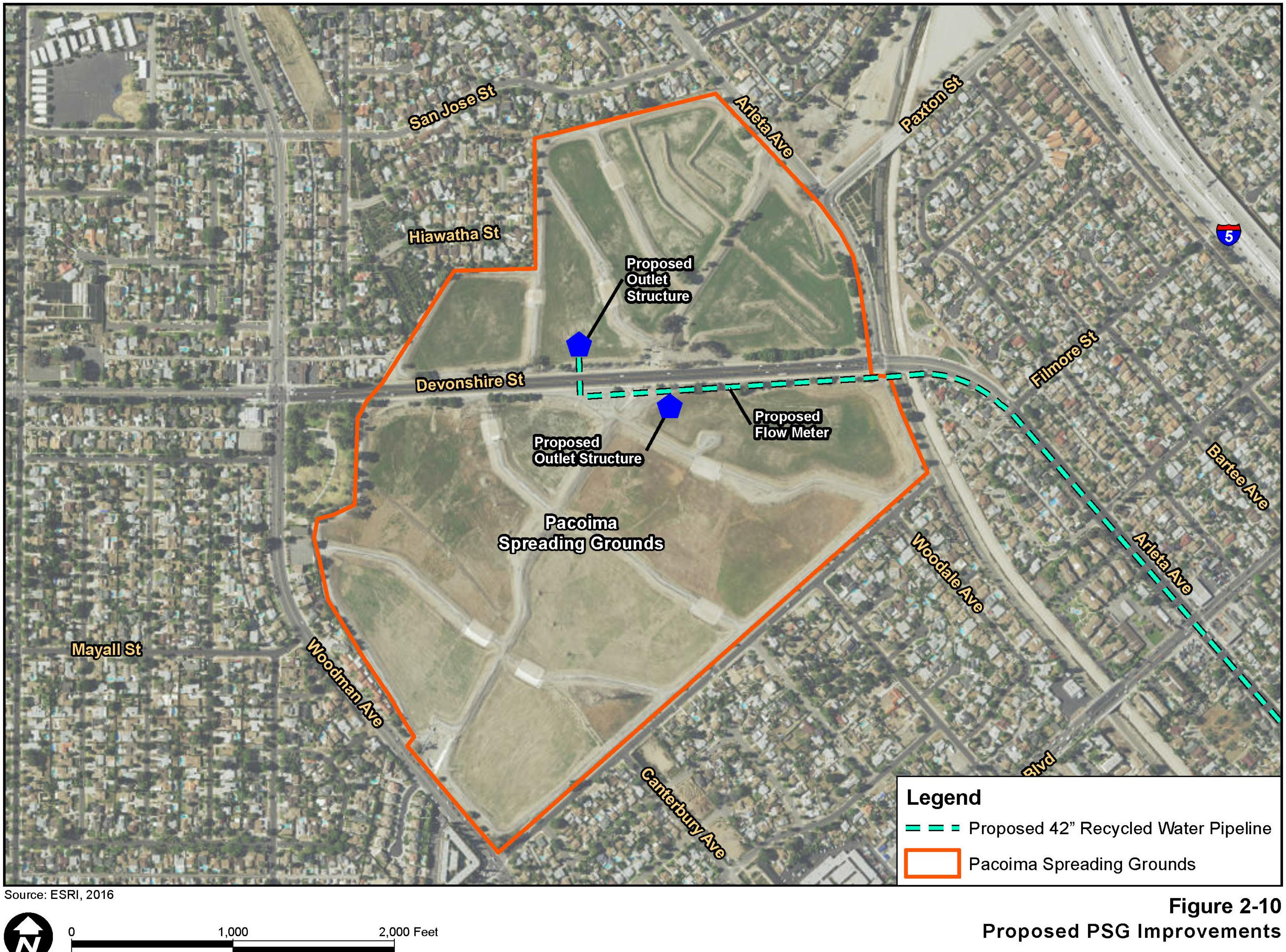


Figure 2-10
Proposed PSG Improvements

2.5.4 Hansen Spreading Grounds

As mentioned above, purified water would be conveyed to HSG through the existing EVRWL from DCTWRP. However, additional ancillary facilities would be constructed at HSG to allow for system flexibility, including directing purified water to various spreading basins individually or in combination. A new pipeline of approximately 200 linear feet and an outlet structure would be installed from the existing EVRWL to a location in the southwest part of the basin (see Figure 2-11). A gate valve would also be installed at the end of the existing line in the northeast part of the basin. These facilities would provide the ability to control the flow of the purified water to different basins within HSG as necessary.

2.6 Project Construction

Construction of the Proposed Project would commence in fourth quarter of 2018 and is expected to last over 4 years, ending in late 2022. As indicated in Figure 2-12, construction would be conducted in several phases, which may partially overlap in schedule, especially since construction would occur at several physically separated sites (i.e., DCTWRP, HSG, PSG, and within City streets). Construction activities would typically occur from 7:00 a.m. to 3:30 p.m., but construction in major City streets would generally not begin before 9:00 a.m. in accordance with the City of Los Angeles Mayor's Executive Directive No. 2, which prohibits construction on selected roads between 6:00 a.m. and 9:00 a.m. and between 3:30 p.m. and 7:00 p.m.

2.6.1 DCTWRP

As currently planned, construction at DCTWRP would include the following activities, in the general sequence described:

- Clearing, grading, excavation, and foundation construction for the warehouse building located in the northwestern portion of the DCTWRP property.
- Construction of the warehouse.
- Demolition (as required), grading, excavation, and foundation construction for the maintenance buildings located in the southwest corner of the DCTWRP property, at the site of the existing maintenance/warehouse building.
- Renovations and new construction for the maintenance building.
- Excavation and construction of the new flow equalization tank.
- Clearing, grading, excavation, and foundation construction for the AWPF.
- Construction of the AWPF and ancillary support facilities, including the primary MF/RO building, the AOP and chemical storage areas, the ozonation/BAC facility, the MF feed pump station, chemical system facilities, and the substation.
- Equipment installation for MF, RO, AOP, ozonation, and BAC.
- Installation of new piping within DCTWRP, including influent lines, product water pipeline, discharge line, and other piping modifications to accommodate the AWPF operations.
- Construction of the brine line.
- Expansion of the existing Balboa Pump Station.
- Integration with utility, fire alarm, security, and distributed control systems.

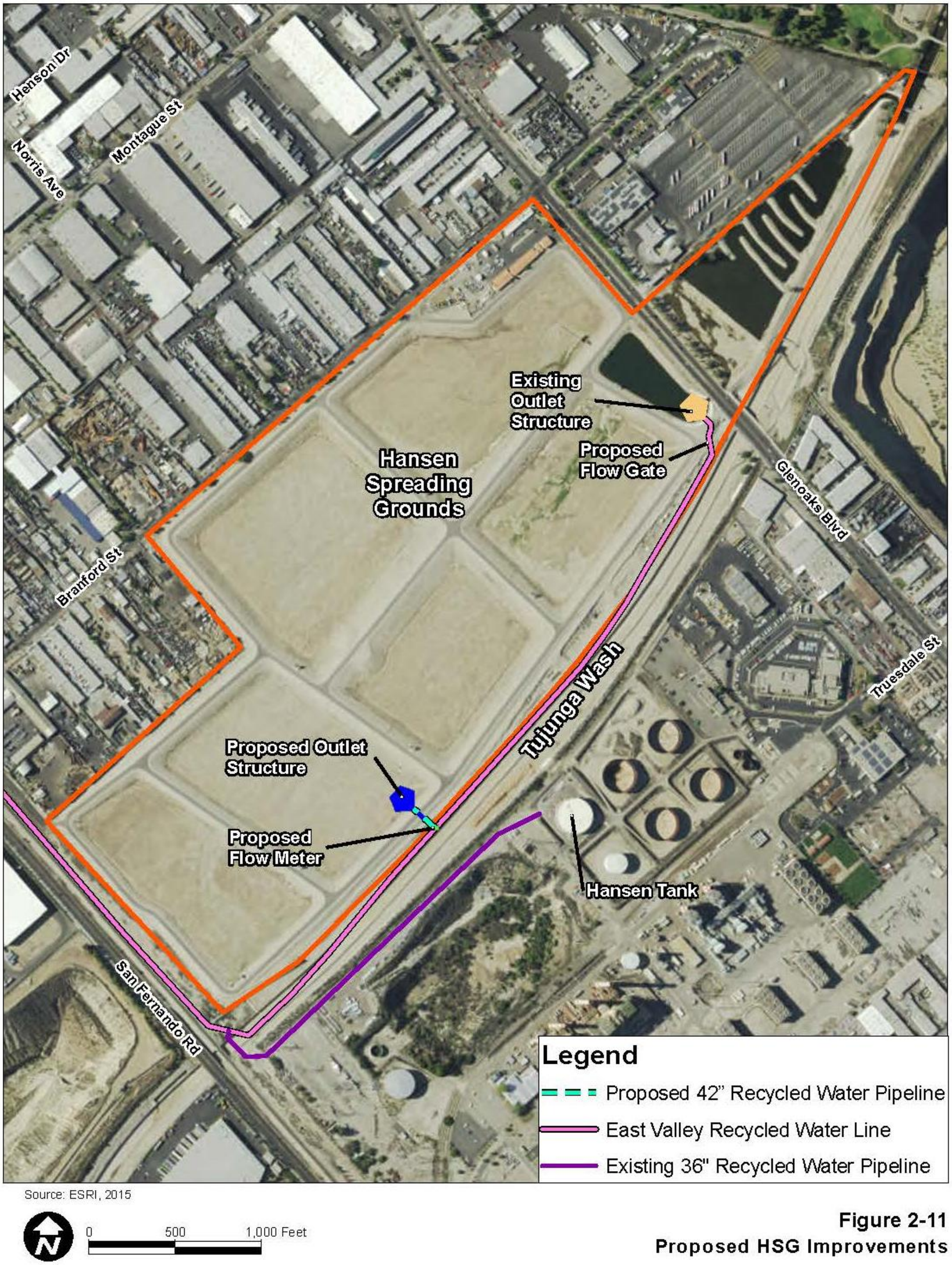


Figure 2-11
Proposed HSG Improvements

Year	*2018*				*2019*				*2020*				*2021*				*2022*			
Quarter	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*
Construction at DCTWRP																				
Warehouse Building				12 months																
Maintenance Building							12 months													
Flow Equalization Tank								18 months												
AWPF											30 months									
Brine Line														9 months						
Expansion of Balboa Pump Station																	12 months			
Offsite Construction																				
Purified Recycled Water Pipeline											18 months									
Pacoima Spreading Grounds																	9 months			
Hansen Spreading Grounds																				3 mon

Figure 2-12

Project Construction Phases and Schedule

Warehouse

Construction of the warehouse is expected to take approximately 12 months, commencing in the fourth quarter of 2018. It would consist of several tasks, including clearing the site, grading and excavation, foundation construction, and building construction. The number of construction personnel on site would vary from day to day, but an average of 20 personnel per day is anticipated. Construction would require the operation of heavy equipment, including bulldozers, compactors, excavators, backhoes, forklifts, loaders, and truck-mounted cranes. An average of four pieces of equipment would operate per day during construction. There would be an average of approximately four daily truck trips during the majority of the construction period, with approximately ten trips per day during grading, excavation, and foundation work at the beginning of construction.

Maintenance Building

Construction of the maintenance building is also expected to take approximately 12 months, commencing near the completion of the warehouse, in the third quarter of 2019. It would consist of several tasks, including partial demolition of the existing maintenance building and warehouse as necessary to accommodate the expansion of functions, grading and excavation, foundation construction, and building renovation and new construction. The number of construction personnel on site would vary from day to day, but an average of 20 personnel per day is anticipated. Construction would require the operation of heavy equipment, including bulldozers, compactors, excavators, backhoes, forklifts, loaders, and truck-mounted cranes. An average of four pieces of equipment would operate per day during construction. There would be an average of approximately four daily truck trips during the majority of the construction period, with approximately 15 trips per day during demolition, grading, excavation, and foundation work at the beginning of construction.

Flow Equalization Tank

Construction of the primary flow equalization tank would take approximately 18 months to complete commencing after the completion of the warehouse, in the fourth quarter of 2019. It would consist of several tasks, including excavation for the tank, construction of concrete floor and walls, and the installation of piping and covers. The number of construction personnel on site would average about 18 personnel per day. Construction would require the operation of heavy equipment, including bulldozers, scrapers, excavators, backhoes, forklifts, loaders, compactors, and boom lifts. An average of four pieces of equipment would operate per day during construction. Approximately 48,000 cubic yards (CY) of material would be excavated. About 12,000 CY would be retained on site for reuse during Project construction; the remainder (about 36,000 CY) would be hauled off site for disposal. There would be an average of approximately 30 daily truck trips during the initial 4 months of construction, when most excavation work would occur. Truck trips would reduce to an average of about eight per day during the remainder of construction.

AWPF

Construction of the AWPF would take approximately 30 months to complete, commencing after the completion of the maintenance building, in the third quarter of 2020. Construction would consist of several tasks, including excavation and grading, foundation construction, building construction, equipment installation, equipment canopy construction, and ancillary support facility construction. The number of construction personnel on site would vary from day to day, but an average of 50 personnel per day is anticipated for the initial 18 months, tapering over the final year of construction to 20 per day by the last several months. Construction would require the operation of heavy equipment, including bulldozers, scrapers, excavators, backhoes, forklifts, loaders, compactors, and boom lifts. An average of eight pieces of equipment would operate per day during the initial 18 months, tapering over the final year of construction to about two per day by the last several months. There would be an average of approximately four daily truck trips during the majority of the construction period, with approximately ten trips per day during grading, excavation, and foundation work at the beginning of construction.

Brine Line

The brine line construction would take approximately 9 months to complete, commencing after the completion of the flow equalization tank, in the second quarter of 2021. Construction of the brine line would occur primarily within the DCTWRP leased property or along plant access roads. However, about 300 feet of the total 3,000-foot line would be located within public roads (beneath the Orange Busway and within Haskell Avenue and Victory Boulevard). The installation of the line would consist of open trench construction except where the line would go beneath the berm and the Orange Busway, in which case jacking and boring would be required for relatively short distances. A 5-foot wide trench, approximately 8 feet deep would be required for the pipeline installation. Within DCTRWP and along the DCTWRP access road, material excavated from the trench would be placed next to the trench to be used as backfill once the brine line was installed. Within public roadways (i.e., Haskell Avenue and Victory Boulevard), the material would be loaded into dump trucks hauled off site as the trench was excavated. After a sufficient length of trench was excavated and shored, an 18-foot-long ductile iron pipe section would be delivered to the site on a flatbed truck and placed in the trench and joined to the preceding section of pipe. Once three to four sections of pipe were installed in the trench, that portion of the trench would be backfilled at the same time excavation and pipe installation work would continue in the forward areas of the trench. After the pipe has been installed and the trench backfilled, the pavement would be returned to its existing condition.

Pipeline construction would involve approximately ten daily personnel and six pieces of operating equipment, including a pavement cutter, backhoe, loader, compactor, and sweeper. The average daily truck trips would be approximately four, including both haul and delivery trucks. Pipeline construction would necessitate closure of up to two lanes when trenching would occur in public roadways. Portions of the construction zone may be covered with metal plates during periods of the day when construction was not ongoing for safety and to allow for continued passage of traffic.

Balboa Pump Station

The upgrades to the Balboa Pump Station would commence at the beginning of 2022 and take approximately 12 months to complete. Construction would consist of the installation of three pumps at existing connection points to the EVRWL. The number of construction personnel on site would vary from day to day, but a maximum of eight personnel per day is anticipated. Construction would require the operation of several pieces of heavy equipment, including a forklift, dump truck, truck-mounted crane and tractor, as well as hand-operated power tools, welding equipment, and a generator. An average of two pieces of heavy equipment would operate per day. The pump station upgrade would occur within the existing pump station footprint in the southeast corner of the DCTWRP property. No excavation or grading would be required. Minor deliveries of equipment and materials would be necessary, requiring an average of one truck trip per day.

Excluding the relatively small portion of the brine line located in public roads, all construction activities, including supplies laydown, soil excavation and stockpiling, equipment storage, and worker parking, would be confined to the DCTWRP property boundary, which would include the contractor laydown area located east of the primary DCTWRP complex and the access road off of Victory Boulevard northeast of the complex. Only truck trips required to deliver equipment, materials, and supplies and to haul debris and excess material would occur outside the site. The general inbound truck route during construction would be I-405 to Victory Boulevard, west to Densmore Avenue, and Densmore Avenue south along the DCTWRP access road. The outbound route would be the DCTWRP access road to Densmore Avenue to Victory Boulevard to I-405. Trucks are estimated to travel approximately 20 miles to and from the DCTWRP property (a total 40-mile roundtrip).

2.6.2 Recycled Water Pipeline

The extension of the recycled water pipeline would commence in mid-2020 and take approximately 18 months to complete. The construction would use an open trench technique and would proceed northwest along Arleta Avenue from Branford Street to PSG at Devonshire Street. The trench would be 7.5-foot-wide and approximately 12 to 15 feet deep. As the trench is excavated, the material would be loaded into dump trucks parked adjacent to the trench within the construction zone and hauled off site. After a sufficient length of trench was excavated and shored, an 18-foot-long ductile iron pipe section would be delivered to the site on a flatbed truck and off-loaded to be placed in the trench and joined to the preceding section of pipe. Once three to four sections of pipe were installed in the trench, that portion of the trench would be backfilled to just below grade level with soil-cement slurry at the same time excavation and pipe installation work would continue in the forward areas of the trench. After the pipe had been installed and the trench backfilled, the construction zone barriers would be removed, and the pavement would be returned to its existing condition. Immediately east of PSG, Arleta Avenue crosses Pacoima Diversion Channel. The pipeline would be suspended over the channel, either independently or attached to the bridge.

Pipeline construction crews would consist of approximately 20 daily personnel and six pieces of equipment operating daily, including pavement cutter, backhoe, loader, compactor, and sweeper. The maximum daily truck trips would be approximately 12. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the alignment. Pipeline construction would necessitate restrictions of on-street parking and closure of up to two lanes of the roadway (including parking lanes) in the section under construction. Portions of the construction zone may be covered with metal plates during periods of the day when construction is not ongoing for safety and to allow for continued passage of traffic.

2.6.3 Pacoima Spreading Grounds

The improvements at PSG would take approximately 9 months to complete, commencing after the completion of the recycled water pipeline extension, at the end of 2021. The longer duration of construction at PSG compared to HSG (see below) is related to the extension of the pipeline within the spreading basin south of Devonshire Street. This pipeline, which would have a total length of about 1,500 feet, would be constructed within the PSG property to minimize traffic disruptions on Devonshire Street. For the pipeline, the construction crew would consist of an average of approximately 20 daily personnel and seven pieces of equipment operating intermittently (including an excavator, crane, and dump truck). For the outlet structure, the construction crew would consist of an average of approximately seven daily personnel and three pieces of equipment operating intermittently (including a backhoe, dump truck, and concrete pump). There would be an average of approximately six daily truck trips during the construction period for delivery and hauling.

2.6.4 Hansen Spreading Grounds

The improvements at HSG would take approximately 3 months to complete, commencing after the completion of the PSG improvements, in the fourth quarter of 2022. For the pipeline, the construction crew would consist of an average of approximately 20 daily personnel and seven pieces of equipment operating intermittently (including an excavator, crane, and dump truck). For the outlet structure, the construction crew would consist of an average of approximately seven daily personnel and three pieces of equipment operating intermittently (including a backhoe, dump truck, and concrete pump). There would be an average of approximately six daily truck trips during the construction period for delivery and hauling.

2.6.5 Environmental Commitments During Construction

A combination of monitoring and resource impact avoidance measures would be employed during construction of the Proposed Project, including implementation of the following Best Management Practices (BMPs):

1) The Project would implement Rule 403 dust control measures required by the South Coast Air Quality Management District (SCAQMD), which would include the following:

    1. Water shall be applied to exposed surfaces at least two times per day to prevent generation of dust plumes.

    2. The construction contractor shall utilize at least one of the following measures at each vehicle egress from the Project site to a paved public road:

        a. Install a pad consisting of washed gravel maintained in clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long;

        b. Provide a paved surface extending at least 100 feet and at least 20 feet wide;

        c. Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; or

        d. Install a wheel washing system to remove bulk material from tires and vehicle undercarriages.

    3. All trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

    4. Construction activity on exposed or unpaved dirt surfaces shall be suspended when wind speed exceeds 25 miles per hour.

    5. Ground cover in disturbed areas shall be replaced in a timely fashion when work is completed in the area.

6. A community liaison shall be identified concerning on-site construction activity including resolution of issues related to dust generation.

7. Non-toxic soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 or more days).

8. Traffic speeds on all unpaved roads shall be limited to 15 miles per hour or less.

9. Streets shall be swept at the end of the day if visible soil is carried onto adjacent public paved roads. If feasible, water sweepers with reclaimed water shall be used.

2) The construction contractor shall develop and implement an erosion control plan and a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. Erosion control and grading plans may include, but would not be limited to, the following:

- Minimizing the extent of disturbed areas and duration of exposure;
- Stabilizing and protecting disturbed areas;
- Keeping runoff velocities low; and
- Retaining sediment within the construction area.

Construction erosion control devices may include the following:

- Temporary desilting basins;
- Silt fences;
- Gravel bag barriers;
- Temporary soil stabilization with mattresses and mulching;
- Temporary drainage inlet protection; and
- Diversion dikes and interceptor swales.

3) The Project shall comply with the Regional Water Quality Control Board (RWQCB)'s National Pollution Discharge Elimination System permit requirements.

4) The recycled water pipeline alignment shall not be located within 15 feet of a residential or institutional building, or within 12 feet of a commercial building to minimize vibration induced building damage.

5) Residences and businesses near the recycled water pipeline alignment shall be notified prior to the start of construction (e.g., via flyers) of lane closures and parking restrictions in their vicinity. The notices would include a telephone number for comments or questions related to construction activities.

6) Project construction shall incorporate source reduction techniques and recycling measures and maintain a recycling program to divert waste in accordance with the Citywide Construction and Demolition Debris Recycling Ordinance.

7) In order to minimize the potential for accidental on-site fires during construction, mechanical equipment shall be maintained in good operating condition; flammable materials shall be carefully stored in appropriate containers; and flammable materials spills shall be immediately and completely cleaned up when they occur.

2.7 Project Operation

2.7.1 Advanced Water Purification Process

It would take about 16 additional personnel at DCTWRP to operate the water purification facilities. The AWPF treatment process would include ozonation, BAC, MF, RO, and/or AOP (using ultraviolet [UV] irradiation/hydrogen peroxide, ozone/hydrogen peroxide, or UV irradiation/sodium hypochlorite), and post-treatment including pH control.

Ozonation and BAC used in succession are treatment processes that have proven effective for the reduction of pathogens, the mitigation of trace organic contaminants, and other treatment criteria. Used singly or together, they are processes that improve the efficiency and effectiveness of the MF process and increase the biodegradability of RO brine.

MF is a low-pressure membrane process used as RO pre-treatment to provide particulate removal. While tertiary filtration at DCTWRP would remove the majority of suspended solids, the MF membrane process would remove smaller suspended solids to ensure more efficient operation of the RO process. The MF process also provides an additional barrier to bacteria, protozoan cysts, and viruses.

Because of the low exclusion size, RO operates most effectively on water that has undergone MF pre-treatment. RO is a high-pressure membrane process capable of removing bacteria, viruses, dissolved organic matter, and salts from liquids. The RO membrane process is based on the principle of overcoming the osmotic pressure of the feed water in order to remove its dissolved constituents and produce a clean effluent (permeate). The RO process operates on “cross-flow” filtration, where a majority of the influent feed water passes through the membrane and becomes the permeate stream, while the remainder forms the waste stream (i.e., concentrate or brine). The flow ratio of permeate to feed water determines the system recovery, which is one of the main operational parameters of RO systems.

AOP would provide disinfection and inactivation of pathogenic microorganisms that are difficult to degrade biologically and for destruction of organic chemicals that may be present in the water. AOP includes the application of ozone or UV light in combination with hydrogen peroxide or sodium hypochlorite. AOP has the ability to target a series of complex organic compounds that are not affected by other treatment technologies, such as oxidation with conventional oxidizing agents (e.g., ozone or UV irradiation alone). AOP is based on the generation of hydroxyl radicals, which are extremely powerful oxidizing agents that are much more active than chlorine, ozone, or UV irradiation employed individually. The process consists of injection of a hydrogen peroxide or sodium hypochlorite solution into the RO permeate followed by ozone or irradiation with UV light.

2.7.2 AWPF Treatment Capacity

The volume of purified water available for GWR from the AWPF is dependent on the volume of recycled water influent to the AWPF and the efficiency of the advanced water purification system in terms of loss of volume that would occur during the purification process. The volume of influent to the AWPF is dependent on the available volume of effluent from the DCTWRP recycled water treatment system, which is in turn dependent on the loss of volume related to the recycled water treatment process and other uses (i.e., non-NPR or GWR) of the recycled water effluent.

By operating both existing phases of DCTWRP simultaneously, as well as expanding the flow equalization tanks under the Proposed Project, the full 80-mgd treatment capacity of DCTWRP would become readily available on a consistent basis. Based on several years of monitoring data, the losses that would occur during the recycled water treatment process from the removal of solids and particulate matter from the wastewater stream are projected to amount to no greater than 8 percent. This would provide approximately 73 mgd of recycled water from the DCTWRP facilities. As previously discussed, about 2 mgd of the recycled water is required for various in-plant processes. An annual average of approximately 27 mgd is provided to various lakes within the Sepulveda Basin and the Los Angeles River, and after Project implementation, a minimum annual average of 27 mgd of the tertiary-treated recycled water would continue to be provided to the lakes and the river from DCTWRP. All Alternatives considered in the 2006 Draft EIR for the City's Integrated Resources Plan (IRP) for wastewater, runoff, and recycled water programs assume an annual average of 27 mgd would be discharged from DCTWRP to the Los Angeles River through Lake Balboa, the Wildlife Lake, and the Japanese Garden lake. This volume of flow is consistent with "Go-Policy" #5 (Los Angeles River Flows) from the 2012 City of Los Angeles Water IRP 5-Year Review, which directs the City "to continue to provide water from DCT to Lake Balboa, Wildlife Lake, and the Japanese Garden at Sepulveda Basin, and the LA River to meet baseline needs for habitat (i.e., approximately 27 mgd through flow-through lakes)." The IRP 5-Year Review concluded that this policy "is valid and in line with LARRMP [Los Angeles River Revitalization Master Plan] considerations [for water quality, ecological function, and habitat value], provided that water discharged from DCTWRP continues to meet state and federal water quality mandates and that an average of 27 mgd (approximately 30,000 AFY) from DCTWRP is supplied to the Los Angeles River." After the use of recycled water from DCTWRP for in-plant functions (2 mgd) and flows to the lakes and river (27 mgd), a balance of about 44 mgd of recycled water would be available as influent for the AWPF processes.

As mentioned above, some loss of volume would also occur during the advanced water purification treatment process in the AWPF. This loss would be primarily in relation to MF and RO processes that filter small particles and dissolved solids from the water and also utilize a portion of the water as backwash to clean the MF filters or to provide a transport stream to dispose of the solids that do not pass through the RO membrane (i.e., brine). The proportion of purified water effluent to the system influent establishes the recovery rate for the AWPF. Based on conservative projections, recovery rates, in succession, of 93 percent for MF and 85 percent for RO would provide a total recovery rate for the AWPF of about 79 percent. This recovery rate would provide about 35 mgd of purified water effluent from the AWPF based on 44 mgd of recycled water influent.

In addition to the inherent losses associated with the advanced water purification processes, the production of purified water at the AWPF would be reduced by the number of days the facilities would not be in operation due to routine maintenance or unforeseen interruptions. These stoppages are projected at about 30 days per year. The AWPF would also generally be taken offline when HSG and/or PSG would be unavailable for GWR due to stormwater capture. During dry years, this is projected to include 10 days at HSG and 5 days at PSG, and during wet years, 70 days at HSG and 30 days at PSG. Based on these factors, the purified water production potential would be over 35,000 AFY in dry years and over 31,000 AFY in wet years. Assuming one wet year in every five years, this would provide an average production of about 35,000 AFY, of which 5,000 AFY would be used to meet NPR demands and 30,000 AFY would be used for GWR.

2.7.3 Treatment Byproducts

Backwash, brine, and spent clean-in-place solutions are byproducts of the AWPF treatment process. Backwash is water used to clean the MF strainers and MF membranes. Brine is generated from the RO filtration process. Spent clean-in-place solutions are created by regular cleanings of both the MF and RO processes. MF backwash would be diverted from the AWPF into the DCTWRP in-plant sewer for treatment at DCTWRP or Hyperion Treatment Plant. A new 3,000-foot-long, 24-inch-diameter pipeline would be constructed to transfer the brine from the proposed AWPF to the existing VORS located in Victory Boulevard. Once discharged to the VORS, the brine would combine with other DCTWRP biosolids and flow to the Hyperion Treatment Plant via the La Cienega San Fernando Valley Relief Sewer for further processing.

2.7.4 Conveyance

Purified water produced by the AWPF would be conveyed to HSG for GWR via the existing EVRWL that currently conveys recycled water from the Balboa Pump Station to the Hansen Tank at VGS. Purified water would be conveyed to PSG via the proposed 42-inch recycled water pipeline that would branch off the EVRWL at Branford Street and Arleta Avenue.

Existing NPR customers, including golf courses and other irrigation users that are nearby DCTWRP, would continue to be served by an existing recycled water pipeline system. However, after completion of the AWPF, the line would transmit purified water rather than recycled water. The existing 7-mg Hansen Tank at VGS would also be connected to the purified water distribution system and would be used to store purified water for NPR instead of recycled water. NPR customers served by the existing EVRWL would also receive purified water after the completion of the AWPF.

2.7.5 Replenishment

Up to 19,000 AFY of purified water could be spread at HSG based on the availability of supply and the capacity of the spreading grounds in a given year in relation to all potential sources of water. It is estimated that an average of 15,000 AFY of purified water would be recharged at HSG under the Proposed Project. As discussed above, the water would be conveyed from DCTWRP to HSG through the existing EVRWL.

Up to 23,000 AFY of purified water could be spread at PSG based on the availability of supply and the capacity of the spreading grounds in a given year in relation to all potential sources of water. It is estimated that an average of 15,000 AFY of purified water would be recharged at the PSG under the Proposed Project. As discussed above, the water would be conveyed from DCTWRP to PSG through the existing EVRWL and a new 42-inch-diameter recycled water pipeline branching from the EVRWL at Branford Street and proceeding northwest along Arleta Avenue.

Groundwater replenishment using recycled water is governed primarily by state and local agencies, including the state DDW and the local RWQCB. The DDW and RWQCB groundwater replenishment regulations are established to protect the beneficial uses of the groundwater basin and maintain drinking water standards to protect public health. Among the requirements, the regulations require a minimum underground retention time of 2 months (previously 6 months) from introduction of purified recycled water to interception at the nearest drinking water supply well. Based on current modeling data, the simulated retention time from HSG and PSG to the Tujunga Wellfield, one of the closest wellfields down gradient of HSG and PSG, is estimated to be 3 years and 4.5 years, respectively. [5]

2.8 Required Permits and Approvals

Numerous approvals and/or permits would be required to implement the Proposed Project. The environmental documentation for the Proposed Project would be used to facilitate compliance with federal, state, and local laws and ordinances, as well as granting permits by various federal, state, and local agencies having jurisdiction over one or more aspects of the Project. These approvals and permits may include, but may not be limited to, the following.

California Department of Transportation (Caltrans)

- Permit for oversize loads on state highways

City of Los Angeles Department of City Planning

- Design review and approval of buildings and structures
- Approval of variances for height of buildings or structures

City of Los Angeles, Department of Building and Safety

- Permits for building, mechanical, electrical, green building, geotechnical, excavation, and grading

City of Los Angeles, Department of Public Works

- Approval by the Board of Public Works of a Memorandum of Agreement between LADWP and LASAN for the design, construction, operation, maintenance, and reimbursements for the AWPF and related facilities at DCTWRP
- Permits for excavation
- Permits for construction of driveways, curb ramps, sidewalks, roof and/or site drainage to streets, per City Ordinance 176300
- Approval of Standard Urban Stormwater Mitigation Plan and/or a Site Specific Mitigation Plan

City of Los Angeles, Department of Transportation

- Encroachment permits for pipeline construction in City streets
- Approval of a traffic management plan
- Approval of temporary road closures
- Construction haul route permits

City of Los Angeles, Department of Water and Power

- Recommendation by the Board of Commissioners for approval by the City Council that the Draft EIR was prepared in accordance with CEQA and other applicable codes and guidelines

5 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

- Recommendation by the Board of Commissioners for approval by the City Council the Proposed Project or an alternative to the Proposed Project
- Approval by the Board of Commissioners of a Memorandum of Agreement between LADWP and LASAN for the design, construction, operation, maintenance, and reimbursements for the AWPF and all related facilities at the DCTWRP property

Los Angeles County Department of Public Works

- Approval of a Memorandum of Understanding for the operations and maintenance for spreading of purified water at HSG and PSG
- Approval of a Memorandum of Understanding for permanent easements for the new facilities constructed at HSG and PSG
- Municipal Separate Storm Sewer System permit

Los Angeles County Metropolitan Transportation Authority

- Approval authority for Right of Entry Permit
- Coordination of transit services related to temporary lane closures

Los Angeles Regional Water Quality Control Board

- Permit for the production, distribution, and use of purified water for groundwater replenishment
- National Pollution Discharge Elimination System permit for dewatering and construction activities
- National Pollution Discharge Elimination System Industrial General permit
- General Construction permit

South Coast Air Quality Management District

- Conformity with the Air Quality Management Plan

State of California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Unit

- Underground Classification Permit for tunneling and jacking locations

United States Army Corps of Engineers

- Approval to construct on Federal land
- Issuance of permits under Section 404 of the Clean Water Act

CHAPTER 3
ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

3.0.1 Introduction

In accordance with the CEQA Guidelines, a Notice of Preparation (NOP) and an Initial Study of potential environmental impacts was prepared and distributed on September 6, 2013, to public agencies, interested organizations, and the general public. The evaluation of environmental impacts in the Initial Study identified resource topics that would not result in significant impacts and, therefore, would not be further analyzed in the Draft EIR. However, the site location of the AWPF evaluated in the Initial Study has been slightly modified for the Proposed Project and is now located in the southeast portion of DCTWRP (a site in the southwest portion of DCTWRP was evaluated in the Initial Study). In addition, the CEQA-Plus nature of this Draft EIR requires additional resource topics (i.e. environmental justice) to be analyzed, which have been included in Appendix B of this Draft EIR. Therefore, no resource topics have been scoped out of the analysis and all resource topics are carried forward for analysis in this Draft EIR.

Sections 3.1 through 3.16 include an analysis, by resource area, of the Proposed Project's potential impacts on the environment. The environmental resource areas analyzed in this section are as follows:

- Aesthetics (Section 3.1)
- Agriculture and Forestry Resources (Section 3.2)
- Air Quality (Section 3.3)
- Biological Resources (Section 3.4)
- Cultural Resources (Section 3.5)
- Geology and Soils (Section 3.6)
- Greenhouse Gas Emissions and Energy (Section 3.7)
- Hazards and Hazardous Materials (Section 3.8)
- Hydrology, Water Quality, and Groundwater (Section 3.9)
- Land Use and Planning (Section 3.10)
- Mineral Resources (Section 3.11)
- Noise (Section 3.12)
- Population and Housing (Section 3.13)
- Public Services and Recreation (Section 3.14)
- Transportation and Traffic (Section 3.15)
- Utilities and Service Systems (Section 3.16)

Throughout the discussion of potential environmental impacts from Project construction and operation in this chapter, the analysis is structured in relation to the area involving facilities at DCTWRP and in the immediately surrounding area, which are often referred to as the "onsite components," and the areas involving the recycled water pipeline (along Arleta Avenue) and improvements at Hansen Spreading Grounds (HSG) and Pacoima Spreading Grounds (PSG), which are often referred to as the "offsite components."

3.0.2 Environmental Analysis Procedures

Sections 3.1 through 3.16 include environmental setting, regulatory setting, environmental impacts, mitigation measures, and level of significance after mitigation, as described below.

Environmental Setting

These subsections describe the existing conditions for each environmental resource. These subsections provide the context for assessing potential environmental impacts resulting from construction and operation of the Proposed Project.

Regulatory Setting

These subsections describe the federal, state, regional, and/or local regulations that are applicable for each environmental resource.

Environmental Impacts

These subsections describe the potentially significant environmental impacts or consequences resulting from development of the Proposed Project. The *Methodology* used for each resource area impact evaluation is discussed and criteria are described that help evaluate the degree of significance for each potential impact. For each impact identified in this document, a statement of the level of significance of the impact is provided. The following categories for impact significance are used in this analysis:

- A designation of no impact is given when no adverse changes in the environment are expected;
- A less than significant impact would be identified when there would be no substantial adverse change in the environment;
- A significant (but mitigable) impact would have a substantial adverse impact on the environment, but could be avoided or feasibly mitigated or reduced to a less than significant level; and
- A significant unavoidable impact would cause a substantial adverse impact on the environment that cannot be feasibly avoided or mitigated to a less than significant level.

Mitigation Measures

Measures that can mitigate (e.g., minimize, reduce, or avoid) potentially significant adverse environmental impacts are proposed as conditions of approval. The mitigation measures provided in Chapter 3.0 are proposed by LADWP, unless otherwise noted.

Level of Significance After Mitigation

These subsections refer to the level of impact remaining after implementation of mitigation. In the case where a mitigation measure(s) would avoid or reduce a significant impact to a level that is less than significant, a determination would be made that the residual impact would be less than significant. In the case where a mitigation measure(s) would reduce a significant impact somewhat, but would not reduce it to a level that is less than significant, then a determination would be made that the residual impact would remain significant. A determination that the residual impact would remain significant is used to identify Significant Unavoidable Impacts, as required by Section 15126.2(b) of the CEQA Guidelines.

SECTION 3.1
AESTHETICS

This section assesses the potential impacts to aesthetics that would be created by the Proposed Project. The character of the existing visual environment was determined through field reconnaissance, photographic records, and aerial photographs. The visual environment of the Project site provides a baseline against which the effects of the Proposed Project on aesthetics are assessed. The analysis describes the aesthetic impacts of the Proposed Project on the existing landscape and built environment, focusing on the compatibility of the Proposed Project with existing conditions and its potential impacts on visual resources.

In relation to the offsite components of the Proposed Project (i.e., the brine line adjacent to DCTWRP and in Haskell Avenue, the recycled water pipeline in Arleta Avenue, and improvements at HSG and PSG), all facilities would either be located underground (in the case of pipelines) or would be low profile and relatively small in the context of the setting (in the case of the outlet structures at the spreading grounds). Consequently, the offsite components would not create any impacts to aesthetics, including those to scenic vistas, scenic resources, the visual character of the site or surrounding area, or in relation to light or glare. Therefore, the analysis in this section focuses on potential aesthetic impacts related to the Proposed Project facilities sited within DCTWRP.

3.1.1 Environmental Setting

DCTWRP Vicinity

The proposed AWPF and the associated warehouse and maintenance facilities, flow equalization tank, and ancillary facilities would be located within the DCTWRP property, which is located in the Encino and Van Nuys communities of the City of Los Angeles. DCTWRP is an active wastewater reclamation plant. The plant is approximately 50 acres and fully developed with industrial facilities. DCTWRP is bounded by, although not abutting, Victory Boulevard to the north, the I-405 to the east, and Woodley Avenue to the west and south. The site is immediately surrounded by Woodley Park on the west, south, and east, and by an Air National Guard Station (ANGS) compound on the north. The Japanese Garden occupies approximately 6.5 acres in the northwest corner of the DCTWRP property.

Residential and commercial areas in the vicinity of DCTWRP are located north of Victory Boulevard (about 800 feet north of DCTWRP) and east of I-405 (about 1,200 feet east of DCTWRP). However, DCTWRP is not visible from these areas, including from Victory Boulevard and I-405, because of intervening structures, terrain, and/or vegetation (Figure 3.1-1). DCTWRP is located in the Sepulveda Basin, which, in addition to Woodley Park, also encompasses numerous other recreational facilities, including golf courses, active recreation areas, and passive recreation areas, which are located generally to the west of Woodley Avenue. DCTWRP is not visible from these more distant functions within the basin because of intervening vegetation and/or terrain.

Woodley Park includes several cricket fields, picnic grounds, playgrounds, and open lawn areas, all adjacent to DCTWRP. However, a key characteristic of DCTWRP establishing its visual relationship with surrounding functions is that it is bordered on the west, south, and east by a flood control berm or wall, which protects the plant from a 100 year flood event. The berm/wall ranges in elevation from about 712 feet above mean sea level to about 715 feet above mean sea level. This places the top of the berm/wall about 10 to 12 feet above the surrounding area (Figure 3.1-2). The berm will be raised to about 716.5 feet above mean sea level prior to the beginning of the Proposed Project construction, which would increase its height in relation to surrounding areas. Due to this berm/wall (as well as tree planting around most of the perimeter of DCTWRP) and to the fact that most facilities within DCTWRP have a low profile, the plant is partially or wholly obscured from view from adjacent uses.

However, unlike Woodley Park, the Japanese Garden is also located within the flood control berm/wall. Therefore, certain portions of DCTWRP are visible from the garden. This includes the main administration building, which is integrated into the garden setting (Figure 3.1-3). In addition, raised walkways and platforms accessed through the administration building provide elevated views of both the garden and DCTWRP (Figures 3.1-4 and 3.1-5). From most of the garden itself, views of DCTWRP are shielded (Figures 3.1-6 and 3.1-7). However, from limited viewpoints in the far northeast corner of the garden, some industrial facilities at DCTWRP are partially visible (Figure 3.1-8).

From Woodley Park, especially from the cricket fields to the east, some higher profile structures within DCTWRP are also visible (Figures 3.1-9, and 3.1-10). Because the northern perimeter of DCTWRP is above the 100-year flood level, no protective berm is located along this boundary, which is adjacent to the ANGS compound, from which DCTWRP is largely visible.

Figure 3.1-1 View from Victory Boulevard looking south towards DCTWRP

Figure 3.1-2 View from Woodley Park picnic area looking northeast towards DCTWRP

Figure 3.1-3 View from within Japanese Garden looking northeast, with DCTWRP Administrative building to the right

Figure 3.1-4 View of Japanese Garden looking north from raised walkway

Figure 3.1-5 View of DCTWRP looking north from raised platform

Figure 3.1-6 View from within Japanese Garden looking northeast towards DCTWRP

Figure 3.1-7 View from northeast corner of Japanese Garden looking east towards DCTWRP

Figure 3.1-8 View from far northeast corner of Japanese Garden looking east towards DCTWRP (buildings are within DCTWRP)

Figure 3.1-9 View from Cricket Fields looking west towards DCTWRP

Figure 3.1-10 View from Cricket Fields looking northwest towards DCTWRP

3.1.2 Regulatory Setting

City of Los Angeles General Plan

The Project site is located within the City of Los Angeles and, therefore, is subject to the requirements of the City's General Plan. There are no elements in the City of Los Angeles General Plan that specifically refer to aesthetics or visual quality. However, the Framework Element of the General Plan contains Chapter 5, Urban Form and Neighborhood Design, which helps to define the visual form and character of new development within the City. This chapter of the Framework Element defines "urban form" as the general pattern of building height and development intensity, as well as the structural elements that define the City physically, including natural features, transportation corridors, open space, public facilities, activity centers, and focal elements.[6]

The Project site is located within the Encino-Tarzana Community Plan area in the City of Los Angeles. This plan, along with 32 other community plans, makes up the Land Use Element of the City of Los Angeles General Plan. Policy 5-1.1 from the Encino-Tarzana Community Plan encourages the retention of passive and visual open space to provide a balance to the urban development of the Plan Area.

6 City of Los Angeles, Department of City Planning, Framework Element of the General Plan, Chapter 5 Urban Form and Neighborhood Design. Re-Adopted by City Council on August 8, 2001.

3.1.3 Environmental Impacts

Significance Criteria

Pursuant to the Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant effect on aesthetic resources if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Methodology for Assessing Visual Impact

Aesthetic impacts are generally associated with long-term changes to the visual character and/or quality of a site or a scenic resource. While construction activities may affect the visual character of a site, any effects would be short-term and temporary. Thus, the analysis of visual resources presented in this section considers only the long-term effects during the operational phase of the Proposed Project following the completion of construction activities.

Based on their height, the only facilities that would be visible from outside DCTWRP would be the main advanced water purification facilities (AWPF) building housing the microfiltration (MF) and (RO) equipment, the maintenance facility, and the warehouse. The AWPF would be located in the southeast corner of DCTWRP on a currently vacant site. The maintenance facility would be located in the southwest corner of DCTWRP, at the site of the existing maintenance/storage facility. The warehouse would be located in the northwest corner of DCTWRP on a currently vacant site.

Any impacts to aesthetics would be triggered only to the extent that these facilities could be seen from vantage points outside DCTRWP. From the ANGS compound north of DCTWRP, the proposed warehouse would be clearly visible and the AWPF would be partially visible, based on its height. The proposed maintenance facility would not be visible from the ANGS compound due to intervening structures, vegetation, and terrain.

From within the Japanese Garden (as opposed to the parking lot south of the garden), the proposed maintenance facility would be visible from only areas at the entrance to the garden, at the south end. The warehouse would be obscured by vegetation and terrain from most vantage points in the garden; however, it would be partially visible from limited vantage points on pathways in the northeast corner of the garden. The AWPF would not be visible from the garden due to intervening structures, vegetation, and terrain.

From Woodley Park, the maintenance facility and warehouse would not be visible due to intervening structures, vegetation, and terrain. Because of its height, the AWPF would be partially visible above the perimeter berm and planting from areas in the park adjacent to the southeast corner of DCTWRP, especially from the cricket fields to the east.

However, in addition to the visibility of the Proposed Project facilities, potential impacts to aesthetics would be based on the degree of change and the visual compatibility of the facilities relative to the existing setting, as well as the level sensitivity of particular vantage points based on the type of activities conducted by and the expectations of users at those vantage points.

Although some Proposed Project facilities would be highly visible from the ANGS compound (as is the existing DCTWRP), based on the degree of change to the setting, the type of functions carried out at the ANGS compound, and the experience and expectations of users at the compound, the level of sensitivity in relation to the aesthetic environment is considered very low. Therefore, changes to the visual environment would create a lower level of aesthetic impact.

Conversely, the setting of the Japanese Garden is such that views from within the garden to areas outside the garden are largely shielded, and the expectation of users is for a visually pleasing, serene, and contemplative experience. Therefore, the level of sensitively in relation to the aesthetic environment of the garden is considered very high, and changes to this environment would create a higher level of aesthetic impact.

Woodley Park adjacent to the southeast corner of DCTWRP provides an open space experience; however, in contrast to the Japanese Garden, this area is characterized by active recreation uses (e.g., cricket and playground activity). Therefore, the level of sensitively in relation to the aesthetic environment of the park is considered moderate, and changes to this environment may create a significant aesthetic impact depending on the extent and type of the change.

Impact Analysis

AES-1: *The Proposed Project would not have a substantial adverse effect on a scenic vista. No impact would occur.*

Scenic views or vistas are panoramic public views to various natural features, including the ocean, striking or unusual natural terrain, or unique urban or historic features. Public access to these views may be from park lands, private and publicly owned sites, and public rights-of-way.[7] Within the vicinity of the Project site, scenic vistas are available of the surrounding mountains, including the Verdugo Mountains and San Gabriel Mountains to the north and east and the Santa Monica Mountains to the south. While such views may be partially available from the identified vantage points surrounding DCTWRP (i.e., the ANGS compound, the Japanese Garden, and Woodley Park), they are interrupted by existing development, vegetation, and terrain. Neither the City of Los Angeles General Plan nor Encino-Tarzana Community Plan designates any scenic vistas in the Project area.

Based on their location within the already developed DCTWRP, the Proposed Project facilities would not obscure the any scenic vistas from the identified vantage points. Therefore, no impact to a scenic vista would occur.

7 City of Los Angeles Department of City Planning, *City of Los Angeles General Plan, Conservation Element*, adopted September 26, 2001.

AES-2: *The Proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. No impact would occur.*

Neither the City of Los Angeles General Plan nor the Encino-Tarzana Community Plan designates any scenic resources or highways in the vicinity of the Project. In addition, according to the Caltrans Scenic Highway Program, the nearest eligible state scenic highway is a segment of Interstate 210, located approximately 8 miles northeast of DCTWRP. The nearest officially designated state scenic highway is State Route 2, north of its intersection with Interstate 210, located approximately 16 miles east of DCTWRP.[8] There are no eligible or officially designated state or local scenic highways located within or adjacent to the Project site. Therefore, the Proposed Project would not result in substantial damage to scenic resources within a scenic highway. No impact would occur.

AES-3: *The Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings. The impact would be less than significant.*

The Proposed Project facilities would be similar in size and appearance as the existing facilities at DCTWRP. Given the generally developed industrial character and function of DCTWRP, the proposed facilities, which would occur on infill or redeveloped parcels, would not substantially degrade the existing visual character or quality of the site.

The impact to visual character in relation to the identified vantage points surrounding DCTWRP would be based on the degree and nature of the change that would be discernable from those vantage points as well as the sensitivity of the vantage points. As discussed above, because of the function and character of the ANGS compound, it would have a low sensitivity to potential changes in the visual environment at DCTWRP. In addition, the Proposed Project facilities would be similar in scale and appearance as the existing DCTWRP facilities, which are currently in view from the ANGS compound. Therefore, because the degree of change to the visual environment and the level of sensitivity are both low, the Project would not substantially degrade the existing visual character or quality of the ANGS compound.

As discussed above, because of the existing visual character and nature of the experience at the Japanese Garden, it would have a high sensitivity to potential changes in the visual environment at DCTWRP. Because the AWPF would not be visible from the garden, it would not affect the visual character of the garden. While the proposed maintenance facility would be visible from certain areas near the entrance to the garden, the facility would be in the same location and, from the perspective of the garden, similar in scale and appearance as the existing maintenance/storage facility. Therefore, because it would not create an evident change in the visual environment of DCTWRP, the proposed maintenance facility would not substantially degrade the existing visual character or quality of the Japanese Garden. The proposed warehouse facility would be built on a currently vacant site, approximately 70 feet east of the northeast corner of the Japanese Garden. Most of the garden is situated at a lower in elevation than the western perimeter of DCTWRP, where the warehouse would be located. Furthermore, the eastern perimeter of the garden adjacent to DCTWRP is generally screened with large vegetation. While most of the warehouse would therefore be obscured from view, the upper portions of the building may nonetheless be partially visible from very limited areas on pathways in the far northeast corner of the garden. However, this would be similar to the view of other existing facilities in DCTWRP, and it would not significantly detract from the experience of the

[8] Caltrans. Scenic Highway Program – Eligible and Officially Designated Routes. Available online at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/. Accessed: July 20, 2015.

garden or substantially degrade the existing visual character or quality of the garden (see Figure 3.1-8). Therefore, the Project would not substantially degrade the existing visual character or quality of the Japanese Garden and impacts would be less than significant.

As discussed above, the proposed maintenance facility and warehouse would not be visible from Woodley Park, but the upper portions of the AWPF would be visible above the berm and perimeter tree planting from some areas of the park adjacent to the southeast corner of DCTWRP. However, the AWPF would be similar in character and scale as other DCTWRP facilities that are currently visible from this area of the park. Furthermore, the nature of the activity in this area of the park (cricket matches and playground play) would not be adversely affected by the presence of the AWPF in the background view. Therefore, the Project would not substantially degrade the existing visual character or quality of Woodley Park.

AES-4: *The Proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The impact would be less than significant.*

DCTWRP is currently lighted with area lighting, roadway lighting, and facility lighting consistent with the requirement to safely and securely operate the plant at night. The Proposed Project facilities would have similar lighting. Given that the proposed facilities would be replacement or infill development within the otherwise fully developed site, the additional lighting from the Project is not anticipated to substantially change the nighttime character of the surrounding area. Furthermore, the areas immediately surrounding DCTWRP (i.e., Woodley Park and the Japanese Garden) close at dusk and would not, therefore, be adversely affected by night lighting at the Project facilities. As discussed above, DCTWRP is not visible from surrounding residential or commercial areas that might be affected by night lighting. It is anticipated that the proposed new facilities would be constructed of concrete and other non-reflective materials, and the Proposed Project would result in less than significant impacts to daytime views as a result of glare. Therefore, the Proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to aesthetics. No mitigation measures are required.

3.1.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to aesthetics.

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SECTION 3.2
AGRICULTURE AND FORESTRY RESOURCES

This section evaluates the Proposed Project's impacts on agriculture and forestry resources based on existing zoning of the Project site and surrounding area, and whether the Proposed Project would convert important farmland or forest land to other non-agricultural or non-forest land uses.

3.2.1 Environmental Setting

DCTWRP, HSG, PSG, and the proposed recycled water pipeline are located within the City of Los Angeles. Additionally, the property on which DCTWRP is located is owned by the Corps, and the plant is operated by LASAN under a lease agreement.

DCTWRP is currently developed with a wastewater treatment facility, and HSG and PSG are currently developed as spreading grounds. The proposed recycled water pipeline would be located entirely within the existing roadway of Arleta Avenue and within the PSG property, and would pass through residential areas. The proposed brine line alignment would originate from the AWPF in the southeast corner of DCTWRP, extend north within the road located west of the cricket fields, and turn east and then northeast to proceed under the Orange Line Bus Line and follow Haskell Avenue to connect with the Valley Outfall Relief Sewer (VORS) in Victory Boulevard west of the I-405. The proposed brine line would pass through open space and public facility areas.

Existing zoning for DCTWRP is Public Facilities and Open Space. Existing zoning at HSG is Open Space. Existing zoning at PSG is primarily Open Space with a small easement area zoned Public Facilities. Existing zoning adjacent to the proposed recycled water pipeline alignment is Suburban Agriculture, Residential Suburban, Commercial, One-Family Residential, Restricted Density Multiple Dwelling, and Open Space. Existing zoning along the proposed brine line alignment is Open Space and Public Facilities.[9]

The City of Los Angeles General Plan designates DCTWRP as open space and public facilities, HSG as open space and light manufacturing, and PSG as open space and public facilities. Areas adjacent to the proposed recycled water pipeline alignment are designated for low density residential, low medium residential, neighborhood commercial, and open space, and areas adjacent to the proposed brine line alignment are designated for open space and public facilities. [10,11,12,13]

No portion of DCTWRP or offsite Project areas are zoned for or designated as forest land. The nearest forest lands are located in the Angeles National Forest, approximately 13 miles

9 City of Los Angeles Department of City Planning, Zoning Information and Map Access System (ZIMAS), website: http://zimas.lacity.org/, accessed March 24, 2016.
10 City of Los Angeles Department of City Planning, Encino – Tarzana Community Plan, adopted 1998.
11 City of Los Angeles Department of City Planning, Sun Valley – La Tuna Canyon Community Plan, adopted 1999.
12 City of Los Angeles Department of City Planning, Arleta – Pacoima Community Plan, adopted 1996.
13 City of Los Angeles Department of City Planning, Mission Hills- Panorama City – North Hills Community Plan, adopted 1999.

northeast of the Project site. The areas surrounding the Project site are primarily developed with residential uses.

3.2.2 Regulatory Setting

State

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 – commonly referred to as the Williamson Act – enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive reduced property tax assessments because they are based upon actual land use (i.e., farming and open space uses) as opposed to full market value of the property.[14] According to the California Department of Conservation, Division of Land Resource Protection, as of 2013, all counties within the state offer Williamson Act contracts except Del Norte, San Francisco, Inyo, and Yuba Counties.[15]

California Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program was established in 1982 and is maintained by the California Department of Conservation with the goal of providing consistent and impartial data to decision makers for use in assessing present status, reviewing trends in land use, and planning for the future of California's agricultural land resources.[16] It is a non-regulatory program that provides an impartial analysis of agricultural land use in the State. However, Important Farmland Maps prepared under the Farmland Mapping and Monitoring Program are utilized to determine the location of agricultural lands throughout California.

The Farmland Mapping and Monitoring Program specifies that land must meet both of the following criteria in order to be mapped as Prime Farmland and Farmland of Statewide Importance:

1. Land Use: The land has been used for irrigated agricultural production at some time during the four years prior to the Important Farmland Map date. Irrigated land use is determined by Farmland Mapping and Monitoring Program staff by analyzing current aerial photos, local comment letters, and related geographic information system data, supplemented with field verification.

2. Soil: The soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the United States Department of Agriculture Natural Resources Conservation Service, which compiles lists of soils in each survey area that meet the quality criteria. Factors considered in qualification of a soil include:

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[14] State of California Department of Conservation, Division of Land Resource Protection, Williamson Act Program, website: http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx, accessed July 9, 2015.

[15] State of California Department of Conservation, Division of Land Resource Protection, Williamson Act Program – Basic Provisions, website: http://www.conservation.ca.gov/dlrp/lca/basic_contract_provisions/Pages/wa_overview.aspx, accessed July 9, 2015.

[16] State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, website: http://www.conservation.ca.gov/dlrp/fmmp/overview/Pages/index.aspx, accessed July 9, 2015.

- Water moisture regimes, available water capacity, and developed irrigation water supply;
- Soil temperature range;
- Acid-alkali balance;
- Water table;
- Soil sodium content;
- Flooding (uncontrolled runoff from natural precipitation);
- Erodibility;
- Permeability rate;
- Rock fragment content; and
- Soil rooting depth.

Forest and Range Assessment Program

The Forest and Range Assessment is a detailed report on California's forests and rangelands under the Fire and Resource Assessment Program, which is implemented by the California Department of Forestry and Fire Protection pursuant to Public Resources Code Section 4789, and mandates periodic assessments of California's forest and rangeland resources.[17] In 2008, the Federal Farm Bill added a provision to federal law that required states to do assessments of forest resources. The most recent Forest and Range Assessment was published in June 2010 with the intention of meeting both the state and federal mandates, covering both forest and rangeland resources, on private as well as publically managed lands. As required by the 2008 Farm Bill, the 2010 assessment presents an analysis of trends, conditions, and the development of priority landscapes.[18,19]

Forest Legacy Program

The Forest Legacy Program is implemented by the California Department of Forestry and Fire Protection to protect environmentally important forestland threatened with conversion to nonforest uses, such as subdivision for residential or commercial development. It comprises both the Federal Forest Legacy Program and the California Forest Legacy Program and is entirely voluntary. Landowners participating in the program may sell or transfer particular rights, such as the right to develop the property or to allow public access, while retaining ownership of the property and the right to use it consistent with the terms of the easement. The agency or organization holding the easement is responsible for managing the rights it acquires and for monitoring compliance by the landowner.[20]

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17 State of California Department of Forestry and Fire Protection, Fire and Resource Protection Program, California's Forests and Rangelands: 2010 Assessment, June 2010, website: http://frap.fire.ca.gov/data/assessment2010/pdfs/california_forest_assessment_nov22.pdf, accessed July 9, 2015.

18 Priority landscapes are defined as spatial areas to be delineated in order to help focus investments and other programs to deal with associated issues.

19 State of California Department of Forestry and Fire Protection, Fire and Resource Protection Program, California's Forests and Rangelands: 2010 Assessment, June 2010, website: http://frap.fire.ca.gov/data/assessment2010/pdfs/california_forest_assessment_nov22.pdf, accessed July 9, 2015.

20 State of California Department of Forestry and Fire Protection, Programs, Resource Management, Forestry/Landowner
Assistance, Forest Legacy Program, website: http://calfire.ca.gov/resource_mgt/resource_mgt_forestryassistance_legacy.php, accessed July 9, 2015.

3.2.3 Environmental Impacts

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on agriculture and forestry resources if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned for Timberland Production (as defined by Government Code Section 51104[g]);
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Methodology

The assessment of impacts concerning agriculture and forestry resources is based on data collected from the Farmland Mapping and Monitoring Program, the Forest and Range Assessment Program, and the Forest Legacy Program. These resources are used along with site surveys to assess the level of change in agriculture or forestry resources that the Proposed Project may create.

Impact Analysis

AG-1: *The Proposed Project would not convert farmland to another non-agricultural use. No impact would occur.*

The Proposed Project site is located within a developed urban area. As previously discussed, DCTWRP is currently developed with a wastewater treatment facility and HSG and PSG are currently developed as spreading grounds. The proposed recycled water pipeline would be located entirely within the existing roadway of Arleta Avenue and within PSG property, and would pass through public facilities and residential areas. The proposed brine line alignment would be located within an existing road west of the cricket fields and connect to the VORS on Victory Boulevard, west of the I-405. The proposed brine line would pass through open space and public facility areas. All portions of the Project site are designated as Urban and Built-Up Land on the "Important Farmland in California" map prepared by the California Department of Conservation, Division of Land Resource Protection pursuant to the Farmland Mapping and Monitoring Program.[21] Thus, no portion of the Proposed Project would be located on or near Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the

[21] State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California, 2010 map, website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2010/fmmp2010_08_11.pdf, accessed July 9, 2015.

Proposed Project would not convert farmland to a non-agricultural use, and no impact would occur.

AG-2: *The Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.*

DCTWRP, HSG, PSG, and the areas surrounding the brine line alignment are zoned for public facilities and open space uses Parcels surrounding the recycled water pipeline alignment on Arleta Avenue are primarily zoned Residential; however, a number of adjacent parcels are zoned Suburban Agriculture. Under the City of Los Angeles Planning and Zoning Code, the Suburban Agriculture zone allows for the development of one-family dwellings and the keeping of certain livestock.[22] Notwithstanding adjacent zoning, parcels zoned Suburban Agriculture are developed for residential use and do not currently contain agricultural uses. Additionally, the recycled water pipeline would be entirely located within existing roadways and would not conflict with the existing zoning of adjacent parcels. There are no Williamson Act contracts applicable to any portion of the Project site.[23] Therefore, the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

AG-3: *The Proposed Project would not conflict with existing zoning, or cause rezoning of forest land or timberland. No impact would occur.*

No portion of the Project site is zoned for or developed as forest land or timberland as defined in Public Resources Code Section 12220(g) and Government Code Section 4526, respectively.[24] Therefore, the Proposed Project would not conflict with existing zoning or cause a rezoning of forest land or timberland, and no impact would occur.

AG-4: *The Proposed Project would not result in loss of forest land or conversion of forest land to non-forest use. No impact would occur.*

The Project site and the surrounding areas are zoned for and developed with public facilities and open space uses. DCTWRP is currently developed with a wastewater treatment facility and HSG and PSG are currently developed with spreading basins. The proposed recycled water pipeline would be located entirely within the existing roadway of Arleta Avenue and within the PSG property, and would pass primarily through residential areas. The proposed brine line alignment would be located within an existing road west of the cricket fields and connect to the VORS on Victory Boulevard, west of the I-405. The proposed brine line would pass through open space and public facility land uses. No portion of the Project site or surrounding area is zoned or developed for a forest land use.[25] There are no designated forest lands located within the vicinity of the Project site. Therefore, the Proposed Project would not result in loss of forest land or conversion of forest land to non-forest use. No impact would occur.

22 City of Los Angeles Municipal Code. Section 12.07.

23 State of California Department of Conservation, Williamson Act Program, Williamson Act Maps in PDF format, *State of California Williamson Act Contract Land, Data Submissions Current to 2012*, website: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2012%20Statewide%20Map/WA_2012_36x42.pdf, accessed July 9, 2015.

24 City of Los Angeles Department of City Planning, Zoning Information and Map Access System (ZIMAS), website: http://zimas.lacity.org/, accessed July 9, 2015.

25 City of Los Angeles Department of City Planning, Zoning Information and Map Access System (ZIMAS), website: http://zimas.lacity.org/, accessed July 9, 2015.

AG-5: *The Proposed Project would not involve changes in the existing environment which, due to their location or nature, would result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use. No impact would occur.*

The Project site and adjacent properties are designated as "Urban and Built-Up Land"; no portion of the Proposed Project site or surrounding area is identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[26] Additionally, no forest lands exist on or adjacent to the Project site. Therefore, the Proposed Project would not change the existing environment such that Farmland would be converted to a non-agricultural use or forest land converted to non-forest use. No impact would occur.

3.2.4 Mitigation Measures

The Proposed Project would result in no impacts to agriculture and forestry resources. No mitigation measures are required.

3.2.5 Significance After Mitigation

The Proposed Project would result in no impacts to agriculture and forestry resources.

[26] State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California, 2010 map, website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2010/fmmp2010_08_11.pdf, accessed July 9, 2015.

SECTION 3.3
AIR QUALITY

This section examines the degree to which the Proposed Project may result in significant adverse changes to air quality. This section includes a description of existing air quality conditions, a summary of applicable regulations, and an analysis of potential short-term construction and long-term operational air quality impacts of the Proposed Project. The following analysis is based on the *Los Angeles Groundwater Replenishment Project Air Quality and Greenhouse Gas Impact Study*, prepared by Terry A. Hayes Associates, Inc. This report is included as Appendix C of this EIR.

3.3.1 Environmental Setting

Pollutants and Effects

Air quality is defined by ambient air concentrations of seven specific pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. These specific pollutants, known as “criteria air pollutants,” are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include carbon monoxide (CO), ground-level ozone (O_3), nitrogen oxides (NO_X), sulfur oxides (SO_X), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb). These pollutants are discussed below and in more detail in Appendix C of this EIR.

Carbon Monoxide. CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, CO occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood’s ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Ozone. O_3, a colorless gas with a sharp odor, is a highly reactive form of oxygen. High O_3 concentrations exist naturally in the stratosphere. However, it is also formed in the atmosphere when reactive organic gases (ROG), which include volatile organic compounds (VOC) and NO_x, react in the presence of ultraviolet sunlight (also known as smog). The primary sources of ROG and NO_x, the precursors of O_3, are automobile exhaust and industrial sources. Some mixing of stratospheric O_3 downward through the troposphere to the earth’s surface does occur; however, the extent of O_3 transport is limited. While O_3 is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity which accounts for its damaging effects on materials, plants, and human health at the earth’s surface. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas formed from the nitrogen (N) and oxygen (O) in air under conditions of high temperature and pressure, which are generally present during combustion of fuels (e.g., motor vehicles). NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as NO_x. In the presence of sunlight, NO_2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form O_3, via a complex series of chemical reactions involving hydrocarbons. Recent studies have found associations between NO_2 exposure and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

Sulfur Dioxide. SO_2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid, which contributes to acid precipitation, and sulfates, which are components of particulate matter. The main sources of SO_2 are coal and oil used in power plants and industrial facilities. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. Very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Particulate Matter. Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Major sources of PM_{10} (particulate matter measuring 10 microns or less in diameter) include crushing or grinding operations, dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ (particulate matter measuring 2.5 microns or less in diameter) results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_x, and VOC. Respirable particles (PM_{10}) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis, and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of particulate matter. A consistent correlation between elevated ambient fine particulate matter ($PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admission has been observed.

Lead. Pb in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric Pb over the past three decades. Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and a lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

State-Only Criteria Pollutants

Visibility-Reducing Particles. Deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality. Visibility reduction from air pollution is often due to the presence of sulfur and NO_X, as well as PM.

Sulfates (SO_X). SO_X are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM_{10}. Most of SO_X in the atmosphere are produced by oxidation of SO_2. Oxidation of sulfur dioxide yields sulfur trioxide, which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields SO_X, a component of PM_{10} and $PM_{2.5}$.

Most of the health effects associated with $PM_{2.5}$ and SO_2 at ambient levels are also associated with SO_X. Thus, both mortality and morbidity effects have been observed with an increase in ambient SO_X concentrations. However, studies to separate the effects of SO_X from the effects of other pollutants have generally not been successful. Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as gaseous sulfuric acid and ammonium bisulfate are more toxic than nonacidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

Hydrogen Sulfide (H_2S). H_2S is a colorless, flammable, poisonous compound having a characteristic rotten-egg odor. It is used as a reagent and as an intermediate in the preparation of other reduced sulfur compounds. It is also a by-product of the desulfurization processes in the oil and gas industries and rayon production, sewage treatment, and leather tanning. Geothermal power plants, petroleum production and refining, and sewer gas are specific sources of H_2S in California. H_2S exposure is a cause of sudden death in the workplace.

Vinyl Chloride. Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified as a known carcinogen by the American Conference of Governmental Industrial Hygienists and the International Agency for Research on Cancer. At room temperature, vinyl chloride is a gas with a sickly sweet odor that is easily condensed. However, it is stored at cooler temperatures as a liquid. Due to the hazardous nature of vinyl chloride to human health, there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles. Vinyl chloride emissions are historically associated primarily with landfills.

Air Toxics

Air toxics are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. Air toxics are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical, its toxicity, and how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health.

Air toxics are emitted by a variety of industrial processes that include petroleum refining, electric utility and chrome plating operations, commercial operations, such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases). Air toxics include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food or water. The carcinogenic potential of air toxics is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from air toxics can be attributed to relatively few compounds, the most important being PM from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other air toxics in that it is a complex mixture of hundreds of substances rather than a single substance.

Diesel PM is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra-fine diesel PM are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, SO_x, nitrates, metals and other trace elements. Diesel PM is emitted from a broad range of diesel engines; the on-road diesel engines of trucks, buses and cars and the off-road diesel engines that include locomotives, marine vessels and heavy-duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to diesel PM is breathing the air that contains diesel PM. The fine and ultra-fine particles are respirable (similar to $PM_{2.5}$), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to diesel PM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or is lingering in the atmosphere.

Diesel PM causes health effects from both short-term acute exposures and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel PM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, and some neurological effects, such as lightheadedness. Acute exposure may also elicit a cough or nausea, as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies has shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel PM is a likely carcinogen. Human epidemiological studies have demonstrated an association between diesel PM exposure and increased lung cancer rates in occupational settings.

Existing Environmental Setting

The topography and climate of Southern California combine to make the Basin an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cooler surface layer which inhibits the pollutants from dispersing upward. Light winds during the summer further limit ventilation. Additionally, abundant sunlight triggers photochemical reactions which produce O_3 and the majority of PM.

Local Climate

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the Project site and its vicinity, the average wind speed, as recorded at the Reseda Wind Monitoring Station, is approximately 1.3 miles per hour. Wind in the vicinity of the Project site predominately blows from the east-southeast.[27]

The annual average temperature in the Project area is 63.4 degrees Fahrenheit (°F). The Project site and vicinity experience an average winter temperature of approximately 54.8°F and an average summer temperature of approximately 72.3°F. Total precipitation on the Project site and vicinity averages approximately 17.7 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 10 inches during the winter, approximately five inches during the spring, approximately two inches during the fall, and less than one inch during the summer.[28]

Air Monitoring Data

The SCAQMD monitors air quality conditions at 40 locations throughout the Basin. The Project site is located in SCAQMD's West San Fernando Valley and East San Fernando Valley subregions, which are served by the Reseda Air Monitoring Station and the Burbank–West Palm Avenue Air Monitoring Station, respectively. The Reseda Air Monitoring Station is located approximately three miles northwest of the DCTWRP site at 18330 Gault Street (Figure 3.3-1). The Burbank–West Palms Avenue Air Monitoring Station is located approximately five miles to the southeast of the nearest Project site at 228 West Palm Avenue. Historical data from the both stations were used to characterize existing conditions at the project sites and vicinities. Criteria pollutants monitored at the Reseda Air Monitoring Station include O_3, CO, NO_X, and $PM_{2.5}$. For PM_{10}, and NO_2, historical data were obtained from the next closest site, which is the Burbank-West Palms Avenue Air Monitoring Station. The Burbank-West Palms Avenue Air Monitoring Station was also used to measure O_3, CO, NO_X, SO_2, PM_{10} and $PM_{2.5}$ for project sites located to the east of the I-405 Freeway. Currently, these monitoring stations do not measure Pb concentrations.

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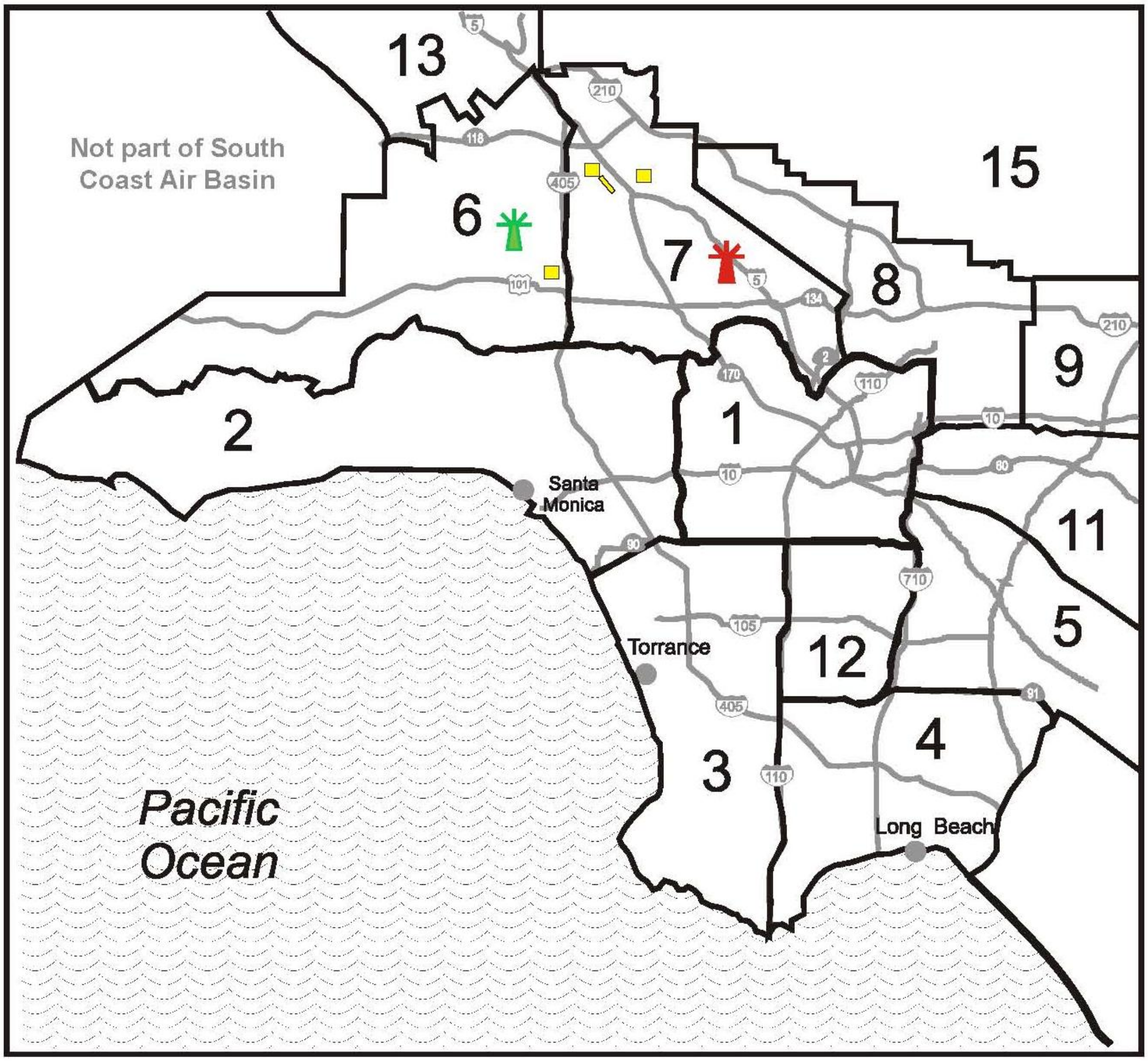
27 SCAQMD, *Meteorological Data*, available at http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod, accessed August 6, 2015.

28 Western Regional Climate Center, *Historical Climate Information,* available at http:// www.wrrc.dri.edu, accessed July 23, 2015.



LEGEND:

Project Site

Reseda Monitoring Station

Burbank - West Palms Avenue Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. **West San Fernando Valley**
7. **East San Fernando Valley**
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
15. San Gabriel Mountains

Source: South Coast Air Quality Management District Air Monitoring Areas Map, 1999

0 5.5 11.0 Miles

Figure 3.3-1

Air Quality Monitoring Locations

Table 3.3-1 shows pollutant levels, the federal and State standards, and the number of exceedances recorded at the Reseda and Burbank-West Palm Avenue Air Monitoring Stations from 2012 to 2014. As Table 3.3-1 indicates, criteria pollutants CO and NO_2 did not exceed the State standards from 2012 to 2014. However, the one-hour and eight-hour State standards for O_3 were exceeded on some days from 2012 to 2014. In addition, the maximum 24-hour State standard for PM_{10} was exceeded on some days from 2012 to 2014. The annual State standard for $PM_{2.5}$ was also exceeded on some days in 2012 and 2013 at Burbank-West Palm Avenue Station but not at the Reseda Air Monitoring Station.

Table 3.3-1
Ambient Air Quality Data

Pollutant	Pollutant Concentration & Standards	Number of Days Above Standard		
		2012	2013	2014
Reseda Air Monitoring Station				
Ozone (O_3)	Maximum 1-hr Concentration (ppm)	0.129	0.124	0.116
	Days > 0.09 ppm (State 1-hr Standard)	18	7	6
	Maximum 8-hr Concentration (ppm)	0.098	0.092	0.092
	Days > 0.075 ppm (Federal 8-hr Standard)	23	11	11
	Maximum 8-hr Concentration (ppm)	0.099	0.092	0.093
	Days > 0.07 ppm (State 8-hr Standard)	39	21	31
Carbon Monoxide (CO)	Maximum 8-hr concentration (ppm)	2.70		
	Days > 9.0 ppm (Federal 8-hr standard)	0	N/A	N/A
	Maximum 8-hr concentration (ppm)	2.85		
	Days > 9.0 ppm (State 8-hr Standard)	0		
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm)	0.0709	0.0581	0.0589
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Maximum 1-hr Concentration (ppm)	0.070	0.058	0.058
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Annual Arithmetic Means Conc. (ppm)			
	Exceed State Standard (0.053 ppm)	N/A	N/A	N/A
	Exceed State Standard (0.030 ppm)			
Respirable Particulate Matter (PM_{10})	Maximum 24-hr concentration ($\mu g/m^3$)			
	Days > 150 $\mu g/m^3$ (Federal 24-hr Standard)			
	Maximum 24-hr concentration ($\mu g/m^3$)	N/A	N/A	N/A
	Days > 50 $\mu g/m^3$ (State 24-hr Standard)			
	Annual Arithmetic Mean Concentration ($\mu g/m^3$)			
	Exceeded Days > 20 $\mu g/m^3$ (State Standard)			
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-hr Concentration ($\mu g/m^3$)	41.6	41.8	27.2
	Days > 35 $\mu g/m^3$ (Federal Standard)	2	1	0
	Annual Average Concentration ($\mu g/m^3$)	11.8	9.9	N/A
	Exceed State Standard (12 $\mu g/m^3$)	No	No	
Burbank-West Palm Avenue Air Monitoring Station				
Ozone (O_3)	Maximum 1-hr Concentration (ppm)	0.117	0.110	0.91
	Days > 0.09 ppm (State 1-hr Standard)	8	4	0
	Maximum 8-hr Concentration (ppm)	0.088	0.083	0.079
	Days > 0.075 ppm (Federal 8-hr Standard)	8	6	1
	Maximum 8-hr Concentration (ppm)	0.089	0.083	0.079
	Days > 0.07 ppm (State 8-hr Standard)	17	17	2
Carbon Monoxide (CO)	Maximum 8-hr concentration (ppm)	2.35		
	Days > 9.0 ppm (Federal 8-hr standard)	0	N/A	N/A
	Maximum 8-hr concentration (ppm)	2.35		
	Days > 9.0 ppm (State 8-hr Standard)	0		

Table 3.3-1
Ambient Air Quality Data

Pollutant	Pollutant Concentration & Standards	Number of Days Above Standard		
		2012	2013	2014
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm)	0.0795	0.0724	0.0732
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Maximum 1-hr Concentration (ppm)	0.079	0.072	0.073
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Annual Arithmetic Means Conc. (ppm)			
	Exceed State Standard (0.053 ppm)	N/A	N/A	N/A
	Exceed State Standard (0.030 ppm)			
Respirable Particulate Matter (PM_{10})	Maximum 24-hr concentration (µg/m^3)	55.0	53.3	68.6
	Days > 150 µg/m^3 (Federal 24-hr Standard)	0	0	0
	Maximum 24-hr concentration (µg/m^3)	54.0	51.0	58.0
	Days > 50 µg/m^3 (State 24-hr Standard)	1	1	1
	Annual Arithmetic Mean Concentration (µg/m^3)	25.8	28.0	N/A
	Exceeded Days > 20 µg/m^3 (State Standard)	Yes	Yes	
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-hr Concentration (µg/m^3)	54.2	45.1	64.6
	Days > 35 µg/m^3 (Federal Standard)	2	4	2
	Annual Average Concentration (µg/m^3)	18.0	17.6	N/A
	Exceed State Standard (12 µg/m^3)	Yes	Yes	

N/A: Data Not Available
Source: CARB, Air Quality Data Statistics, *Top 4 Summary*, http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed August 6, 2015.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. California Air Resource Board (CARB) has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors near the various project components include residences, the Japanese Garden, Nikkei Senior Gardens, Woodley Park, Devonshire Arleta Park, and other community parks.

3.3.2 Regulatory Setting

Federal

Federal Clean Air Act

<u>National Ambient Air Quality Standards</u>

The Clean Air Act (CAA) governs air quality in the United States, and is enforced by the USEPA. The USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the 1977 CAA and subsequent amendments. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in States other than California. Automobiles sold in California must meet stricter emission standards established by the CARB.

As required by the CAA, the NAAQS have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. Primary standards set limits to protect public health, including the health of at-risk populations such as people with pre-existing heart or lung disease (such as asthmatics), children, and older adults. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings. The CAA requires the USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for primary standards based on whether the NAAQS have been achieved. The primary federal standards are summarized in Table 3.3-2. The USEPA has classified the South Coast Air Basin (Basin) as a nonattainment area for O_3, $PM_{2.5}$, and Pb and a maintenance area for PM_{10}, CO, and NO_2.

Hazardous Air Pollutants

In addition to the criteria pollutants, the air toxics provisions of the CAA require the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, the USEPA establishes National Emission Standards for Hazardous Air Pollutants (HAP). The list of HAP or air toxics includes specific compounds that are known or suspected to cause cancer or other serious health effects.

State

California Clean Air Act

In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In California, the CCAA is administered by CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency (Cal/EPA) Agency in 1991, is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA was amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The State standards are summarized in Table 3.3-2.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}.

Table 3.3-2
State and National Ambient Air Quality Standards and Attainment Status for the South Coast Air Basin

Pollutant	Averaging Period	California		Federal	
		Standards	Attainment Status	Standards	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm (180 μg/m^3)	Nonattainment	--	--
	8-hour	0.070 ppm (137 μg/m^3)	n/a	0.075 ppm (147 μg/m^3)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 μg/m^3	Nonattainment	150 μg/m^3	Maintenance
	Annual Arithmetic Mean	20 μg/m^3	Nonattainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 μg/m^3	Nonattainment
	Annual Arithmetic Mean	12 μg/m^3	Nonattainment	12.0 μg/m^3	Nonattainment
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	Maintenance	9 ppm (10 mg/m^3)	Maintenance
	1-hour	20 ppm (23 mg/m^3)	Maintenance	35 ppm (40 mg/m^3)	Maintenance
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	30 ppb (57 μg/m^3)	Attainment	53 ppb (100 μg/m^3)	Attainment
	1-hour	0.18 ppm (338 μg/m^3)	Attainment	100 ppb (188 μg/m^3	Maintenance
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	--	0.030 ppm (80 μg/m^3)	Attainment
	24-hour	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (365 μg/m^3)	Attainment
	3-hour	--	--	75 ppb (196 μg/m^3)	--
	1-hour	0.25 ppm (655 μg/m^3)	Attainment	--	--
Lead (Pb)	30-day average	1.5 μg/m^3	Attainment	--	--
	Calendar Quarter	--	--	1.5 μg/m^3	Nonattainment
Visibility Reducing Particles	8-hour	Extinction of 0.07 per kilometer	n/a	No Federal Standards	
Sulfates	24-hour	25 μg/m^3	Attainment		
Hydrogen Sulfide	1-hour	0.03 ppm (42 μg/m^3)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 μg/m^3)	n/a		

n/a = not available
Source: CARB, *Ambient Air Quality Standards*, June 4, 2014; CARB, State Standard Area Designations, http://www.arb.ca.gov/desig/statedesig.htm; USEPA, The Green Book Nonattainment Areas for Criteria Pollutants, http://www.epa.gov/air/oaqps/greenbk/index.html.

Toxic Air Contaminant Identification and Control Act

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. CARB's statewide comprehensive air toxics program was established in the early 1980s. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)]. The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds.

California has established a two-step process of risk identification and risk management to address the potential health effects from air toxic substances and protect the public health of Californians. During the first step (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified as a TAC in California. During this process, CARB and the OEHHA staff draft a report that serves as the basis for this determination. CARB staff assesses the potential for human exposure to a substance and the OEHHA staff evaluates the health effects. After CARB and the OEHHA staff hold several comment periods and workshops, the report is then submitted to an independent, nine-member Scientific Review Panel (SRP), who reviews the report for its scientific accuracy. If the SRP approves the report, they develop specific scientific findings which are officially submitted to CARB. CARB staff then prepares a hearing notice and draft regulation to formally identify the substance as a TAC. Based on the input from the public and the information gathered from the report, the CARB Board decides whether to identify a substance as a TAC. In 1993, the California Legislature amended the Toxic Air Contaminant Identification and Control Act by requiring CARB to identify federal HAPs as State TACs.

In the second step (risk management), CARB reviews the emission sources of an identified TAC to determine if any regulatory action is necessary to reduce the risk. The analysis includes a review of controls already in place, the available technologies and associated costs for reducing emissions, and the associated risk.

The Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code Section 44360) supplements the Toxic Air Contaminant Identification and Control Act by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The "Hot Spots" Act also requires facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Diesel Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Board approved these documents on September 28, 2000, paving the way for the next step in the regulatory process, the control measure phase.

During the control measure phase, specific Statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Regarding odors, the H_2S standard has been established to protect public health and substantially reduce odor annoyance. The State does not regulate other odors.

Regional and Local

The SCAQMD monitors air quality within the Basin, including the project site. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea and Mojave Desert Air Basins. The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south (Figure 3.3-2).

Lewis-Presley Air Quality Management Act

The 1977 Lewis Air Quality Management Act was created by the SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

Air Quality Management Plan

The 2012 Air Quality Management Plan (AQMP) was adopted in December 2012 and continues the progression toward clean air and compliance with State and federal requirements. It includes a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources and area sources. The 2012 AQMP includes demonstration of attainment of the federal 24-hour $PM_{2.5}$ in the Basin through adoption of all feasible measures while incorporating current scientific information and meteorological air quality models. It also updates the USEPA approved 8-hour O_3 Control Plan with new commitments for short-term NO_X and VOC reductions. The 2012 AQMP also addresses several State and federal planning requirements. The 2012 AQMP builds upon the approach taken in the 2007 AQMP, for the attainment of federal PM and O_3 standards, and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the CAA.

Source: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998.

Figure 3.3-2

South Coast Air Basin

Air Toxics

The SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the Basin. The SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's Air Toxics Control Plan for the Next Ten Years (March 2000). To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study IV (MATES-IV), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which the SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-IV found that the cancer risk in the region from carcinogenic air pollutants ranges from about 320 to 480 in a million. About 90 percent of the risk is attributed to emissions associated with mobile sources, with the remainder attributed to toxics emitted from stationary sources, which include large industrial operations, such as refineries and metal processing facilities, as well as smaller businesses such as gas stations and chrome plating. The results indicate that diesel PM is the major contributor to air toxics risk, accounting on average for about 68 percent of the total risk.

Rules 402 and 403

The SCAQMD has established various rules to manage air quality in the Basin, including Rules 402 and 403. Rule 402 (Nuisance) states that a person should not emit air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Rule 403 (Fugitive Dust) controls fugitive dust through various requirements including, but not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas.

3.3.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

Because of the SCAQMD's regulatory role in the Basin, the significance criteria and analysis methodologies in the SCAQMD's CEQA Air Quality Guidance Handbook are used in evaluating Proposed Project impacts. The SCAQMD Local Significance Thresholds (LSTs) for NO_2, CO, and PM_{10} were initially published in Final Localized Significance Threshold Methodology (June 2003) and revised in July 2008. The LSTs for $PM_{2.5}$ were established in the Final–Methodology to Calculate Particulate Matter $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds (October 2006). Updated LSTs were published on the SCAQMD website on October 21, 2009. The following presents these significance criteria for both construction and operational emissions:

Construction

The Proposed Project would have a significant impact related to construction activity if:

- daily emissions were to exceed the SCAQMD construction thresholds presented in Table 3.3-3;
- it would generate significant emissions of TACs; and/or
- it would create an odor nuisance.

The localized construction emissions analysis is dependent on the size and location of the construction zone. Multiple methodologies were used to assess the Proposed Project based on SCAQMD Guidance. The LST look-up tables were used to assess potential impacts for project components that would disturb less than five acres per day. These significance thresholds are shown in Table 3.3-3. The DCTWRP site includes multiple overlapping construction activities, and look-up table methodology was not practical. Instead, the level of significance was determined using dispersion modeling and the following standards:

- Localized concentrations of CO exceed the one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm;
- Localized concentrations of NO_2 exceed the one-hour standard of 0.18 ppm; and/or
- Localized concentrations of $PM_{2.5}$ or PM_{10} exceed 10.4 ug/m^3.

Table 3.3-3
SCAQMD Daily Construction Emissions Thresholds

Criteria Pollutant	Regional Emissions (Pounds Per Day)	Localized Emissions (Pounds Per Day)[a] 25 Meter Receptor Distance 1-Acre Project Site	2-Acre Project Site	5-Acre Project Site
Volatile Organic Compounds (VOC)	75	--	--	--
Nitrogen Oxides (NO_X)	100	80	114	172
Carbon Monoxide (CO)	550	426	644	1,158
Sulfur Oxides (SO_X)	150	--	--	--
Fine Particulates ($PM_{2.5}$)	55	3	4	6
Particulates (PM_{10})	150	4	6	11

[a] The project components are located in LST Source Receptors Areas (SRAs) 6 and 7. The lowest of the LSTs between SRAs 6 and 7 were used to identify potential impacts.

Source: SCAQMD, 2015.

Operations

The Proposed Project would have a significant impact related to operational activity if:

- daily regional emissions were to exceed SCAQMD operational thresholds presented in Table 3.3-4;
- project-related traffic causes CO concentrations to exceed the one- and eight-hour standards of 20 ppm and 9 ppm, respectively;
- it would generate significant emissions of TACs;
- it would not be consistent with the 2012 AQMP; and/or
- it would create an odor nuisance.

Table 3.3-4
SCAQMD Daily Regional Operational Emissions Thresholds

Criteria Pollutant	Pounds Per Day
Volatile Organic Compounds (VOC)	55
Nitrogen Oxides (NO_X)	55
Carbon Monoxide (CO)	550
Sulfur Oxides (SO_X)	150
Fine Particulates ($PM_{2.5}$)	55
Particulates (PM_{10})	150

Source: SCAQMD, 2015.

Methodology

Construction

This air quality analysis is consistent with the methods described in the SCAQMD CEQA Air Quality Handbook (1993 edition), as well as the updates to the CEQA Air Quality Handbook, as provided on the SCAQMD website.

Regional and localized construction emissions were estimated using the emissions factors and rates obtained from Appendix D - the Data Tables used by CalEEMod (version 2013.2.2) for off-road construction equipment and CARB's EMFAC2014 model for on-road vehicles. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutants associated with both construction and operation from a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions. The complete list of Proposed Project components analyzed during construction and operation activities, phases, and equipment usage factors, including the assumptions used in CalEEMod, are provided in the appendix of this report. The construction analysis also includes fugitive dust emissions and architectural coating emissions for new buildings. These emissions were estimated using the methodology from CalEEMod.

Localized emissions were calculated using similar methodology to the regional emission calculations. The SCAQMD LST look-up tables were used to assess potential impacts for construction activity that would occur in one location and disturb less than five acres in one day. For construction areas with overlapping active construction areas (e.g., DTCWRP), localized construction concentrations were modeled using the USEPA American Meteorological

Society/Environmental Protection Agency Regulatory Model (AERMOD) dispersion model. Concentrations were estimated for the worst-case construction scenario. The worst case construction scenario was considered to be a day during which the maximum amount of air pollutants would be emitted, factoring in the overlap between the components of the Proposed Project.

LADWP provided detailed construction assumptions, including schedule, phasing, equipment, truck trips, and worker trips. The monthly assumptions for the 48-month construction period are included in the appendix.

Fugitive dust emissions from truck loading and earth moving are calculated based on guidelines provided in Appendix A of the CalEEMod User's Manual. Truck-loading fugitive dust is estimated by multiplying the following emission factor by the estimated amount of dirt loaded per day based on the daily number of daily truck trips:

$$EFD = k \times (0.0032) \times (U/5)1.3 / (M/2)1.4$$

Where:
- EF: emission factor (pounds per ton)
- K: particle size multiplier. The AP-42 default value for PM10 is 0.35 and that for PM2.5 is 0.053
- U: mean wind speed (miles per hour)
- M: material moisture content (%) – default moisture content of cover (12%) was used.

The equations used to calculate per mile of grading dust for PM10 and PM2.5 are presented below:

$$EFPM10 = 0.051 \times (S)2.0 \times 0.6$$
$$EFPM10 = 0.04 \times (S)2.5 \times 0.031$$

Where:
- EF: emission factor (pounds per vehicle miles traveled)
- S: mean vehicle speed (miles per hour). The AP-42 default value is 7.1 miles per hour.

The grading dust emissions for equipment are then calculated by multiplying the emission factors from the last step by the total vehicle miles traveled estimated based on equipment specific grading rates (acres per day), and then multiplying the result by the number of equipment. The vehicle miles traveled was obtained using the following formula:

$$VMT = Neq \times AS / Wb \times 43{,}560 \text{ (square feet per acre)} / 5{,}280 \text{ (feet per mile)}$$

Where:
- Neq: Number of equipment
- AS: the acreage of the grading site (acre)
- Wb: Blade width of the grading equipment. Default blade width of 12 feet is used.

The equipment specific grading rates are determined by SCAQMD for crawler tractors, graders, rubber tired dozers, and scrapers, and are 0.5, 0.5, 0.5, and 1.0 acres per 8 hour-day, respectively.

Operation

The Proposed Project would generate operational emissions associated with additional worker trips, delivery trips, and electricity use. Vehicle emissions were estimated using the EMFAC2014 model. EMFAC is the emission inventory model for motor vehicles operating on roads in California. This model reflects CARB's understanding of how vehicles travel and how much they pollute. Electricity emissions were estimated using emission rates obtained from CalEEMod.

Impact Analysis

AQ-1: *The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. The impact would be less than significant.*

The SCAQMD and SCAG have responsibility for preparing the AQMP, which details goals, policies, and programs for improving air quality in the Basin. The 2012 AQMP was adopted by the SCAQMD Board on December 7, 2012. It includes a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources and area sources. The 2012 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standard through adoption of all feasible measures while incorporating current scientific information and meteorological air quality models. It also updates the O_3 Control Plan with new commitments for short-term NO_X and VOC reductions.

According to the SCAQMD, there are two key indicators of consistency with the AQMP: 1) whether the project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and 2) whether the project will not exceed the assumptions in the AQMP based on the year of project buildout. The first consistency criterion refers to violations of the CAAQS. Construction emissions for the Proposed Project would be temporary and would not have a long-term impact on the region's ability to meet State and federal air quality standards. In addition, the Proposed Project would comply with State and local strategies designed to control air pollution, such as Rule 403 for the control of fugitive dust during construction. By meeting SCAQMD rules and regulations, Project construction activities would be consistent with the goals and objectives of the AQMP to improve air quality in the Basin. Operational emissions (e.g., worker trips) would not exceed the SCAQMD significance thresholds, and would not interfere with attainment or maintenance of ambient air quality standards. Therefore, the Proposed Project would comply with Consistency Criterion No. 1.

The second consistency criterion requires that the Proposed Project not exceed the assumptions in the AQMP. A project is consistent with the AQMP if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. The Proposed Project does not include a residential component, and, therefore, would not increase population or housing in the area. The 16 new employees generated by the Proposed Project would not significantly change employment projections in the City of Los Angeles. In addition, as discussed below, the Proposed Project would not result in significant operational emissions. The Proposed Project is considered to be consistent with growth assumptions included in the AQMP, and it would comply with Consistency Criterion No. 2. Therefore, impacts related to consistency with the AQMP would be less than significant.

AQ-2: *Construction of the Proposed Project would cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation as a result of daily NO_x emissions and localized construction PM10 emissions. With incorporation of Mitigation Measure AQ-A, impacts would be reduced to a less than significant level. Operation of the Proposed Project would not cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation.*

Construction

Construction of the Proposed Project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the Project site. Fugitive dust emissions would primarily result from site preparation (e.g., grading) activities. NO_X emissions would primarily result from the use of construction equipment and truck trips. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Rule 403 control requirements include measures to prevent the generation of visible dust plumes. Measures include, but are not limited to, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system or other control measures to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent. Table 3.3-5 shows the unmitigated maximum daily regional emissions by year. Unmitigated maximum daily emissions would exceed the SCAQMD significance thresholds for NO_X in 2020. Therefore, without mitigation, the Proposed Project would result in a significant impact related to regional construction emissions.

Table 3.3-5
Regional Construction Emissions – Unmitigated

Construction Phase and Annual Maximum Emissions	Pounds Per Day					
	VOC	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
2018[a]	3	41	26	0.1	2	3
2019[b]	4	78	35	0.2	2	6
2020[c]	8	102	75	0.3	4	9
2021[d]	7	78	77	0.2	4	7
2022[e]	4	46	55	0.1	2	5
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	**Yes**	No	No	No	No

[a] 2018 maximum emissions would occur during warehouse construction.
[b] 2019 maximum emissions would when occur during construction of flow equalizer tank.
[c] 2020 maximum emissions would when the following phases overlap: flow equalizer tank, advanced water purification facility, recycled water pipeline.
[d] 2021 maximum emissions would when the following phases overlap: advanced water purification facility, brine line, and Pacoima spreading grounds.
[e] 2022 maximum emissions would when the following phases overlap: advanced water purification facility, Balboa pump station expansion, and Pacoima spreading grounds.
Source: TAHA, 2016

An analysis has been completed to assess local exposure to construction emissions. Localized emissions include equipment exhaust and fugitive dust. Recycled water pipeline construction activity was assessed using a one-acre project site and a 25-meter receptor distance. This is the most conservative LST threshold in the SCAQMD guidance. LADWP indicated that PSG and HSG construction activity would require up to seven pieces of earth-moving equipment, which would disturb approximately 3.5 acres per day. There would be sensitive receptors adjacent to PSG activity, although the closest sensitive receptor to HSG would be a residence located approximately 1,175 feet to the southwest. Table 3.3-6 includes maximum localized emissions associated with construction activity for the recycled water pipeline, PSG, and HSG. As shown in Table 3.3-6, localized emissions would not exceed the SCAQMD LSTs.

Table 3.3-6
Localized Significance Threshold Analysis

Project Component	Pounds Per Day			
	NO_X	CO	$PM_{2.5}$	PM_{10}
Recycled Water Pipeline	19	13	1	2
Localized Significance Threshold[a]	**80**	**426**	**3**	**4**
Exceed Threshold?	No	No	No	No
Pacoima Spreading Ground	28	29	1	2
Localized Significance Threshold[b]	**114**	**786**	**4**	**7**
Exceed Threshold?	No	No	No	No
Hansen Spreading Ground	24	29	1	2
Localized Significance Threshold[c]	**144**	**2,786**	**21**	**62**
Exceed Threshold?	No	No	No	No

[a] The localized significance thresholds are based on a one-acre project site and a 25-meter receptor distance.
[b] The localized significance thresholds are based on a 2-acre project site and a 25-meter receptor distance.
[c] The localized significance thresholds are based on a 2-acre project site and a 200-meter receptor distance.
Source: TAHA, 2016

The LST look-up tables cannot be used for construction activity at DCTWRP. The construction process would include overlapping activities at different locations. The look-up tables cannot be adjusted to account for overlapping emissions with multiple receptor distances. Therefore, localized concentrations were modeled using AERMOD and compared to the CAAQS. Table 3.3-7 includes maximum localized concentrations associated with construction activity for the recycled water pipeline, PSG, and HSG. Localized concentrations for PM_{10} would exceed SCAQMD's threshold of 10.4 $\mu g/m^3$ for receptors located at the Japanese Garden. Therefore, without mitigation, the Proposed Project would result in a significant impact related to localized construction emissions. With implementation of Mitigation Measure AQ-A, impacts would be reduced to less than significant.

Table 3.3-7
Localized Concentrations Associated with DCTWRP Construction Activity

Pollutant	Concentration at Nearest Sensitive Receptor	Significance Threshold	Significant Impact?
Japanese Garden Maximum Concentrations			
$PM_{2.5}$ (µg/m^3)	5.74	10.4	No
PM_{10} (µg/m^3)	12.64	10.4	**Yes**
NO_2 (ppb)	19.1	180	No
CO (One-Hour) (ppm)	0.220	20	No
CO (Eight-Hour) (ppm)	0.062	9.0	No
Woodley Park Maximum Concentrations			
$PM_{2.5}$ (µg/m^3)	1.83	10.4	No
PM_{10} (µg/m^3)	4.33	10.4	No
NO_2 (ppb)	5.6	180	No
CO (One-Hour) (ppm)	0.112	20	No
CO (Eight-Hour) (ppm)	0.032	9.0	No
Residences on Victory Boulevard Maximum Concentrations			
$PM_{2.5}$ (µg/m^3)	0.27	10.4	No
PM_{10} (µg/m^3)	0.65	10.4	No
NO_2 (ppb)	1.8	180	No
CO (One-Hour) (ppm)	0.022	20	No
CO (Eight-Hour) (ppm)	0.006	9.0	No

Source: TAHA, 2016

Operation

The Proposed Project would generate regional emissions from worker vehicle trips and delivery trucks. Regarding mobile emissions, vehicle trips associated with 16 full-time staff and 7 chemical truck deliveries per month would generate less than one pound per day of each criteria pollutant. In addition, the Proposed Project would not include other sources of potentially significant emissions, such as landscape maintenance activity or natural gas consumption. Operational emissions would not exceed the SCAQMD significance thresholds. Therefore, impacts related to operational emissions would be less than significant.

AQ-3: *The Proposed Project would result in a cumulatively considerable net increase of criteria pollutant emissions associated with construction of the Proposed Project. With incorporation of Mitigation Measure AQ-A, impacts would be reduced to a less than significant level. Operation of the Proposed Project would not result in a cumulatively considerable net increase of criteria pollutant emissions; therefore, impacts would be less than significant.*

Because the Basin is designated as State and/or federal nonattainment for O_3, $PM_{2.5}$, PM_{10}, NO_2, and Pb, there is an ongoing regional cumulative impact associated with these pollutants. An individual project can emit these pollutants on a regional level without significantly contributing to this cumulative impact depending on the magnitude of emissions. The SCAQMD has indicated that the project-level thresholds may be used as an indicator defining if project emissions contribute to a cumulative impact. As discussed above, unmitigated construction emissions would exceed the regional significance threshold for NO_X and the localized significance threshold for PM_{10}. Therefore, without mitigation, the Proposed Project would contribute to a cumulatively considerable net increase of criteria pollutants. With implementation of Mitigation Measure AQ-A, impacts would be reduced to less than significant.

AQ-4: *Neither construction nor operation of the Proposed Project would expose sensitive receptors to substantial pollutant concentrations. The impact would be less than significant.*

Construction

The greatest potential for TAC emissions during construction would be diesel PM emissions associated with heavy equipment operations. The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC and HAP emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. Local exposure would range from weeks to months depending on the construction phase and location. For example, construction activity associated with the AWPF would occur in one general location for 30 months. However, construction of the recycled water pipeline would move relatively rapidly along the alignment. Construction activity would not occur with enough intensity and duration to significantly increase health risk. In addition, the Proposed Project would be subject to the regulations and laws relating to TACs at the regional, State, and federal level that would protect sensitive receptors from substantial concentrations. Therefore, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations related to construction emissions.

Installation of the recycled water pipeline would affect traffic whenever a mixed-flow traffic lane is closed for construction activities. Reduced speeds through construction zones would result in additional localized concentrations. Traffic congestion would lessen as some automobile travelers would reroute to parallel streets when lane closures would occur. In addition, construction activities would be limited to short segments of public roads at one time to minimize long-term traffic disruption. Therefore, impacts related to localized concentrations from traffic during construction would be less than significant.

Operation

The SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel PM emissions (e.g., truck stops and distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[29] The Proposed Project components would not include a new source of significant operational TAC emissions. New truck trips would be minimal (seven chemical deliveries per month), and would not warrant a long-term exposure health risk assessment that is typically reserved for distribution facilities. Therefore, impacts related to operational TAC emissions would be less than significant.

AQ-5: *The Proposed Project would not create objectionable odors affecting a substantial number of people. The impact would be less than significant.*

Construction

Potential sources that may emit odors during construction activities include equipment exhaust and architectural coatings. Odors from these sources would be localized and generally confined

[29] SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions, December 2002.

to the immediate area surrounding the project site. The Proposed Project would utilize typical construction techniques (e.g., diesel-fueled heavy-duty equipment), and the odors would be typical of most construction sites and temporary in nature. Therefore, impacts related to construction odors would be less than significant.

Operation

LASAN prepared a Master Plan that evaluates the current odor control program; conducts studies in strategic areas throughout the City; identifies causes of odors; and provides recommendations for improvements (City of Los Angeles 2013). The Master Plan includes assessing and controlling odors at DCTWRP. The City uses 65-percent magnesium hydroxide slurry as a non-hazardous means to regulate odors, which raises the pH of the wastewater. As the pH of wastewater rises, the natural state of sulfides in the wastewater shifts away from the offensive sulfur dioxide gas towards dissolved sulfides in solution. Therefore, magnesium hydroxide is added to wastewater to maintain a high pH, thereby providing effective odor control. This control measure is currently used at DCTWRP where it is injected at the plant and introduced to the Additional Valley Outfall Relief Sewer (AVORS) to raise the pH of the downstream sewers. The plant would continue to adhere to the Sewer Odor Control Master Plan to ensure adequate odor control, and magnesium hydroxide would continue to be used at DCTWRP. Therefore, it is not anticipated that the Proposed Project would generate new odors. The conveyance and replenishment elements (recycled water pipeline alignment, PSG, and HSG) of the Proposed Project have no potential to generate odors. Therefore, impacts related to operational odors would be less than significant.

3.3.4 Mitigation Measures

To reduce construction-related NO_X and localized PM emissions, the Proposed Project would implement all applicable control measures for the duration of the construction period, as follows:

AQ-A The City shall ensure that diesel-powered construction equipment greater than 50 horsepower meets the USEPA Tier 3 emission standards.

3.3.5 Significance After Mitigation

Construction activity would result in an unmitigated regional NO_X and a localized PM_{10} impact. Implementation of Mitigation Measure AQ-A requires USEPA Tier 3 emission controls for engines rated between 50 and 750 horsepower. Tier 3 emissions controls were phased-in between 2006 and 2008, and this equipment is readily available for use. The unmitigated emissions from CalEEMod were based on a combination of Tier 1 through Tier 3 emissions standards. Tier 3 emissions standards would reduce PM, CO, VOC, and NO_X emissions.

The only identified impacts were related to NO_X and PM_{10}, and, as such, NO_X and PM_{10} are the only pollutants assessed in the mitigated analysis. Implementation of Mitigation Measure AQ-A would reduce maximum regional NO_X emissions from 101 to 74 pounds per day, and maximum localized PM_{10} from 12.6 to 10.2 $\mu g/m^3$. Mitigated emissions would be less than the SCAQMD significance threshold of 100 pounds per day for NO_X and 10.4 $\mu g/m^3$ for PM_{10}. Therefore, with mitigation, the Proposed Project would result in a less than significant impact related to regional and localized construction emissions.

As described above, mitigated emissions would be less than the regional significance threshold for NO_X and the localized significance threshold for PM_{10}. Therefore, with mitigation, the

Proposed Project would not contribute to a cumulatively considerable net increase of criteria pollutants and impacts would be less than significant.

SECTION 3.4
BIOLOGICAL RESOURCES

This section evaluates existing biological resources at the Project components and describes the impacts resulting from implementation of the Proposed Project. The following analysis is based on the Biological Technical Report, prepared for the Proposed Project by AECOM. This report is included as Appendix D of this Draft EIR.

3.4.1 Environmental Setting

Overview of Environmental Setting

Onsite Components

Onsite components consist of the proposed new facilities within the DCTWRP site, including the AWPF and ancillary facilities, maintenance building, warehouse, and flow equalization tank (Figure 2-7); and the brine line (Figure 2-8). These proposed components and a 300-foot buffer around them comprise the Biological Survey Area (BSA), the focus of the biological resource field survey.

As described in Chapter 2, DCTWRP components and the brine line would occur in the Sepulveda Basin, a Corps-owned and managed facility purposed for flood control, recreation opportunities, natural resources preservation and enhancement, and other uses. DCTWRP is surrounded by (but not abutting) Victory Boulevard to the north, Woodley Avenue to the west and south, and I-405 to the east. It is immediately surrounded by Woodley Avenue Park on the west, south, and east, and by an Air National Guard facility on the north. The proposed brine line generally runs north along the eastern perimeter of the DCTWRP site, then extending farther north and east for approximately 1,000 feet to its connection point with the existing VORS, near the intersection of Victory Boulevard and Haskell Avenue.

Offsite Components

Offsite components include the proposed recycled water pipeline along Arleta Avenue (Figure 2-9), and improvements at PSG (Figure 2-10) and HSG (Figure 2-11). These components lie between 5 and 6 miles northeast of DCTWRP. As described in Chapter 2, the proposed recycled water pipeline would be installed in the roadway, where it would extend from an existing recycled water pipeline at Branford Street, northwest for approximately two miles within Arleta Avenue to PSG. The recycled water pipeline would be suspended over the channel, either independently or attached to the bridge. The existing pipeline extends farther to the northeast for approximately two miles to HSG, in the community of Sun Valley. New outlet structures and flow meters are proposed at PSG and HSG.

The BSA of the proposed recycled water pipeline along Arleta Avenue includes urban development, with residences and small-scale commercial uses along the eastern and western sides of Arleta Avenue. Residential development includes primarily single family homes with ornamental landscapes.

Vegetation

Onsite Components

The DCTWRP site is entirely developed with buildings, water treatment facility infrastructure (i.e., aeration tanks, clarification chambers, filtration units), paved roads and parking areas, and landscapes of lawn and ornamental plantings. No natural vegetation communities were identified within the site. Typical ornamental plants observed within the DCTWRP site included non-natives such as bottlebrush (*Callistemon citrinus*), jacaranda (*Jacaranda mimosifolia*), olive (*Olea europaea*), eucalyptus (*Eucalyptus* spp.), philodendron (Philodendron spp.), and common periwinkle *(Vinca minor*). Native ornamental pine (*Pinus* spp.), sycamore (*Platanus racemose*), oak (*Quercus* spp.) bay laurel (*Umbellularia californica*), and alder (*Alnus* sp.) were also observed.

Athletic fields, large areas of lawn, the National Guard building, and the Japanese Garden surround DCTWRP. The 6.5-acre Japanese Garden, at the northwest corner of the DCTWRP site, includes terrestrial and aquatic habitats, with a basic style of gardening known as a "wet garden with promenade."[30] It is a strolling garden with pathways that transect vast areas of lawn and ornamental landscapes of trees and shrubs typical of Japanese gardens (i.e. willow, cherry, peach, ginkgo). No natural vegetation communities were identified in the BSA surrounding the DCTWRP site.

The alignment of the proposed brine line from the proposed AWPF to its connection with the VORS follows the southern then eastern perimeter of the DCTWRP facility, traversing primarily paved roads but also some areas of ornamental plantings, including plantings of coast live oak (*Quercus agrifolia*). Outside of the site, the alignment follows a paved road associated with the National Guard facility, then transects the Orange Line Busway, Orange Line Bike Path, and associated ornamental roadside habitat. Haskell Creek occurs in the BSA, near the proposed tie-in to the VORS; however, the brine line would not intersect the creek. No natural vegetation communities were identified within the BSA of the brine line.

No federally or state-listed plant species were observed during the field survey.

Offsite Components

Vegetation within the BSA of the proposed recycled water pipeline includes ornamental plantings and lawns associated with residential development along Arleta Avenue. Large mature street trees are present including eucalyptus, pine, palm, and other ornamental species. No natural vegetation communities were observed within the BSA of the proposed recycled water pipeline.

Habitat at the locations of the proposed improvements at the spreading grounds consists of bare ground or concrete. In general, PSG and HSG consist primarily of barren or sparsely vegetated infiltration basins separated by raised dirt roads that divide the spreading grounds into basins. Some vegetation was present in the infiltration basins at both spreading grounds during the survey; however, dry conditions made the identification of vegetation difficult. Common sunflower (*Helianthus annuus*), short-pod mustard (*Hirschfeldia incana*), and brome grasses were identified. Additionally, some eucalyptus, pine, and palm trees were observed along the perimeter of the spreading grounds, especially at PSG. More barren conditions were

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30 SuihoEn The Japanese Garden, SuihoEn "Garden of Water & Fragrance", available at: http://www.thejapanesegarden.com/, accessed August 18, 2015.

prevalent at HSG. Residential development generally occurs within the BSA surrounding PSG and industrial-commercial development within the BSA surrounding HSG. Tujunga Wash runs along the southern perimeter of HSG; however, this reach of the wash is completely encased in concrete. A narrow strip of natural vegetation composed of California buckwheat (*Eriogonum fasciculatum*) occurs high along the opposite bank of Tujunga Wash from HSG; however, the community is generally sparse and of poor habitat quality, and has likely been disturbed by previous development of the wash and the adjacent Valley Generating Station (VGS). No other natural vegetation communities were observed within the BSA of PSG and HSG.

Wildlife Species

Onsite Components

Wildlife identified during the field survey of onsite DCTWRP components included bird species typical of urban areas, including bushtit (*Psaltriparus minimus*), American crow (*Corvus brachyrhynchos*), song sparrow (*Melospiza melodia*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), Northern mockingbird (*Mimus polyglottos*), yellow-rumped warbler (*Dendroica coronate*), house sparrow (*Passer domesticus*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), and rock pigeon (*Columba livia*). The majority of observations were of birds foraging and resting in and around ornamental vegetation. One raptor, red-shouldered hawk (*Buteo lineatus*) was also observed. Western fence lizard (*Sceloporus occidentalis*) and cottontail rabbit (*Sylvilagus audubonii*) were also observed within the BSA of onsite components.

Offsite Components

Wildlife identified during the field survey of offsite components included American crow, house finch, lesser goldfinch, house sparrow (*Passer domesticus*), and European starling (*Sturnus vulgaris*). Two raptor species, red-tailed hawk (*Buteo jamaicensis*) and turkey vulture (*Cathartes aura*) were also observed, both at PSG.

No federally or state-listed wildlife species were observed during the field survey at any portion of the Project sites.

Natural Communities

Sensitive natural communities are those that are designated as rare in the region by the California Natural Diversity Database (CNDDB), support special-status plant or wildlife species, or receive regulatory protection (i.e., Section 404 of the Clean Water Act and/or the Section 1600 *et seq.* of the California Fish and Game Code). Rare communities are given the highest inventory priority. Based on a review of the CNBBD in July 2015, a total of seven sensitive vegetative communities have been recorded within the Van Nuys quadrangle, within which both the onsite and offsite components occur, and the surrounding eight quadrangles (San Fernando, Beverly Hills, Burbank, Canoga Park, Goat Mountain, Hollywood, Sunland, and Topanga), including California Walnut Woodland, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana Sucker Stream, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, and Southern Sycamore Alder Riparian Woodland.

Onsite Components

None of the identified sensitive vegetative communities were observed in the BSA for the onsite DCTWRP components. Records in the CNDDB of these sensitive natural communities are from over three miles to the south and southwest in the Santa Monica Mountains and from ten miles to the east-northeast in the Verdugo Mountains, and farther east in the Angeles National Forest. The nearest occurrence of a sensitive natural community was documented during the field survey from 0.5 mile south-southwest of DCTWRP, where southern arroyo willow riparian forest is established along the Los Angeles River as it flows through the Sepulveda Basin.

Offsite Components

None of the identified sensitive vegetative communities were observed in the BSA for the offsite components, and records in the CNDDB of these sensitive natural communities are from 0.5 mile southwest and northeast of HSG, where Riversidian Alluvial Fan Sage Scrub have been documented. Most occurrences in the vicinity of offsite components occur over two miles to the east in undisturbed habitats of the Angeles National Forest. The nearest occurrence of a sensitive natural community was documented during the field survey from 0.5 miles north of HSG, where southern willow forest and woodland is established within Hansen Dam.

Special-Status Plant Species

Special-status plant species include those listed as Endangered, Threatened, Rare or those species proposed for listing (Candidates) by the United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the California Native Plant Society (CNPS).[31,32,33] The CNPS's listing is sanctioned by CDFW and serves as their list of "candidate" plant species. CNPS species with a California Rare Plant Rank (CRPR; formerly known as California Native Plant Society Listing) of 1B or 2 are considered eligible for state listing as endangered or threatened under the California Fish and Game Code. Such species are to be fully considered during preparation of environmental documents subject to CEQA. California Rare Plant Rank 3 and 4 species are considered to be either plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and the CNPS and CDFW recommend that these species also be evaluated for consideration during the preparation of CEQA documents.

Based on a query of the CNDDB and CNPS listing, 51 special-status plant species have previously been recorded from the Van Nuys and surrounding eight quadrangles. These species and their sensitivity status, preferred habitat, and an assessment of their potential to occur at the Project site are presented in Appendix D of this Draft EIR.

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31 Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (Title 50 Code of Federal Regulations [CFR] 17.12 [listed plants], Title 50 CFR 17.11 [listed animals] and includes notices in the Federal Register for proposed species).

32 Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (Title 14 California Code of Regulations 670.5).

33 Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 *et seq.*).

Onsite Components

No special-status plant species were observed during the field survey of the BSA, and no habitat potentially suitable for special-status plant species is present within proposed onsite components. Additionally, there are no historical records in the CNDDB of special status plant species from the BSA of onsite components.

Offsite Components

No special-status plant species were observed during the field survey of the BSA, and no habitat potentially suitable for special-status plant species is present within proposed offsite components. Davidson's bushmallow (*Malacothamnus davidsonii*), assigned a California Rare Plant Rank of 1B.2 (plants rare, threatened, or endangered in California and elsewhere) by the CNPS, is documented in the CNDDB to occur in the BSA of HSG, along Tujunga Wash; however, this record dates back to 1928, and habitat suitable for this species does not currently exist along Tujunga Wash. No other special status plant species are documented in the CNDDB from the BSA of offsite components.

Special-Status Wildlife Species

Special-status wildlife species include those listed by the USFWS under the federal Endangered Species Act (FESA) and by CDFW under the California Endangered Species Act (CESA). USFWS officially lists species as either threatened, endangered, or as Candidates for listing. Additional wildlife species receive federal protection under the Bald Eagle Protection Act (e.g., bald eagle, golden eagle), the Migratory Bird Treaty Act, and state protection under CEQA Section 15380(d).

All birds, except European starlings, English house sparrows, rock doves (pigeons), and non-migratory game birds such as quail, pheasant, and grouse, are protected under the Migratory Bird Treaty Act. However, non-migratory game birds are protected under California Fish and Game Code Section 3503. Many other species are considered by CDFW to be California Species of Special Concern, and others are on a CDFW Watch List. The CNDDB also tracks species within California for which there is conservation concern, including many which are not formally listed, and assigns them a CNDDB rank. Although Species of Special Concern, CDFW Watch List species, and species that are tracked by the California Natural Diversity Database are not formally listed or afforded official legal status, they may receive special consideration during the CEQA review process. CDFW further classifies some species as "Fully Protected," indicating that the species may not be taken or possessed except for scientific purposes, under special permit from CDFW. Additionally, California Fish and Game Code Sections 3503, 3505, and 3800 prohibit the take, destruction or possession of any bird, nest, or egg of any bird except English house sparrows and European starlings unless authorization is obtained from the CDFW.

Based on a query of the CNDDB, 41 special-status wildlife species have previously been recorded from the Van Nuys and surrounding eight quadrangles. An additional species, Cooper's hawk (*Accipiter cooperii*) was included in the list of special-status wildlife species because of its known occurrences in urban southern California environments, making a total of 42 special-status wildlife species that were evaluated. These species and their sensitivity status, preferred habitat, and an assessment of their potential to occur within the BSA are presented in Appendix D of this Draft EIR.

Onsite Components

No special-status wildlife species were observed during the field survey of the BSA, and no habitat potentially suitable for special-status wildlife species is present within proposed onsite components. Least Bell's vireo (*Vireo bellii pusillus*), a federal and state-endangered species, is documented in the CNDDB from 2004 to coincide with the southern portion of the DCTWRP site. This record indicates that a lone male vireo was detected, indicating it was likely a transient in the area. Suitable habitat for this species occurs approximately 0.5 miles to the south-southwest along the Los Angeles River; however, suitable habitat for this species does not occur within the BSA of onsite components. No other special status wildlife species are documented in the CNDDB from the BSA of onsite components.

Offsite Components

No special-status wildlife species were observed during the field survey of the BSA, and no habitat potentially suitable for special-status wildlife species is present within proposed offsite components. Additionally, there are no historical records in the CNDDB of special status wildlife species from the BSA of offsite components.

Wildlife Corridors

Onsite Components

The Los Angeles River, which lies approximately 0.5 mile south of the DCTWRP site, is of regional importance for wildlife movement, providing connections farther north and west into the San Fernando Valley and south to the Pacific Ocean. Movement along the river corridor; however, has been affected by development along its banks and channelization of the river in concrete. It however remains a viable corridor for some wildlife dispersement in the urban setting of the San Fernando Valley and points south towards the Pacific Ocean.

In addition, the Santa Monica Mountains Significant Ecological Area (SEA) is located approximately three miles southwest of onsite components, providing a large area of natural open space habitat for wildlife in western Los Angeles County. Although impacted by development in the far eastern portion of its range, the Santa Monica Mountains allow wildlife movement through relatively vast and undisturbed habitats. With its large size and variations in topography, wildlife utilizes natural corridors that allow movement between large open space areas within the range, as well as between the Simi Hills to the north.

Offsite Components

Tujunga Wash, which runs along the southern perimeter of HSG, is of local importance for wildlife movement, providing connections between the San Fernando Valley and undisturbed habitats upstream of Hansen Dam. Movement along the wash corridor, however, has been affected by development along its banks and channelization of the entire wash in concrete downstream of Hansen Dam. It however remains a viable corridor for some wildlife to disperse between the urban setting of the San Fernando Valley and points east towards undisturbed habitats behind Hansen Dam and farther east into the Angeles National Forest.

HSG falls within the Tujunga Valley/Hansen Dam SEA, which also includes within its boundaries the Hansen Flood Control Basin, an approximate five-mile reach of Big Tujunga Creek/Tujunga Wash upstream of Hansen Dam, recreation facilities at the base of the dam (i.e. Hansen Dam

Park and Hansen Dam Golf Course), and extending southwest to San Fernando Boulevard to include HSG (Figure 3.4-1). This SEA provides a large and unique area of natural open space habitat for wildlife in the northeastern portion of the San Fernando Valley, and provides connections to undisturbed habitats farther east into the Angeles National Forest. The Big Tujunga Creek area is recognized for its great importance to migrating birds on the Pacific Flyway as well as the rare habitat of alluvial fan scrub, which provides habitat for uncommon resident birds. Tujunga Wash, above the dam and into the Angeles National Forest beyond the SEA, is designated critical habitat for the federally-threatened Santa Ana sucker (*Catastomus santaanae*) (Figure 3.4-2). Two other special-status fish species, arroyo chub (*Gila orcuttii*) and speckled dace (*Rhinichthys osculus* ssp. 3) also occur in the SEA, in Tujunga Wash and upstream in Big Tujunga Creek. The proposed recycled water pipeline and PSG occur approximately 2 to 3 miles west of this SEA.

Additionally, the Verdugo Mountains SEA occurs approximately 3 to 6 miles southeast of offsite components (Figure 3.4-1). This SEA provides a large “island” refuge surrounded by metropolitan Los Angeles, Burbank, and Glendale. It provides what remains of a link between populations found in the Santa Monica Mountains to the west and San Gabriel Mountains to the east.

3.4.2 Regulatory Setting

Federal

Endangered Species Act

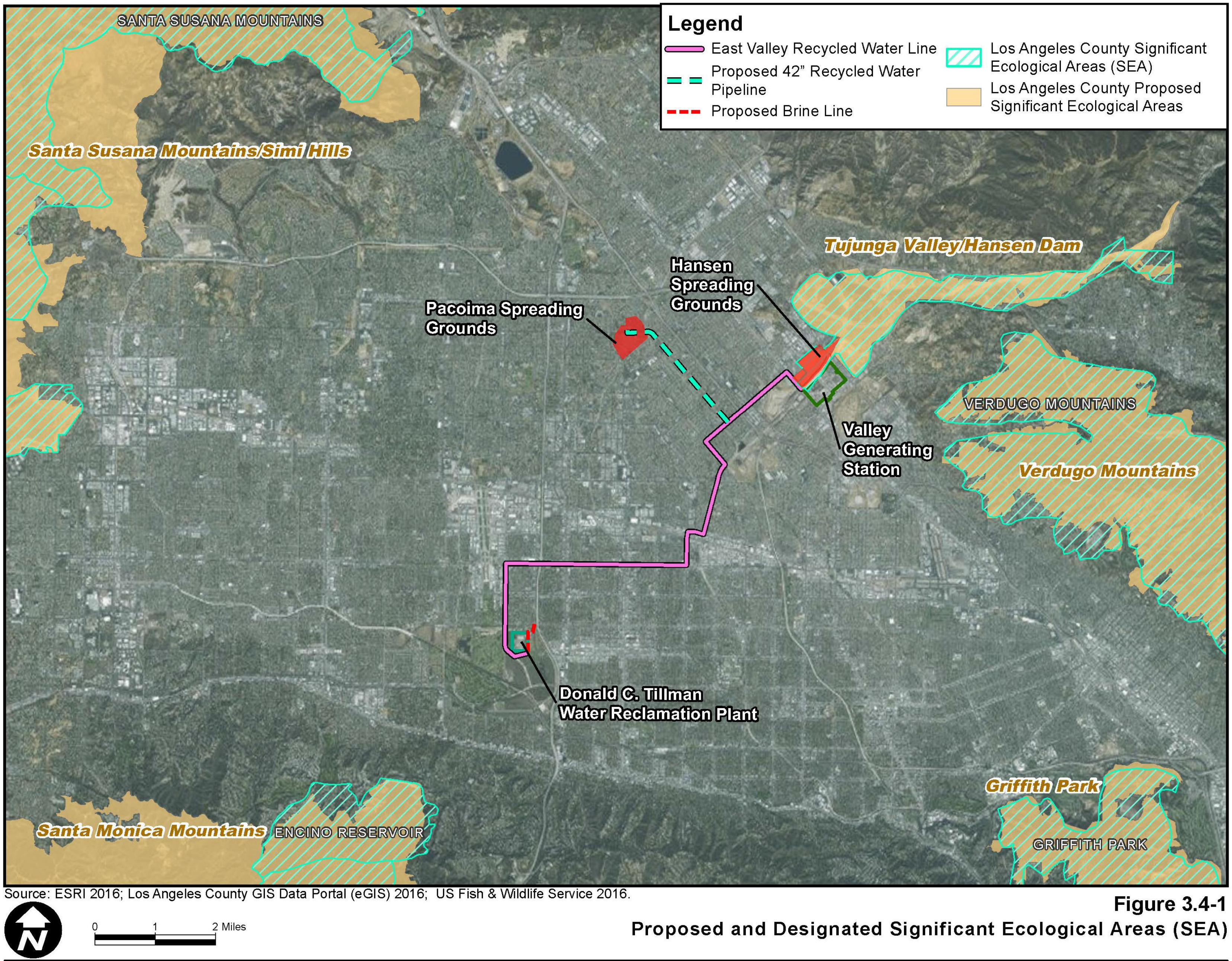
Enacted in 1973, the FESA provides for the conservation of threatened and endangered species and their ecosystems. The act prohibits the “take” of threatened and endangered species except under certain circumstances and only with authorization from the USFWS through a permit under Section 4(d), 7 or 10(a). Under the FESA, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”.[34]

Formal consultation under Section 7 of the Endangered Species Act is required if a project has the potential to impact a federally-listed species that has been detected within or adjacent to a project site.

Migratory Bird Treaty Act

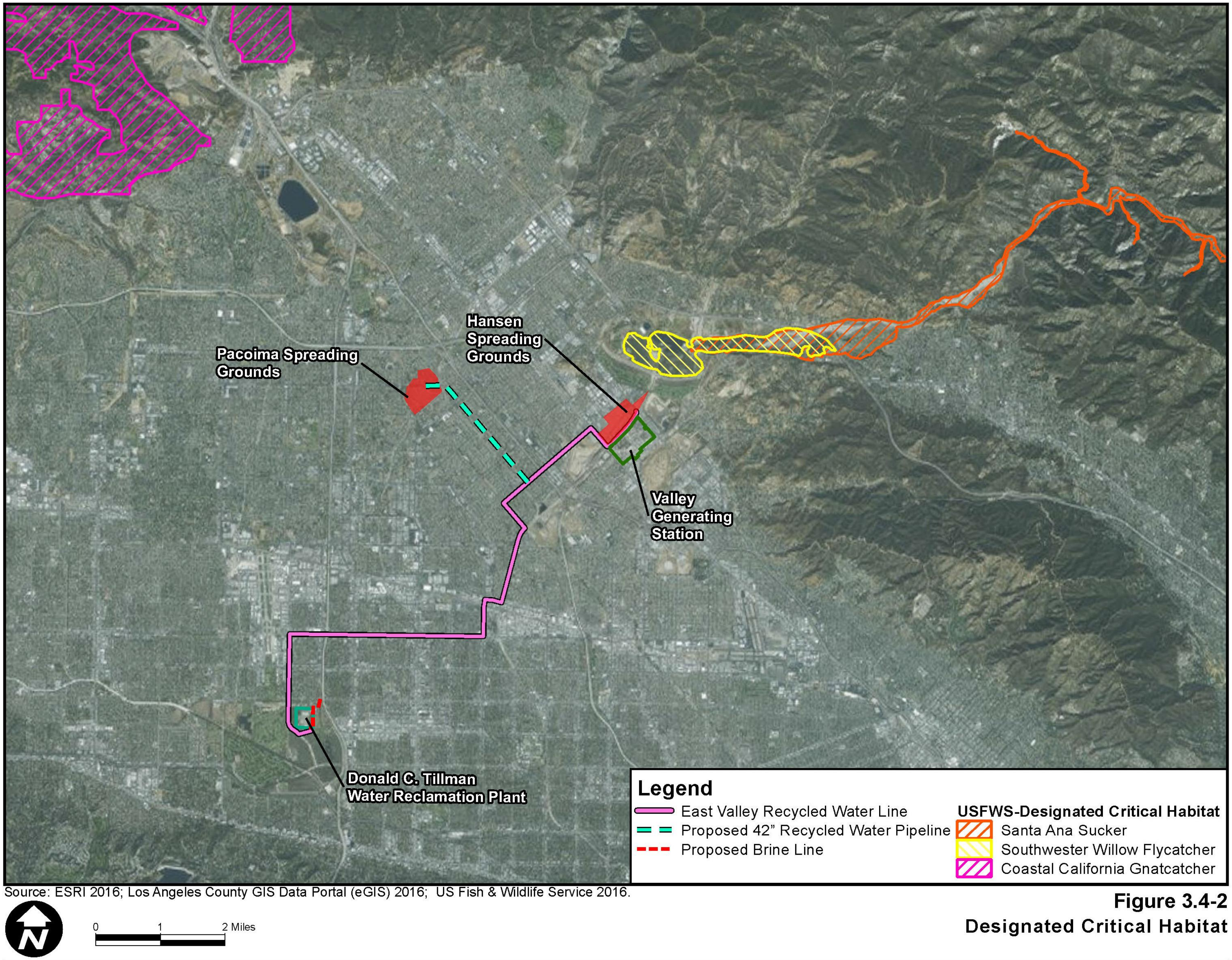
Congress passed the Migratory Bird Treaty Act (MBTA) in 1918 to prohibit the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the United States and Great Britain, the United States and Mexico, the United States and Japan, and the United States and Russia.[35]

[34] U.S.C. Title 16, Chapter 35, Sections 1531-1544.
[35] U.S.C. Title 16, Chapter 7, Subchapter II, Sections 703-712.



Source: ESRI 2016; Los Angeles County GIS Data Portal (eGIS) 2016; US Fish & Wildlife Service 2016.

Figure 3.4-1
Proposed and Designated Significant Ecological Areas (SEA)



Source: ESRI 2016; Los Angeles County GIS Data Portal (eGIS) 2016; US Fish & Wildlife Service 2016.

Figure 3.4-2
Designated Critical Habitat

Migratory bird species receive federal protection under the MBTA and state protection under the CEQA §15380(d). In the case of bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), additional protection is offered under the federal Bald and Golden Eagle Protection Act. All birds, except European starlings, English house sparrows, rock doves (pigeons), and non-migratory game birds such as quail, pheasant, and grouse, are protected under the MBTA.

No permit is issued under the MBTA; however, a project would need to employ measures that would avoid or minimize impacts to protected migratory birds.

Clean Water Act

The Clean Water Act of 1997, as amended, provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. The act sets up a system of water quality standards, discharge limitations, and permit requirements. Activities that have the potential to discharge dredge or fill materials into jurisdictional waters of the U.S., which include those waters listed in 33 Code of Federal Regulations 328.3 (Definitions), are regulated under Section 404 of the Act, as administered by the Corps.[36]

Section 401 of the Clean Water Act requires a water quality certification from the state for all permits issued by the Corps under Section 404 of the Clean Water Act. The Regional Water Quality Control Board (RWQCB) is the state agency in charge of issuing a Clean Water Act Section 401 water quality certification or waiver.

State

California Fish and Game Code Section 1600

The California Fish and Game Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as impacts to natural resources such as wetlands and waters of the state. It includes the CESA (Sections 2050-2115) and Streambed Alteration Agreement regulations (Section 1600 *et seq.*).

Wildlife "take" is defined by CDFW, as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Protection extends to the animals, dead or alive, and all their body parts. Section 2081 of the CESA allows CDFW to issue an incidental take permit for state-listed threatened or endangered species, should the proposed project have the potential to "take" a state-listed species that has been detected within or adjacent to the project. Certain criteria are required under CESA prior to the issuance of such a permit, including the requirement that impacts of the take are minimized and fully mitigated.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the basic water quality control law for California and works in concert with the federal Clean Water Act. Under Section 13000 et seq. of Porter-Cologne Water Quality Control Act, the RWQCB is the agency that regulates discharges of waste and fill material within any region that could affect a water of the state (Water Code 13260[a]), (including wetlands and isolated waters) as defined by the California Water Code Section 13050(e). A permit under the Porter-Cologne Water Quality Control Act is required prior to project implementation when impacts to water bodies and riparian habitat occur.

[36] U.S.C. Title 33, Chapter 26, Sections 101-607

California Water Code Section 1211

Section 1211 of the California Water Code requires that before making a change in the point of discharge, place of use, or purpose of use of treated wastewater, the owner of the treatment plant must seek approval from the Division of Water Rights, which is accomplished by filing a Petition for Change for Owners of Waste Water Treatment Plants (Petition for Change). This requirement does not apply to changes in the discharge or use of treated wastewater that do not result in decreasing the flow in any portion of a watercourse.

Local

Significant Ecological Area Program

Los Angeles County first began to inventory biotic resources and identify important areas of biological diversity in the 1970s. Today, the primary mechanism used by the County to conserve biological diversity is a planning overlay called a SEA designated in the County's General Plan Conservation/Open Space Element. Together, the General Plan overlays and a SEA conditional use permit process are referred to as the SEA Program. SEAs are ecologically important land and water systems that support valuable habitat for plants and animals, often integral to the preservation of rare, threatened, or endangered species and the conservation of biological diversity in Los Angeles County. While SEAs are not preserves, they are areas where Los Angeles County deems it important to facilitate a balance between development and resource conservation. Development activities in the SEAs are reviewed closely in order to conserve water and biological resources such as streams, oak woodlands, and threatened or endangered species and their habitat. The intent of the SEA regulations is not to preclude development but to allow controlled development without jeopardizing the biotic diversity of Los Angeles County. Development within the boundaries of a SEA requires a conditional use permit that is reviewed by the Significant Ecological Area Technical Advisory Committee (SEATAC). SEATAC is an advisory committee to the County's Regional Planning Commission that specializes in various areas of biology in Los Angeles County.

As presented in Section 3.4.1, HSG occurs within the Tujunga Valley/Hansen Dam SEA.

Los Angeles County Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance recognizes oak trees as significant historical, aesthetic, and ecological resources. The goal of the ordinance is to create favorable conditions for the preservation and propagation of this unique and threatened plant. By making this part of the development process, healthy oak trees will be preserved and maintained. The Los Angeles County Oak Tree Ordinance applies to all unincorporated areas of the County. Under the ordinance, a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus, which is 8 inches or more in diameter at breast height (dbh), 4.5 feet above natural grade or, in the case of oaks with multiple trunks, a combined dbh of 12 inches or more of the two largest trunks, without first obtaining a permit from the Los Angeles County Fire Department.

Planted coast live oak trees occur along the eastern perimeter fence of DCTWRP. Should the removal of oak trees be required to install the proposed brine line, or other onsite or offsite components, LADWP would comply with this ordinance.

3.4.3 Environmental Impacts

Methodology

Biological resources may be either directly or indirectly impacted by a project. Direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below.

- **Direct**: Any alteration, physical disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include clearing vegetation, encroaching into wetlands or a river, and the loss of individual species and/or their habitats.
- **Indirect**: As a result of project-related activities, biological resources may also be affected in a manner that is ancillary to physical impacts. Examples include elevated noise and dust levels, soil compaction, increased human activity, decreased water quality, and the introduction of invasive wildlife (domestic cats and dogs) and plants.
- **Permanent:** All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.
- **Temporary:** Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust and noise during construction; or removing vegetation and either allowing natural vegetation to recolonize, or actively revegetating affected areas.

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impact Analysis

BIO-1: *The Proposed Project would cause a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. With incorporation of Mitigation Measures BIO-A and BIO-B, impacts would be less than significant.*

Special-Status Plant Species

Construction

Individual special-status plant species could be damaged or destroyed from crushing or trampling during construction activities; however, construction of onsite and offsite components would occur in urban/developed areas unsuitable for special-status species. No federal or state-listed plant species were observed during the field surveys, nor was potentially suitable habitat for listed plant species observed within the BSA of onsite or offsite components (see Appendix D of this Draft EIR). In addition, erosion control measures to control surface runoff, erosion, and sedimentation outside of the Project footprint would be implemented during Project construction. Additionally, no USFWS-designated critical habitat for special-status plant species coincides with onsite or offsite components. As a result, no direct or indirect impacts to special-status plant species during construction of onsite or offsite components would occur.

Operation

<u>*Onsite Components*</u>

Operations and routine maintenance of the AWPF and ancillary facilities would be conducted within the developed DCTWRP site, most of which is paved or otherwise comprised of urban development. As a result, potentially suitable habitat for special status plant species does not occur and no direct or indirect impacts would occur.

Operation and routine maintenance of the underground brine line would also occur in urban developed areas not suitable for special status plant species. As a result, no direct or indirect impacts to special status plant species would occur in relation to operation of the brine line.

<u>*Offsite Components*</u>

Operations and routine maintenance of offsite components would be conducted within developed sites consisting of paved roads (i.e. recycled water pipeline) and previously-disturbed sites with no vegetation (i.e. PSG and HSG improvements). As a result, potentially suitable habitat for special status plant species does not occur and no direct or indirect impacts would occur.

Special Status Wildlife Species

Construction

Onsite Components

No federal or state-listed wildlife species were observed during the field survey; however, potentially suitable habitat for listed species was observed within the BSA of onsite components. Urban developed habitats generally do not provide habitat suitable for special-status wildlife species; however, the mosaic of ornamental trees and shrubs occurring in the BSA may provide suitable habitat for three special-status species that have adapted to and are known from urban environments, including Coopers hawk (*Accipiter cooperii*), hoary bat (*Lasiurus cinereus*) and western yellow bat (*Lasiurus xanthinus*). These species have some potential to occur within the BSA of onsite components, and could be subject to indirect temporary impacts from noise and dust during construction. With implementation of Mitigation Measures BIO-A and BIO-B, direct and indirect impacts to special-status wildlife species would be reduced to a less than significant level.

As shown on Figure 2-7, ornamental trees and shrubs coincide with the footprint of onsite components and would be removed during Project construction, resulting in potential direct impacts to birds that may nest in onsite vegetation. Indirect impacts to migratory birds within the vicinity of onsite components could also occur, as a result of temporary construction noise and increased human presence. Disturbances related to construction could result in increased nestling mortality due to nest abandonment or decreased feeding frequency, or avoidance of the Project area during foraging. Additionally, suitable foraging habitat for migratory birds is present in areas adjacent to onsite components. As a result, impacts from temporary construction activities on foraging migratory birds are also not anticipated. Additionally, no USFWS-designated critical habitat for special-status wildlife species coincides with onsite components. With implementation of Mitigation Measures BIO-A and BIO-B, direct and indirect impacts to nesting migratory birds protected under the MBTA would be reduce to less than significant.

Offsite Components

No federal or state-listed wildlife species were observed during the field survey; however, potentially suitable habitat for listed species was observed within the BSA of offsite components. Much like onsite components, a mosaic of large mature ornamental trees occur within the BSA of the proposed recycled water pipeline alignment that provide suitable habitat for Coopers hawk, hoary bat and western yellow bat. No direct impacts to special status wildlife species would occur, as no vegetation would be removed to install the recycled water pipeline; however, these species could be subject to indirect temporary impacts from noise and dust during construction of the recycled water pipeline. Although generally void of vegetation, large mature trees observed along the perimeter of PSG and HSG may also provide suitable habitat for these species. No trees would be removed to install new components at PSG and HSG; however, indirect temporary impacts from noise and dust during construction at the spreading grounds could occur. With implementation of the avoidance and minimization measures provided in Mitigation Measures BIO-A and BIO-B, direct and indirect impacts to special-status wildlife species would be reduced to less than significant.

No vegetation would be removed during construction of offsite components, and as a result, direct impacts to migratory birds protected under the MBTA are not anticipated. Indirect impacts, however, could occur as a result of temporary construction noise and increased human presence. Suitable foraging habitat for migratory birds is present in areas adjacent to offsite components, and as a result, impacts from temporary construction activities on foraging migratory birds are also not anticipated as birds are able to forage in adjacent areas. Additionally, no USFWS-designated critical habitat for special-status wildlife species coincides with offsite components. Critical habitat for Santa Ana sucker does occur along Tujunga Wash, approximately 1.5 miles northeast of HSG and behind Hansen Dam (Figure 3.4-2); however, construction of offsite components would not impact this critical habitat. With implementation of Mitigation Measures BIO-A and BIO-B, direct and indirect impacts to nesting migratory birds during the construction of offsite components would be reduced to less than significant.

Operation

Impacts during operations and routine maintenance of onsite and offsite components would be limited; however, wildlife could be affected by human presence, noise, and fugitive dust. Impacts are expected to be minimal, short term, and in most cases would not directly affect wildlife. Maintenance activities would generally be conducted from existing roads and would not encroach into adjacent habitats that may contain habitat potentially suitable for special status wildlife. No impacts related to specials status wildlife species during operation and maintenance of onsite and offsite facilities would occur.

BIO-2: *The Proposed Project would cause a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS. With incorporation of Mitigation Measure BIO-A, impacts would be less than significant.*

Construction

Onsite Components

Riparian habitat composed of non-native shamel ash trees occurs along Haskell Creek within the BSA of the onsite brine line. However, the proposed alignment of the brine line will not intersect this riparian community and as a result, direct impacts are not anticipated. Riparian habitat also occurs approximately 0.5 miles south of the DCTWRP site, along the Los Angeles River; however, construction of onsite components would not impact this natural community.

Indirect impacts to riparian habitat/sensitive natural communities during construction of onsite components could include the accumulation of fugitive dust and noise, increase of surface runoff, increase of erosion, and increase of sediment deposition within vegetation beyond the proposed footprint of onsite components. With the implementation of Mitigation Measure BIO-A, indirect impacts to riparian habitat and sensitive natural communities would be reduced to less than significant.

Offsite Components

No riparian habitat or sensitive natural communities occur within the BSA of offsite components, and as a result would not be directly impacted during construction. Sensitive Riversidian alluvial fan sage scrub habitat occurs approximately 0.7 miles northeast of HSG, immediately behind Hansen Dam; however, construction of offsite components would not impact this natural community. A mixed community of native and non-native trees has naturalized a former gravel quarry pit at the Valley Generating Station across Tujunga Wash from HSG; however, direct impacts from construction to this community would also not occur.

Indirect impacts to riparian habitat/sensitive natural communities during construction of offsite components could include the accumulation of fugitive dust and noise, increase of surface runoff, increase of erosion, and increase of sediment deposition within vegetation beyond the proposed footprint of offsite components. Due to the distance from offsite components to the nearest sensitive community, and with implementation of Mitigation Measure BIO-A, indirect construction impacts to riparian habitat and sensitive natural communities would be reduced to less than significant.

Operation

It is anticipated that operation and routine maintenance of the underground brine line would not directly or indirectly impact riparian habitat along Haskell Creek. No impacts would occur.

BIO-3: *The Proposed Project would cause a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. With incorporation of Mitigation Measure BIO-A, impacts would be less than significant.*

Construction

Onsite Components

Haskell Creek, a federally and state-protected aquatic feature, occurs within the BSA of the brine line. It is anticipated that construction of the proposed brine line would not coincide with Haskell Creek, and as a result, direct impacts to protected waters would not occur. Indirect impacts to protected water resources could occur during construction of the brine line due to runoff into Haskell Creek, potentially resulting in decreases in water quality of the stream, and increases in erosion and sedimentation. With implementation of Mitigation Measure BIO-A, indirect impacts to Haskell Creek would be reduced to less than significant.

Offsite Components

Federally and state-protected aquatic features occurring within the BSA of offsite components include the Pacoima Diversion Channel in the BSA of the proposed recycled water pipeline, and Tujunga Wash in the BSA of HSG. The construction activities associated with the proposed recycled water pipeline would not directly impact the Pacoima Diversion Channel, and improvements at HSG would not directly impact Tujunga Wash, and as a result, direct impacts to protected waters would not occur. Indirect impacts to protected water resources could occur during construction activities associated with the proposed recycled water pipeline and improvements at HSG due to runoff into protected aquatic features, potentially resulting in decreases in water quality, and increases in erosion and sedimentation. With implementation of Mitigation Measure BIO-A, indirect impacts to the Pacoima Diversion Channel and Tujunga Wash would be reduced to less than significant.

The Corps and EPA recently published the Clean Water Act final rule that provides updated definitions of what constitutes federally-protected waters. The agencies specifically excluded from the definition of protected waters constructed detention and retention basins created in dry land and used for wastewater recycling. The exclusion also covers water distributary structures that are built in dry land for water recycling, such as the improvements proposed for PSG and HSG. As a result, construction of improvements at the spreading grounds would not directly or indirectly effect federally-protected waters. CDFW and the RWQCB also do not consider spreading grounds as protected state waters. As a result, construction of improvements at the spreading grounds would not trigger the requirement for a Streambed Alternation Agreement from CDFW, or require RWQCB permitting under the Porter-Cologne Water Quality Control Act. Additionally, the proposed recycled water pipeline would be suspended across the Pacoima Diversion Channel and is not anticipated to trigger permitting pursuant to the CWA or Section 1600 et. seq. of CFGC. Therefore, no impacts related to federally-protected waters regarding the recycled water pipeline, PSG, and HSG would occur.

Operation

Onsite Components

Operation of the underground brine line and routine maintenance activities are not anticipated to coincide with Haskell Creek. As a result, no direct and indirect impacts during operation and routine maintenance of onsite components would occur.

Offsite Components

As previously discussed, PSG and HSG are not defined as federally or state-protected waters and a permit to construct improvements at the spreading grounds is not required. Similarly, operation and routine maintenance of offsite components would not require Corps or CDFW permitting. Therefore, no impacts during operation and routine maintenance of offsite components would occur.

BIO-4: *The Proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The impact would be less than significant.*

Construction

Onsite Components

An approximate 600-foot reach of riparian habitat occurs within the BSA of the brine line along Haskell Creek. This habitat occurs as a narrow strip of vegetation dominated by non-native shamel ash (*Fraxinus uhdei*) along the stream, and likely serves as a local wildlife movement corridor, providing foraging, cover, and resting habitat for wildlife. This riparian corridor enters the Sepulveda Basin from the north, flows into the Wildlife Lake and terminates approximately a quarter-mile below the lake in the Los Angeles River. The corridor provides a connection to and from more extensive riparian habitat along the river, and serves as a corridor between the northern boundary of the Basin and the Los Angeles River, through what is relatively open habitat. It is not anticipated that Project activities to install the brine line will intersect this riparian corridor and as a result, no direct impacts to a wildlife movement corridor would occur.

Construction of the brine line could result in wildlife avoiding the riparian habitat along Haskell Creek as a result of noise and dust from construction activities. In the event that indirect impacts to the riparian corridor along Haskell Creek occur, they would be temporary in nature and restricted to the Project construction time period. The functions and values of the riparian corridor would be unchanged from current conditions upon the completion of construction. Project construction activities would not occur at dusk or overnight, and, therefore, would not indirectly impact special-status bat species. With implementation of Mitigation Measures BIO-A and BIO-B, indirect impacts to the functions of Haskell Creek's riparian corridor as a wildlife movement corridor would be reduced to less than significant.

The Los Angeles River is located approximately 0.5 mile south-southwest of onsite components and serves as an important regional wildlife movement corridor for species associated with freshwater and riparian habitats. Although reduced in size by development and channelization of the river, the riparian corridor along the Los Angeles River includes a variety of plant and habitat layers (i.e., mature trees, shrubs, and herbaceous vegetation) that facilitate bird movement along the river. The Los Angeles River also provides a movement corridor for fish and other semi-aquatic species, although the Sepulveda Dam spans the river at the downstream end of the Sepulveda Basin, limiting wildlife movement. Lake Balboa, Woodley Creek, the Japanese Garden Lake, the Wildlife Lake, and the Sepulveda Basin Wildlife Preserve around it, all occur within one mile of onsite components, but would not be impacted during construction as these features occur a sufficient distance from onsite components. As a result, long-term impacts to these features as wildlife movement corridors would be less than significant. Indirect impacts to wildlife movement in the Santa Monica Mountain SEA are also not anticipated, due to the distance of the SEA from onsite components. Therefore, no indirect impacts related to the Santa Monica Mountain SEA would occur.

Offsite Components

There are no wildlife movement corridors associated with the proposed recycled water pipeline or PSG; however, the Tujunga Valley/Hansen Dam SEA and Tujunga Wash occur within the BSA of HSG, and may serve as corridors for wildlife movement. As previously discussed, HSG is included in the SEA; however, natural vegetation communities are not present at HSG and the site is completely fenced in. As a result, HSG is not considered a significant wildlife movement corridor, and construction at HSG would not result in significant direct impacts to a wildlife movement corridor. Construction of improvements at HSG could result in wildlife species avoiding the immediate Project vicinity as a result of human presence, noise, and dust from construction activities; however, they would be temporary in nature and restricted to the Project construction time period. Project construction activities would not occur at dusk or overnight, and, therefore, would also not indirectly impact special-status bat species. Therefore, short-term indirect impacts during construction would be less than significant. The functions and values of HSG as a wildlife movement corridor would be unchanged from current conditions upon the completion of construction. As a result, long-term impacts to HSG as wildlife movement corridor would be less than significant.

Tujunga Wash occurs within the BSA of HSG, and although encased in concrete and void of riparian habitat, it may serve as a wildlife movement corridor between the urban environment of the San Fernando Valley and undisturbed natural communities behind Hansen Dam and farther east into the Angeles National Forest. The construction of improvements at HSG would not directly impact Tujunga Wash; however, as presented above, indirect effects during construction due to human presence, noise, and dust could occur. In the event that indirect impacts to Tujunga Wash occur, they would be temporary in nature and restricted to the Project construction time period. Project construction activities would not occur at dusk or overnight, and, therefore, would also not indirectly impact special-status bat species. Therefore, short-term indirect impacts during construction would be less than significant. The functions and values of Tujunga Wash as a wildlife movement corridor would be unchanged from current conditions upon the completion of construction. As a result, long-term impacts to Tujunga Wash as wildlife movement corridor would be less than significant.

Operation

Onsite Components

As discussed in Section 2.3.5, a portion of the recycled water currently produced at DCTWRP flows through the Japanese Garden lake, Lake Balboa, and the Wildlife Lake to the Los Angeles River, which also intermittently receives water from DCTWRP via an operational safety weir located within the plant. An annual average of approximately 27 mgd of recycled water is currently provided from DCTWRP to the lakes and the river. As discussed above in the Project Description, Chapter 2 of the Draft EIR, after Project implementation, a minimum annual average of 27 mgd would continue to be provided to the lakes and the river from DCTWRP. Therefore, the Project, which would utilize the available unused treatment capacity of DCTWRP to provide recycled water for the advanced water purification processes, would not result in a change in discharge to the river, and no impacts to the river's biological resources and function as a wildlife movement corridor would occur from operation of the onsite components.

Operations and maintenance activities also would not directly or indirectly impact the Santa Monica Mountain SEA's function as a wildlife movement corridor, due to the 2 to 3 mile distance between onsite components and this SEA. Therefore, no impact would occur.

Offsite Components

Operation and routine maintenance activities of offsite components would not directly or indirectly impact the Tujunga Valley/Hansen Dam SEA's function as a wildlife movement corridor. HSG does not serve as a significant movement corridor; activities would occur in previously-disturbed habitats generally void of vegetation; and operation and routine maintenance would not change existing conditions from those present prior to Project implementation. Tujunga Wash, which occurs in the BSA but outside of the footprint of offsite components, would not be impacted by operation and routine maintenance, as all activities would occur within the boundaries of HSG. Therefore, no impact would occur.

BIO-5: *The Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact would occur.*

Construction

Onsite Components

Vegetation removal during Project construction of the onsite components would be limited to ornamental species and would be minimal. Although oak trees were identified along the eastern perimeter of the DCTWRP site, and within the BSA of the brine line, construction would avoid removing these ornamental oak trees. As a result, no impacts to protected tree species would occur.

Offsite Components

No vegetation would be removed during the construction of offsite components. The recycled water pipeline would be installed within Arleta Avenue, and no vegetation is present at the location of proposed improvements at PSG and HSG. As a result, no impacts to protected tree species would occur.

Operation

It is not anticipated that any vegetation would need to be removed during operation and routine maintenance. As such, no impacts to protected tree species would occur during operation and routine maintenance of onsite and offsite components.

BIO-6: *The Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.*

Construction

Onsite Components

Onsite components are proposed in previously-developed urban areas, and do not coincide with the boundaries of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. However, the Sepulveda Dam Basin Master Plan, Adaptive Habitat Management Plan (AHMP), ensures that management of the Sepulveda Basin continues to best meet resource objectives over time. Its goal, strictly in terms of wildlife and habitat conservation, is to manage land in the Basin to optimize wildlife habitat and native vegetation.[37] The AHMP defines management strategies to ensure biological resources are protected and enhanced, while meeting the Basin's flood control objectives and needs of the public.

Construction of onsite components would occur in areas developed with similar facilities and would not be located in areas containing previously undisturbed habitat. As such, the construction of onsite components would not conflict with an approved conservation plan, and no impacts would occur.

Offsite Components

As previously described, HSG occurs within the Tujunga Valley/Hansen Dam SEA. The construction of proposed improvements at HSG would occur in areas void of vegetation. As a result, conflicts with provisions of the SEA are not anticipated. The functions and values that HSG provides the SEA would be unchanged from current conditions upon the completion of construction. As a result, impacts to the SEA would be less than significant.

Operation

Onsite Components

The Los Angeles River Ecosystem Restoration Study, a Feasibility Study and Environmental Impact Statement/Environmental Impact Report jointly prepared by the Corps and the City of Los Angeles, evaluates alternatives to restore an 11-mile portion of the Los Angeles River, beginning in Griffith Park, about 10 miles downstream of the Sepulveda Basin, and continuing to Downtown Los Angeles. The objectives of the study alternatives include the restoration of riparian and freshwater marsh habitats and enhancing habitat linkages on a local and regional scale. The primary focus of the alternatives is modification of the river channel within the study area to create more natural flow regimes, include reducing flow velocities and restoring connectivity to historic floodplains and tributaries. As discussed in the Restoration Study,

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[37] U.S. Army Corps of Engineers. 2011. Sepulveda Dam Basin Master Plan and Environmental Assessment. Appendix D-3, Adaptive Habitat Management Plan. September.

DCTWRP contributes to flows in the river, including a substantial percentage of the flows in summer months and in dry years. The water budget for the various alternatives in the Restoration Study accounts for these current flows from the plant. As discussed above in the Project Description, Chapter 2 of the Draft EIR, an annual average of approximately 27 mgd of recycled water is currently provided from DCTWRP to various lakes within the Sepulveda Basin and to the Los Angeles River. After Project implementation, a minimum annual average of 27 mgd would continue to be provided to the lakes and the river from DCTWRP. Therefore, the Project, which would utilize the available unused treatment capacity of DCTWRP to provide recycled water for the advanced water purification processes, would not conflict with the objectives or provisions of the Los Angeles River Ecosystem Restoration Study.

The operation and routine maintenance of onsite components would be conducted in accordance with the AHMP, as applicable, to ensure that impacts to the environment are avoided or minimized. As a result, no conflicts with adopted plans would occur during the operation and routine maintenance of onsite components. Therefore, no impact would occur.

Offsite Components

The operation and routine maintenance of offsite components would be conducted in areas currently containing similar facilities. Additionally, operation of the offsite components would not substantially change from existing conditions. As a result, no conflicts with adopted plans would occur during the operation and routine maintenance of offsite components. Therefore, no impact would occur.

3.4.4 Mitigation Measures

BIO-A The following measures shall be implemented to avoid and minimize impacts to special-status species and sensitive habitats:

1. Work areas shall be clearly delineated with fencing or other boundary markers prior to the start of construction.
2. The Project limits shall be clearly marked on Project maps provided to the construction contractor(s) by the City, and areas outside of the Project limits shall be designated as “no construction” zones. A construction manager shall be present during all construction activities to ensure that work is limited to designated Project limits.
3. During construction, construction workers shall strictly limit their activities, vehicles, equipment, and construction materials to the designated construction limits.
4. During construction, all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas outside of jurisdictional wetlands or waters and within the fenced Project limits. Fueling of equipment shall take place within existing paved areas greater than 100 feet from water features. Contractor equipment shall be checked daily for leaks prior to operation and repaired as necessary.
5. During construction, the construction work zone shall be kept as clean of debris as possible to avoid attracting predators of sensitive wildlife. All food-

related trash items shall be enclosed in sealed containers and removed daily from the construction work zone.

6. Pets of Project personnel shall not be allowed on the Project site during construction.

7. Disposal or temporary placement of excess fill, brush, or other debris shall be strictly prohibited in or along the banks of water features during construction. Stockpile areas shall be designated prior to the start of construction and shall be located in disturbed areas presently lacking vegetation and delineated on grading plans.

8. Prior to the start of construction, a Stormwater Pollution Prevention Plan (SWPPP) shall be prepared to reduce the potential for accidental releases of fuel, pesticides, and other materials. This plan shall outline refueling locations, emergency response procedures, and reporting requirements. During construction, equipment for immediate cleanup shall be kept on-site. This plan shall also include erosion control measures to control surface runoff, erosion, and sedimentation outside of the Project footprints.

BIO-B If feasible, the clearance of vegetation during construction activities shall occur outside of the nesting bird season (generally February 15 through September 15). If avoidance of construction within this time period is not feasible, the following additional measures shall be employed:

1. A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded.

2. If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, a qualified biologist shall monitor the nest on a weekly basis, and the construction activity shall be postponed until the biologist determines that the nest is no longer active.

3. If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the appropriate resource agency before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.

3.4.5 Significance After Mitigation

Implementation of Mitigation Measures BIO-A and BIO-B would ensure that impacts to biological resources during construction, operation, and routine maintenance of onsite and offsite components would be less than significant.

SECTION 3.5
CULTURAL RESOURCES

This section evaluates the Proposed Project's impacts on cultural resources based on the Phase I Archaeological Assessment that was prepared for the Proposed Project. This section summarizes the Project setting, significance assessment, and recommendations presented in the report. The full text of the assessment is included in Appendix E of this Draft EIR.

3.5.1 Environmental Setting

The "Project area" analyzed in this section is defined as the Proposed Project site, which includes DCTWRP, the proposed recycled water pipeline along Arleta Avenue, PSG, and HSG, and the areas surrounding the Proposed Project site. The Project area is located on the San Fernando and Van Nuys U.S. Geological Survey (USGS) 7.5-minute quadrangle maps. The Project area is in the Rancho los Encinos Land Grant.

The Project area is located within the San Fernando Valley of the Los Angeles Basin. The Central Transverse Ranges Province forms an east-west trending northern backdrop, while the northwest-oriented Peninsular Ranges Province bounds to the south. The San Fernando Pass straddles the San Gabriel Mountains to the northeast and Santa Susana Mountains to the north. The generally Mediterranean climate is characterized as mild, with warm, nearly rainless summers and mild winters with only occasional storms.

Prehistoric and historical overviews of Southern California and the Project area are included in Appendix E of this Draft EIR.

Existing Cultural Resources

Archival Records Search

Archival research of the Project area was conducted in October 2013 at the South Central Coastal Information Center housed at California State University, Fullerton. The records search was updated in early September 2015, and again on March 29, 2016, to account for any changes to the archival draft in the intervening years. The research focused on the identification of previously recorded cultural resources within the Project area as well as within a 0.5-mile radius of the Project area (study area). The archival research included review of previously recorded archaeological site records and reports, historic site and property inventories, and historic maps. Inventories of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California State Historic Resources Inventory (HRI), California Historical Landmarks and Points of Interest were also reviewed to identify cultural resources within both the Project and study areas.

The records search revealed that a total of 92 cultural resource investigations were previously conducted within a 0.5-mile radius of the Project area (see Table 1 in Appendix E of this Draft EIR). As a result, approximately 70 percent of the Project area has been previously surveyed or otherwise investigated.

The records search also indicated that a total of nine cultural resources were previously recorded within a 0.5-mile radius of the Proposed Project area (see Table 2 in Appendix E of this Draft EIR). These resources include: three single-family residences; one pair of transmission towers; one concrete bridge; one urban roadway; a former Nike Missile base; one military support building; and the Sepulveda Flood Control Dam. Of these nine resources, none overlap the Project Site.

California Historical Landmarks

A search of the California Historic Landmarks did not identify any resources within a 0.5-mile radius of the Proposed Project area.

Los Angeles Historic-Cultural Monuments

A search of the mapped Los Angeles Historic-Cultural Monuments (LAHCM) did not identify any resources within a 0.5-mile radius of the Proposed Project area.

Historic Property Data File

The Directory of Properties in the Historic Property Data File was consulted to identify historic properties within or facing the Project footprint. Two properties were identified as facing the Proposed Project footprint (see Table 5 in Appendix E of this Draft EIR).

Sacred Lands File Search

Letters were prepared and sent to the Native American Heritage Commission (NAHC) on October 21, 2013, July 20, 2015, and March 30, 2016. The letters requested that a Sacred Lands File check be conducted for the Proposed Project and that contact information be provided for Native American groups or individuals that may have concerns about cultural resources in the Project area. The initial round of Project information letters was mailed on November 6, 2013, to each group or individual provided on the contact list (see Table 7 in Appendix E of this Draft EIR). A second round of contact letters was mailed on August 10, 2015, to each group or individual provided on the updated contact list provided by the NAHC on August 6, 2015 as well as those individuals provided on the original contact list on November 5, 2013 (see Table 8 in Appendix E of this Draft EIR). A third round of contact letters was mailed on March 30, 2016, based upon the contact list of November 5, 2013, and August 6, 2015. Additional contact letters were sent on April 5, 2016, to additional groups or individuals on an updated contact list provided by NAHC (see Table 9 in Appendix E of this Draft EIR).

Additional Historical Research

Additional historic map research was conducted in order to gain an understanding of the level of disturbance in the area as well as identify possible locations of archaeological sensitivity within the Project area. Because of its late development, historic Sanborn Fire Insurance maps do not exist for the Project area. General Land Office maps based on land surveys conducted between 1852 and 1876 are held at the SCCIC. These maps show little development in the Project area during their periods of coverage but they do show the Southern Pacific Railroad and a parallel road, the San Fernando Road. However, research of historic USGS topographic maps provides insight into the development of the Project area and the surrounding area. Historic topographic maps were consulted to reconstruct the following historical context for the Project area.

On the 1924 Van Nuys 7.5' USGS Topographic Map, the earliest USGS maps of that scale, there is no development shown in the Project area. A few structures stand within the future Sepulveda Flood Control Basin, including one which may stand within the Project area. By the time of the 1953 Van Nuys USGS map, these buildings have been demolished, and only a few dirt roads crisscross the Sepulveda Flood Control Basin.

The land occupied by Arleta Avenue appears entirely undeveloped in the 1900 San Fernando 15' map. The road appears but is unlabeled on the 1927 Pacoima 7.5' topographic map and its surroundings are sparsely developed. The areas surrounding the street are progressively developed in the 1953 San Fernando 7.5' and the 1966 and 1976 Van Nuys 7.5' topographic maps.

In the earliest USGS map, the 1900 San Fernando 15' USGS quadrangle, the Pacoima Spreading Grounds are an entirely undeveloped part of Pacoima Wash. By the time of the 1927 Pacoima 7.5' USGS quadrangle, the spreading grounds are still largely undeveloped. However, two unimproved roads run into the grounds. Two power lines also span the grounds, along still-existing rights-of-way. The northern right-of-way belongs to Southern California Edison and the southern belongs to the City of Los Angeles.

In the 1953 San Fernando 7.5' USGS topographic map, the spreading grounds have been developed. A canal flows through grounds northeast-southwest. Three power lines (two together and one separate) pass northwest-southeast through the middle of grounds. One of the unimproved roads seen in the 1927 Pacoima quadrangle has been slightly realigned; this is Woodman Avenue.

In the 1942 Sunland USGS 7.5' quadrangle, the future site of HSG appears as part of Tujunga Wash. One unimproved road runs through the spreading grounds. Three structures stand along Branford Street in the future spreading grounds, and one structure stands beside the unimproved road in the future spreading grounds. In the 1953 San Fernando quadrangle, one building stands in the northwest corner of the future spreading grounds. All buildings and structures within the future spreading grounds have disappeared by the time of the 1966 San Fernando quadrangle. In the 1966 Van Nuys 7.5' quadrangle, HSG generally appears as it does today.

Cultural Resources Survey

A cultural resources field survey of the Project area was conducted by AECOM archaeologists on November 25, 2013, and December 10, 2013. The field survey included an archaeological survey and a historic architectural resources survey to identify cultural resources within the Project footprint. The archaeological survey consisted of a windshield survey along paved road segments of the Project area and focused on the identification of any surface evidence of archaeological materials. No archaeological resources were observed.

The Project area was also surveyed for historic architectural resources. This survey consisted of an intensive pedestrian survey at the proposed building locations and in unpaved portions of the Project area, including DCTWRP and the unpaved portions of San Fernando Road Northeast Roadway.

DCTWRP consists of numerous modern buildings and structures. The plant began operating in 1985 and the buildings date to the 1980s and later. The entire area within the DCTWRP boundaries is graded and built upon, paved, or landscaped. No cultural resources were identified at the DCTWRP site.

The Proposed Project would include a recycled water pipeline along Arleta Avenue. Land uses on either side of the road are primarily residential. Most of the homes are single-family residences dating to the 1950s and later. At its intersection with the Pacoima Diversion Channel, Arleta Avenue crosses Bridge 53C1152, which Caltrans previously evaluated as not eligible for the NRHP. The entirety of Arleta Avenue is paved, with no visible ground surface.

PSG is located within the Project area but could not be accessed. Regardless, PSG is historic in age as it was constructed in the 1932 and completed in 1933. PSG covers approximately 169-acres and is a major facility that provides groundwater recharge for the San Fernando Groundwater Basin. The facility consists of twelve spreading basins, radial intake gate, intake canal, spillways, overflow weir, and maintenance roads. Although access to the facility was limited, surveyors were able to assess that PSG still functions to date as it was initially intended.

HSG was viewed from an unpaved portion of San Fernando Boulevard south of HSG. At a point approximately 100 feet northeast of the Tujunga Wash Channel, the road is bisected by a Conrock Co. Conveyor Tunnel associated with HSG. The Conrock Co. was active between 1972 and 1984, when it merged with California Portland Cement Co. to form CalMat Co. The southwest boundary of HSG is marked by Tujunga Wash. Tujunga Wash is presently diverted through a concrete channel below the Hansen Dam. The channel appears to date to the same period as the dam and spreading grounds, i.e., the early 1940s.

Existing Paleontological Resources

A records search from the Natural History Museum of Los Angeles County (NHMLAC) was requested on October 21, 2013, to determine the level of paleontological sensitivity within the Project area. Literature searches were conducted to determine whether any previously recorded fossil localities occur within the Project area, as well as to research the paleontological potential, stratigraphy, and general geology of the formations in the Project area, based on research that has been completed elsewhere in Los Angeles County. No paleontological survey was completed for this Project due to the highly disturbed nature of the Project area and its low paleontological sensitivity in most portions of the Project site.

The records search indicated that the surficial deposits in the Project area consist of Quaternary Alluvium. Within the Pacoima Wash and the Tujunga Wash, these deposits are coarse and gravelly, while in the other portions of the Project area the deposits are finer-grained. There are no vertebrate fossil localities that exist within the Project area boundaries in the NHMLAC records.

However, there are fossil localities nearby from the same Quaternary Alluvium deposits. The two closest NHMLAC fossil vertebrate localities are located north of the north-central Project area, and east of the southern portion of the Project area. These localities yielded specimens of bison, mastodon, mammoth, horse, camel, and ground sloth at depths ranging from 60 to 170 feet below grade. Because of their age (generally less than 10,000 years old), younger Quaternary Alluvium is unlikely to yield significant fossil remains. However, older Quaternary alluvium exists at varying depths below the younger Quaternary alluvium and may contain significant fossil materials.

3.5.2 Regulatory Setting

State

California Register of Historical Resources: California Environmental Quality Act and California Public Resources Code

Cultural resources in California are protected by a number of federal, state, and local regulations, statutes, and ordinances. The determination of CRHR significance of a cultural resource is guided by specific legal context outlined in CEQA Guideline Sections 15064.5(b) (see also Public Resources Code Sections 21083.2 and 21084.1). A cultural resource may be eligible for listing in the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. is associated with the lives of persons important in our past;

3. embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of an important creative individual or possesses high artistic values; or

4. has yielded, or may be likely to yield, information important in prehistory or history.

A cultural resource determined to meet one or more of the above criteria (Criteria 1 to 4) is considered a historical resource under CEQA. In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Public Resources Code Sections 5097.5 and 30244 include additional state-level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological "sites" or "features" from state lands as a misdemeanor, and prohibit the removal of any paleontological "site" or "feature" from state land without permission of the applicable jurisdictional agency. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in the Project area; assessment of potential impacts on significant or unique resources; and development of mitigation measures for potentially significant impacts, which may include monitoring, combined with data recovery excavation and/or avoidance.

Local

The goals and policies of the City of Los Angeles General Plan Conservation Element, the Encino-Tarzana Community Plan, the Mission Hills-Panorama City-North Hills Community Plan, and the Sun Valley-La Tuna Canyon Community Plan related to historic, cultural, and paleontological resources are described below.[38,39,40,41] The Arleta-Pacoima Community Plan, which includes a portion of PSG, is not included because it did not contain any goals, objectives, or policies related to historic and cultural resources.

City of Los Angeles General Plan

Objective: Protect the City's archaeological and paleontological resources for historical, cultural, research and/or educational purposes.

- *Policy:* Continue to identify and protect significant archaeological and paleontological sites and/or resources known to exist or that are identified during land development, demolition or property modification activities.

Objective: Protect important cultural and historical sites and resources for historical, cultural, research, and community educational purposes.

- *Policy:* Continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition or property modification activities.

Community Plans

The Encino-Tarzana Community Plan, the Mission Hills-Panorama City-North Hills Community Plan, and the Sun Valley-La Tuna Canyon Community Plan include similar goals, objectives, and policies relating to preservation of cultural resources. These include:

Goal. Preservation and restoration of cultural resources, neighborhoods, and landmarks which have historical and/or cultural significance.

Objective. To ensure that the community's historically significant resources are protected, preserved, and/or enhanced.

- *Policy.* Encourage the preservation, maintenance, enhancement, and reuse of existing historically significant buildings and the restoration of original facades.

Objective. To encourage private owners of historic properties/resources to conserve the integrity of such resources.

- *Policy*. Assist private owners of existing and future historic resources to maintain and/or enhance their properties in a manner that will preserve the integrity of such resources in the best possible condition.

[38] City of Los Angeles Planning Department. City of Los Angeles General Plan Conservation Element. Available online at: http://planning.lacity.org/cwd/gnlpln/ConsvElt.pdf, accessed September 1, 2015.

[39] City of Los Angeles Planning Department. Encino-Tarzana Community Plan. Available online at: http://planning.lacity.org/complan/pdf/enccptxt.pdf, accessed September 1, 2015.

[40] City of Los Angeles Planning Department. Mission Hills-Panorama City-North Hills Community Plan. Available online at: http://planning.lacity.org/complan/pdf/msscptxt.pdf, accessed September 1, 2015.

[41] City of Los Angeles Planning Department. Sun Valley-La Tuna Canyon Community Plan. Available online at: http://planning.lacity.org/complan/pdf/svycptxt.pdf, accessed September 1, 2015.

City of Los Angeles Historic-Cultural Monument

On the local level, a historical or cultural monument is eligible for listing as an LAHCM under Article 4, Section 22.130 of the City of Los Angeles Administrative Code if the resource meets a number of criteria. Section 22.130 indicates that a monument is

> *"any site … building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, economic, or social history of the nation, State, or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, State, or local history or which embody the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age."*

3.5.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Methodology

As discussed above, the Phase I Archaeological Assessment conducted for the Proposed Project included a records search at the South Central Coastal Information Center, a sacred lands file search, and a paleontological records search, as well as a cultural resources field survey.

Impact Analysis

CR-1: *The Proposed Project would not cause a substantial adverse change in the significance of a historical resource. The impact would be less than significant.*

DCTWRP, the recycled water pipeline alignment, PSG, and HSG were evaluated to determine their significance as historical resources. DCTWRP is located in the Sepulveda Flood Control Basin and consists of numerous modern buildings and structures. The plant was put into operation in 1985 and the buildings date to the 1980s and later. The entire area within the DCTWRP boundaries is graded and built upon, paved, or landscaped. Within the Project area, the recycled water pipeline alignment would be constructed within a two-lane roadway, approximately 36 feet wide and paved in asphalt. No cultural resources were identified at DCTWRP or within the Arleta Avenue corridor during the field survey.

However, PSG and HSG were identified as cultural resources during the field survey and were further evaluated to determine their potential significance as historical resources. Evaluation of the spreading grounds revealed that PSG and HSG are associated with water conveyance systems dating to the 1950s. PSG and HSG do not appear to have played a significant individual role in local, state, or national history individually because they are representative of spreading grounds constructed throughout California in the 20th century. Therefore, the spreading grounds do not meet CRHR Criterion 1. Additionally, HSG and PSG are associated with organizations who contributed to the planning and implementation of their construction, such as the U.S. Army Corps of Engineers and the Los Angeles Flood Control District. However, research has not revealed a direct association with any individual engineers or politicians involved with the construction or design of these two spreading grounds. HSG and PSG have no direct association with important historic persons and, thus, do not meet CRHR Criterion 2. HSG and PSG were designed from a standard set of plans applied to all spreading grounds in the Los Angeles Flood Control District and were designed for function and utility, not for aesthetic quality; therefore, they do not meet CRHR Criterion 3. The spreading grounds are not likely to yield information pertaining to prehistory or history because the construction history and use of these resources is known; therefore, they do not meet CRHR Criterion 4. As such, the spreading grounds are not eligible for the CRHR and are not considered historical resources. The impact would be less than significant.

CR-2: *The Proposed Project would potentially cause a substantial adverse change in the significance of an archaeological resource during Project construction. With incorporation of Mitigation Measure CR-A, impacts would be less than significant.*

Based on the records search of the Project area, nine cultural resources were recorded within 0.5-mile of the Project area, none of which have been recorded within the Project area. As such, construction would not cause a substantial adverse change in the significance of an archaeological resource and the impact would be less than significant.

A Sacred Lands File search was conducted by the NAHC and did not result in the identification of any documented sacred lands within 0.5-mile of the Project site. A field survey was also conducted as a part of the assessment. No archaeological resources were encountered within the Project area during the survey.

Although no new archaeological resources were identified within the Project footprint during the course of this background research and cultural resources field survey, potentially eligible buried archaeological resources may exist. Archaeological deposits can be buried with no surface indications of their existence, particularly in developed areas or in areas of alluvial deposits. Based on the results of the records search and the Native American contact program, the Project area may be culturally sensitive for prehistoric and/or historic archaeological resources. Additionally, the Project area is located in the vicinity of Mission San Fernando, and prehistoric villages have long been rumored to be, or are documented as having been, located in the vicinity of the Project area. The Project area's location relative to the nearby water sources would have provided access to important resources during all periods of prehistory. Therefore, it is possible that archaeological resources could be buried beneath the ground surface, especially in areas where development has included only minimal ground disturbance.

Because the potential to encounter archaeological resources exists during construction of the Proposed Project, the impact would be considered significant. However, due to the depth of excavation involved in construction of the proposed AWPF (maximum depth 15.5 feet), installation of the proposed recycled water pipeline (maximum depth 15 feet), and construction of improvements at PSG and HSG (maximum depth 10 feet), the potential to encounter archaeological resources is considered low. Nonetheless, in the event that an accidental discovery is made, with implementation of Mitigation Measure CR-A, impacts to archaeological resources would be reduced to less than significant.

CR-3: *The Proposed Project would potentially cause a substantial adverse change in the significance of a paleontological resource during Project construction. With incorporation of Mitigation Measure CR-B, impacts would be less than significant.*

No fossils have previously been recorded within the Project site based on the records search from the NHMLAC collections (see Appendix E of this Draft EIR). The records search indicated that the surficial deposits in the Project area consist of younger Quaternary Alluvium and artificial fill. The field visit did not reveal the presence of any local conditions that would contradict this assertion or require special consideration. Additionally, these deposits are younger than 10,000 years old. Consequently, such deposits have a low probability of yielding fossils, including vertebrate fossils or other scientifically significant fossils.

However, older alluvium underlies the younger alluvium at unknown depths. The two nearest previously recorded fossil localities are contained within older alluvium and were found north of the north-central Project area, and east of the southern portion of the Project area. These localities yielded specimens of bison, mastodon, mammoth, horse, camel, and ground sloth at depths ranging from 60 to 170 feet below grade.

The majority of surficial sediments that would be impacted by the Proposed Project are Quaternary younger alluvium and gravels, which have a low paleontological sensitivity. Because of their age (generally less than 10,000 years old), younger Quaternary Alluvium is unlikely to yield significant fossil remains. However, older Quaternary alluvium exists at varying depths below the younger Quaternary alluvium and may contain significant fossil materials. Therefore, it is possible that fossil resources may be encountered during Project construction and the impact to paleontological resources would be considered significant. With implementation of Mitigation Measure CR-B, impacts to paleontological resources would be reduced to less than significant.

CR-4: *The Proposed Project would potentially disturb human remains during Project construction. With incorporation of Mitigation Measure CR-C, the impact would be less than significant.*

As discussed above, the Project area is culturally sensitive for prehistoric and/or historic archaeological resources. Although no resources were identified based on the Sacred Lands File search, it is possible that significant archaeological resources, including human remains, may be encountered during Project construction. Therefore, the impact would be considered significant. With implementation of Mitigation Measure CR-C, impacts to human remains would be reduced to less than significant.

3.5.4 Mitigation Measures

CR-A A qualified archaeological consultant shall conduct training of construction personnel and supervisory staff on possible archaeological resources that may be present in the area in order to establish an understanding of what to look for during ground-disturbing activities and apprise them of appropriate handling of such resources. In the event archaeological resources are encountered, the City shall be notified immediately and work in the vicinity of the discovery shall be halted until appropriate treatment of the resource is determined by a qualified archaeological Principal Investigator in accordance with the provisions of CEQA Guidelines Section 15064.5 and Section 106 of the National Historic Preservation Act. The archaeological Principal Investigator shall have the authority to redirect construction equipment and activities in the event potential archaeological resources are encountered. Work may continue on other parts of the Project while consultation and treatment are conducted. If prehistoric archaeological sites are encountered within the Project area, a trained Native American consultant shall be engaged to monitor ground-disturbing work in the area containing the Native American cultural resources. This monitoring shall occur on an as-needed basis and shall be intended to ensure that Native American concerns are taken into account during the construction process.

CR-B If paleontological deposits are encountered during excavation, the City would contact a qualified paleontologist to evaluate and determine appropriate treatment for the resource in accordance with California Public Resource Code Section 21083.2(i). If any paleontological resources are encountered during ground-disturbing activities, work would be temporarily halted in the vicinity of the find and the paleontologist would be called to the Project site to examine and evaluate the resource in accordance with the provisions of CEQA. Work may continue on other parts of the Project while consultation and treatment are conducted.

CR-C If human remains are discovered, work in the immediate vicinity of the discovery shall immediately be suspended and the Los Angeles County Coroner shall be contacted. If the remains are deemed Native American in origin, the Coroner shall contact the Native American Heritage Commission (NAHC) and identify a Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98 and CCR Section 15064.5. Work may commence only after consultation and treatment have been concluded. Work may continue on other parts of the Project while consultation and treatment are conducted.

3.5.5 Significance After Mitigation

Implementation of Mitigation Measures CR-A through CR-C would ensure that impacts to archaeological resources and paleontological resources, including human remains, would be less than significant.

SECTION 3.6
GEOLOGY AND SOILS

This section examines the regional and local geologic and soil characteristics of the Project site and surrounding area and potential impacts related to geology and soils. The analysis in this section is based on information from the California Geological Survey and the City of Los Angeles, as cited.

3.6.1 Environmental Setting

Geology and Topography

The Proposed Project, including the onsite and offsite components, is located in the central and eastern portions of the San Fernando Valley, which is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills. The majority of the Project area is underlain by the Pacoima/Tujunga alluvial fan. Younger alluvium is found on the Pacoima/Tujunga fan and consists of soils composed of sand, silt, and some gravel, associated with large river systems that have their sources in the San Gabriel Mountains.[42] The remainder of the Project area, south of the Pacoima/Tujunga alluvial fan, is underlain by small alluvial fans and deposits from streams that drain from the Santa Monica Mountains. This area is characterized by alluvial basin deposits behind the Sepulveda Flood Control Dam. The Project area also consists of artificial fill where dams, freeways, and landfills exist. At depth, the valley is underlain by the upper Miocene Topanga Group and the upper Miocene Modelo Formation. The Topanga Group consists of conglomerate, sandstone, shale and siltstone, and basalt flows, and the Modelo Formation consists of widely exposed bedrock of clay, shale, siltstone, and sandstone.[43]

The Proposed Project site is situated in the north, central region of the valley in the Transverse Ranges geomorphic province of southern California. The mountains that bound the valley to the north and south are actively rising and bounded on their south sides by thrust faults. As the ranges have risen, the valley has subsided and filled in with sediment.

The Proposed Project consists of several detached parcels located in urbanized areas throughout the San Fernando Valley. The DCTWRP property is located within the Sepulveda Basin, north of the Los Angeles River, and is relatively level at an elevation of approximately 710 feet above mean sea level. The recycled water pipeline would begin at the intersection of Branford Street and Arleta Avenue and proceed northwesterly along Arleta Avenue to PSG. Arleta Avenue from Branford Street to PSG begins at an elevation of approximately 870 feet above mean sea level and ends at PSG with an elevation of approximately 945 feet above mean sea level. PSG is located adjacent to Pacoima Wash and the Pacoima Diversion Channel. It is bordered by residential neighborhoods to the northwest and west, Woodman

[42] California Department of Conservation. Division of Mines and Geology. *Seismic Hazard Zone Report for the Van Nuys 7.5-Minute Quadrangle, Los Angeles County, California.* 1997. http://gmw.consrv.ca.gov/shmp/download/quad/VAN_NUYS/reports/vn_eval.pdf, accessed August 14, 2015.

[43] California Department of Conservation. Division of Mines and Geology. *Seismic Hazard Zone Report for the Van Nuys 7.5-Minute Quadrangle, Los Angeles County, California.* 1997. http://gmw.consrv.ca.gov/shmp/download/quad/VAN_NUYS/reports/vn_eval.pdf, accessed August 14, 2015.

Avenue to the southwest, Filmore Street to the southeast, and Arleta Avenue to the northeast. HSG is bordered by Branford Street to the northwest, Glenoaks Boulevard to the northeast, the Tujunga Wash Channel to the southeast, and San Fernando Road to the southwest.

Faulting and Seismicity

The Proposed Project site is located within a seismically active region, as is the majority of southern California. Seismic risk zones have been identified based on the known distribution of historic earthquakes, evidence of past earthquakes, proximity to earthquake areas and active faults, and frequency of earthquakes in a given area. These zones are generally classified based on peak acceleration from maximum credible earthquakes or the Uniform Building Code (UBC) Seismic Risk Map of the United States. Due to the number of active faults in Los Angeles County and southern California, the region is located in the highest risk zone defined by UBC standards (Zone IV).

Faults

Primary ground rupture or fault rupture is defined as surface displacement that occurs along a fault during an earthquake. Fault rupture hazards occur when regional earth movements change the surface configuration of the earth in response to an earthquake. These vertical or horizontal changes in the earth can damage structures, utilities, and transportation corridors. Fault rupture/displacement may also alter natural drainage and groundwater flow direction.

The numerous faults in southern California include active, potentially active, and inactive faults. As defined by the California Geological Survey, active faults are faults that have ruptured within the Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years) but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years.

As illustrated on the maps issued by the State Geologist for the area, the Project site is not located within an Alquist-Priolo Earthquake Fault Zone, which maps surface traces of active faults...[44] There are no active faults or fault systems known to traverse the Project site; however, the Project site is situated south of the San Gabriel, San Fernando, Whitney Canyon, and Mission Hills faults.[45] The two dominant structural features in the area are the northwest-striking San Gabriel Fault, located approximately 6.3 miles northeast of PSG and 5.4 miles north of HSG, and the group of north-dipping thrust faults that make up the San Fernando Fault Zone, located approximately 2.4 miles north of PSG and approximately 2 miles north of HSG, as the fault zone spans across the valley. The epicenter of the 1971 San Fernando earthquake was located in the City of Santa Clarita approximately 11 miles north of PSG and HSG. The epicenter of the 1994 Northridge earthquake was located in the City of Los Angeles approximately four miles northwest of DCTWRP. In addition, the Northridge Hills, Mission Wells, Sylmar, Tujunga, Buck Canyon, Lone Tree, and Verdugo faults are located near the site.

[44] California Department of Conservation. Division of Mines and Geology. *Special Studies Zones – San Fernando Quadrangle.* 1979. http://gmw.consrv.ca.gov/shmp/download/quad/SAN_FERNANDO/maps/SANFERN.PDF, accessed on August 14, 2015.

[45] California Department of Conservation Division of Mines and Geology. *Seismic Hazard Zone Report for the San Fernando 7.5-Minute Quadrangle, Los Angeles County, California*. Available online at: http://gmw.consrv.ca.gov/shmp/download/quad/SAN_FERNANDO/reports/sfer_eval.pdf, accessed August 14, 2015.

The Verdugo Fault is a buried fault that trends northwest-southeast adjacent to HSG.[46] According to Fault Evaluation Report 44, there is no evidence for recent or Holocene faulting along the Verdugo fault zone. Further, the report explains that the Verdugo fault is a broad zone of crushing and shearing within basement rock and that the Verdugo fault does not meet the criteria to be considered sufficiently active.[47] Additionally, a portion of HSG is located within a City-designated Fault Rupture Study Area in the General Plan. No other areas of the Proposed Project are located within a City-designated Fault Rupture Study Area.[48]

Seismicity

Ground shaking (i.e., cyclic earth movements) results from the sudden motions in the earth (earthquake) caused by the abrupt release of slowly accumulated strain energy. Earthquakes occur primarily along faults in areas undergoing active deformation. The motion of each earthquake is characterized by a unique set of body, longitudinal, and transverse waves. These waves can cause damage to structures, utilities and transportation corridors; cause landslides, rockfalls, and embankment failures; and induce liquefaction failure in certain cohesionless soils. As discussed above, there are several regionally active faults and buried thrust faults that could produce strong seismic ground shaking at the Project site.

Soils and Geohazards

Soils

At depth, the Proposed Project site is underlain by the Miocene Topanga Group and Miocene Modelo Formation. Quaternary deposits cover the floor and margins of the San Fernando Valley and extend southward up into the canyons in the Santa Monica Mountains. They generally consist of older and younger alluvial fan and basin deposits of upper Pleistocene and Holocene age. Sedimentation in the Project area consists of younger alluvium and is primarily sand, silt, and some gravel, the compositions of which reflect the crystalline rocks of the source area.

Specifically, DCTWRP consists of soil associated with the Los Angeles River and Sepulveda Dam Basin and does not have an identified soil type. The recycled water pipeline alignment and PSG are underlain by Tujunga fine sandy loam, Hanford fine sandy loam, and Hanford gravelly sandy loam soil types. HSG consists of the Tujunga fine sandy loam soil type.[49]

Geohazards

Liquefaction

Liquefaction is the phenomenon whereby strong, cyclic ground motions during an earthquake transform a soil mass from a solid to a liquid state. The process involves densification and pore

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[46] California Department of Conservation. California Geological Survey. *Fault Activity Map of California*. 2010. Available online at: http://maps.conservation.ca.gov/cgs/fam/, accessed August 20, 2015.

[47] California Department of Conservation. Division of Mines and Geology. *Fault Evaluation Report FER-44.* February 3, 1978. Available online at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/fer/44/020378.pdf, accessed August 20, 2015.

[48] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Safety Element, Exhibit A Alquist-Priolo Special Study Zones & Fault Rupture Study Areas*. Available online at: http://planning.lacity.org/cwd/gnlpln/saftyelt.pdf, accessed on August 14, 2015.

[49] City of Los Angeles Department of Public Works Bureau of Engineering. Navigate LA. *Soil Types Map*. Available online at: http://navigatela.lacity.org/common/mapgallery/pdf/Soil_Types_Revised_021015.pdf, accessed August 20, 2015.

pressure increases in a saturated soil mass. The occurrence of liquefaction is dependent upon the strength and duration of ground shaking, the depth to saturated soil, and local soil properties. It most readily occurs in loose, cohesionless, granular soil with a shallow groundwater table. Five types of ground failure are commonly associated with liquefaction: 1) loss of bearing, 2) flow failure, 3) lateral spreading, 4) ground oscillation, and 5) sand boils.

According to the California Geologic Survey's Seismic Hazard Zone Maps for the Project site and vicinity (Van Nuys and San Fernando quadrangles), DCTWRP occurs within an area identified as having the potential for liquefaction.[50,51] Additionally, according to the City of Los Angeles General Plan, portions of PSG and HSG are located within a City-designated liquefiable area.[52]

Seismically-Induced Landslides

According to the California Geologic Survey's Seismic Hazard Zone Maps for the Proposed Project site and vicinity (Van Nuys and San Fernando quadrangles), the Project site is not located in an area identified as having the potential for earthquake-induced landslides.

Seismically-Induced Settlement

Strong ground shaking can cause the densification of soils, resulting in local or regional settlement of the ground surface. During strong ground shaking, soil grains may become more tightly packed due to the collapse of voids or pore spaces. This type of failure typically occurs in loose, granular, cohesionless soil and can occur in either wet or dry conditions. As the DTCWRP and portions of PSG and HSG occur within an area identified as having the potential for liquefaction, they are also at risk of seismically-induced settlement.

Lateral Spread

Lateral spread of the ground surface during an earthquake usually takes place along weak shear zones that have formed within a liquefiable soil layer. Lateral spread has generally been observed to take place in the direction of a free-face (i.e., retaining wall, slope, channel, etc.) but has also been observed to a lesser extent on ground surfaces with gentle slopes. For sites located in proximity to a free-face, the amount of lateral ground displacement is correlated with the distance of the site from the free-face. Other factors such as earthquake magnitude, distance from the causative fault, thickness of the liquefiable layers, and the fines content and particle sizes of the liquefiable layers also influence the amount of lateral ground displacement.

Subsidence

Subsidence is a general term for the slow, long-term regional lowering of the ground surface with respect to sea level. It can be caused by natural forces such as the consolidation of recently deposited sediments or by human-induced changes such as the withdrawal of oil field

[50] California Department of Conservation, Division of Mines and Geology. *Seismic Hazards Zones – Van Nuys Quadrangle*. 1998. http://gmw.consrv.ca.gov/shmp/download/quad/VAN_NUYS/maps/ozn_vn.pdf, accessed on August 14, 2015.

[51] California Department of Conservation, Division of Mines and Geology. *Seismic Hazards Zones – San Fernando Quadrangle.* 1999. http://gmw.consrv.ca.gov/shmp/download/quad/SAN_FERNANDO/maps/ozn_sfer.pdf, accessed on August 14, 2015.

[52] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Safety Element Exhibit B – Areas Subject to Liquefaction.* 1996. Available online at http://planning.lacity.org/cwd/gnlpln/SaftyElt.pdf, accessed August 18, 2015.

fluids or the dewatering of an aquifer. Subsidence occurs as a gradual change over a considerable distance (miles), or less commonly, it can occur in discrete zones. As DCTWRP and portions of PSG and HSG occur within an area identified as having the potential for liquefaction, they are also at risk for subsidence.

Expansive Soils

Expansive soils are primarily clay-rich soils subject to changes in volume with changes in moisture content. The resultant shrinking and swelling of soils can influence all fixed structures, utilities, and roadways. Included within the definition of expansive soils are certain bedrock formations with expansive rock strata and weathered horizons. The on-site geologic materials in the Project area consist of alluvium, alluvium basin deposits, and artificial fill. These materials are not high clay-bearing, and would not be considered expansive.

Slope Instability and Erosion

Landslide and mudflow are terms used to designate certain forms of natural or human-induced slope instability that may adversely affect life or property. There are a number of different processes that range from very slow (a few inches in a hundred years) to extremely rapid (70 or more mph). Included within the definition of this hazard are all gravity-induced downslope movements including the separate phenomena of rockfall, soil creep, soil failures, dry raveling, rotational and transitional landslides, flows, slumps, and complex combinations of the above phenomena. The hazard applies to both natural and constructed slopes. Contributing factors include weak, shallow-dipping bedding or shear planes, erosion, earthquake ground shaking, brush fires, and groundwater.

Erosion is the wearing away of the land surface by wind or water. Erosion occurs naturally from weather or runoff, but can be intensified by land clearing practices.

DCTWRP, the recycled water pipeline, PSG, and HSG are located in areas of relatively flat terrain. There are no mapped landslides on site. As shown on the Seismic Hazard Zone Map and in the City of Los Angeles General Plan, the area east of HSG is identified as being subject to landslides.

The Proposed Project involves spreading of purified recycled water to HSG and PSG for a total of an additional 30,000 AFY combined for both spreading grounds. However, as discussed in Chapter 2 of the Draft EIR, only up to 19,000 AFY of purified water can be spread at HSG based on the capacity of the spreading grounds, which can receive a maximum of 35,000 AFY from all sources. Spreading at HSG beyond the 35,000 AFY limit could contribute to increased groundwater levels, which can create potential impacts at nearby facilities. This would include flooding and slope failure in adjacent gravel quarries and groundwater mounding beneath the Bradley Landfill, which could lead to water intrusion into the landfill containment systems and the generation of leachates (groundwater contaminated by dissolved and suspended material derived from the landfill waste). Based on other projected sources of spreading at HSG, only 19,000 to 20,000 AFY could be contributed by the Proposed Project before the 35,000 AFY limit was exceeded. It is anticipated that about 15,000 AFY of purified water would be spread at each spreading grounds, but up to 19,000 AFY could be spread at HSG and up to 23,000 AFY at PSG.

3.6.2 Regulatory Setting

State

Alquist-Priolo Fault Zoning Act

Following the 1971 San Fernando Earthquake, the State of California passed the Alquist-Priolo Fault Zoning Act (“the Act”) in 1972 to address surface rupture hazards to human-occupied structures. The main purpose of the Act is to prevent the construction of human-occupied structures along the surface trace of active faults.[53] Under the Act, the State Geologist is required to delineate active faults or “regulatory zones,” known as Earthquake Fault Zones. The Earthquake Fault Zones are identified on maps distributed to affected cities, counties, and state agencies for their use in planning and regulating development projects located within the zones.

Seismic Hazards Mapping Act

The only hazards addressed by the Alquist-Priolo Fault Zoning Act are those related to surface fault rupture, not other earthquake hazards. As such, the state passed the Seismic Hazards Mapping Act in 1990 to address non-surface rupture seismic hazards, which include liquefaction, landslides, and strong seismic ground shaking. Under the Seismic Hazards Mapping Act, the State Geologist is required to identify and map the locations of these secondary seismic hazards.

Local

City of Los Angeles General Plan Safety Element

The Safety Element of the City of Los Angeles General Plan includes the following applicable policy related to geology and seismicity:[54]

- *Policy 1.1.6 State and federal regulations.* Assure compliance with applicable state and federal planning and development regulations, e.g., Alquist-Priolo Earthquake Fault Zoning Act, State Mapping Act and Cobey-Alquist Flood Plain Management Act.

City of Los Angeles Building Code

Chapter 9 of the LAMC contains the City’s building and construction regulations.[55] Chapter 9 adopts the 2013 Edition of the California Building Code and other related technical building codes based on the 2013 Edition of the International Building Code. Both required and voluntary standards are included in Article 1 of Chapter 9 that relate to earthquake hazard reduction.

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[53] California Department of Conservation, California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, website: http://www.conservation.ca.gov/cgs/rghm/ap/Pages/main.aspx, accessed August 14, 2015.

[54] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Safety Element.* 1996. Available online at: http://planning.lacity.org/cwd/gnlpln/SaftyElt.pdf, accessed August 14, 2015.

[55] City of Los Angeles Municipal Code. Available online at http://www.amlegal.com/library/ca/losangeles.shtml, accessed August 14, 2015.

3.6.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on geology and soils if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Methodology

The assessment of impacts concerning geology and soils is based on data collected from the California Geological Survey and the City of Los Angeles, as presented above.

Impact Analysis

GEO-1: *The Proposed Project would not expose people or structures to risk of loss, injury, or death involving fault rupture or landslides. The Proposed Project would not result in exposure of people or structures to risk of loss, injury, or death involving seismic ground shaking or liquefaction. Impacts would be less than significant.*

As previously discussed, the Proposed Project site is situated within a seismically active region, as is the majority of southern California. Several regionally active faults and buried thrust faults that could produce strong seismic ground shaking at the Project site. The Verdugo fault is adjacent HSG but is not considered sufficiently active.[56] However, there are no active faults or fault systems known to traverse the Proposed Project site and the Proposed Project site is not located within an Alquist-Priolo Earthquake Fault Zone, as illustrated on the maps issued by the

[56] California Department of Conservation. Division of Mines and Geology. *Fault Evaluation Report FER-44.* February 3, 1978. Available online at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/fer/44/020378.pdf, accessed August 20, 2015.

State Geologist for the area. Although the Project site components are not located within an Alquist-Priolo Earthquake Fault Zone, portions of HSG are located within a City-designated Fault Rupture Study Area within the General Plan.[57] However, construction and operation of the Proposed Project would not expose people or structures to substantial adverse effects related to fault rupture during a seismic event. Therefore, impacts from the rupture of a known fault would be less than significant.

Seismic activity from nearby faults may result in ground shaking at the Project site. Seismic hazards from ground shaking are typical for many areas of southern California. However, the potential severity of ground shaking depends on many factors, including distance from the originating fault, the earthquake magnitude, and the nature of the earth materials below the site. The Proposed Project would be designed and constructed in conformance with all applicable design standards, including appropriate temporary excavation shoring measures during construction, in accordance with the City of Los Angeles General Plan Safety Element and Municipal Code, and the California Building Code. With adherence to all applicable state and local building standards and codes, impacts related to strong seismic ground shaking would be less than significant.

As discussed, according to the California Geologic Survey's Seismic Hazard Maps for the Project area, DCTWRP is located entirely within an area identified as having the potential for liquefaction. Additionally, PSG and HSG contain portions of areas that are within a City-designated liquefiable area as identified in the General Plan. The mapping indicates the historic occurrence of liquefaction, or presence of local geological, geotechnical, and groundwater conditions in the vicinity of the Project site that have the potential for ground displacement. The Proposed Project would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes. Soils would be excavated and properly compacted per City requirements prior to use as backfill. Unsuitable soils would be disposed of at an appropriate off-site location and other suitable soils would be imported to the Project site. With adherence to all applicable state and local building standards and codes, impacts related to seismic-related ground failure, including liquefaction, would be less than significant.

The Proposed Project site and surrounding area are completely developed and are characterized by flat topography. According to the Seismic Hazard Zone Maps containing the Proposed Project site, the Proposed Project site is not designated as a potential earthquake-induced landslide area. Further, the site is not located within a City-designated Landslide or Hillside Area.[58] Therefore, no impact related to landslides would occur.

GEO-2: *The Proposed Project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.*

Construction

Construction activities associated with the Proposed Project would include demolition, grading, excavation, trenching, and construction of above-ground infrastructure/buildings and

[57] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Safety Element Exhibit A – Alquist-Priolo Special Study Zones & Fault Rupture Study Areas*. 1996. Available online at: http://planning.lacity.org/cwd/gnlpln/SaftyElt.pdf, accessed August 18, 2015.

[58] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Safety Element Exhibit C Landslide Inventory & Hillside Areas*. 1996. Available online at: http://planning.lacity.org/cwd/gnlpln/SaftyElt.pdf, accessed August 18, 2015.

underground infrastructure. Construction of the Proposed Project would result in the exposure and stockpiling of soils for a limited time, allowing for possible erosion, although the temporary nature of these activities would not be expected to result in substantial erosion. During construction, transport of sediments from the Proposed Project site by stormwater runoff and winds would be prevented through the use of appropriate Best Management Practices (BMPs). As discussed in Section 2.6.5, Rule 403 dust control measures would be implemented, as required by the SCAQMD. In addition, compliance with the statewide construction general permit (SWRCB Order 2012-0006-DWQ) would require the preparation of a SWPPP. The SWPPP would list the measures to be implemented in order to prevent erosion from all Project construction related activities (see Project BMPs in Section 2.6.5), including from spoils piles, excavation, earth moving, etc. Additionally, as discussed in Section 2.8, the City would prepare a Standard Urban Stormwater Mitigation Plan and/or Site Specific Mitigation Plan as mandated by the City of Los Angeles Department of Public Works. With adherence to all applicable regulations and implementation of appropriate BMPs, construction impacts associated with soil erosion or the loss of topsoil would be less than significant.

Operation

Long-term operation of the Proposed Project would not result in substantial erosion or loss of topsoil. The majority of the Proposed Project site is already developed, and only a relatively minor amount of new impervious surfaces would be created. The Proposed Project would be constructed in accordance with applicable state and local requirements and BMPs described in Section 2.6.5. As a result, no increase in erosion or siltation would occur. Therefore, with implementation of operational BMPs, specifically compliance with the RWQCB's National Pollution Discharge Elimination System permit requirements, long-term impacts associated with soil erosion or loss of topsoil would be less than significant.

GEO-3: *The Proposed Project would not be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.*

As discussed above, the Proposed Project site is characterized by flat topography. In addition, according to the Seismic Hazard Zone Maps comprising the site, the site components are not designated as a potential earthquake-induced landslide area. Therefore, no impact from on- or off-site landslides would occur.

As discussed above, according to the California Geologic Survey's Seismic Hazard Maps for the Project area, DCTWRP is located in an area identified as having the potential for liquefaction, and PSG and HSG are located in a City-designated liquefiable area. The mapping indicates the historic occurrence of liquefaction, or the presence of local geological, geotechnical, and groundwater conditions in the vicinity of the Project site that have the potential for ground displacement, including lateral spreading, subsidence and collapse. The recycled water pipeline is not located within the mapped liquefaction area. As discussed above, the Proposed Project would be designed and constructed in accordance with the City of Los Angeles Building Code and other applicable federal, state, and local codes. Soils would be excavated and properly compacted per City requirements prior to use as backfill. Unsuitable soils would be disposed of at an appropriate off-site location and other suitable soils would be imported to the Project site. With adherence to all applicable state and local requirements, impacts related to lateral spreading, subsidence, liquefaction, or collapse resulting from unstable soils would be less than significant.

As discussed above, the Proposed Project involves spreading of purified recycled water to HSG and PSG for a total of an additional 30,000 AFY combined for both spreading grounds. To achieve 30,000 AFY of GWR, it is necessary to spread the purified water produced by the Proposed Project at PSG in addition to HSG. Spreading at HSG beyond the its maximum limit of 35,000 AFY could contribute to increased groundwater levels, which can create potential impacts at nearby facilities such as flooding, slope failure in adjacent gravel quarries and groundwater mounding beneath the Bradley Landfill, which could lead to water intrusion into the landfill containment systems and the generation of leachates. However, it is anticipated that about 15,000 AFY of purified water would be spread at each spreading grounds, but up to 19,000 AFY could be spread at HSG and up to 23,000 AFY at PSG. Therefore, impacts related to unstable soils at the spreading grounds would be less than significant.

GEO-4: *The Proposed Project would not create risks to life or property resulting from expansive soils. Impacts would be less than significant.*

The soil types underlying the various components of the Proposed Project consist of younger alluvium, alluvial basin deposits, and artificial fill.[59] Specifically, DCTWRP consists of soil associated with the Los Angeles River and Sepulveda Dam Basin and does not have an identified soil type. The recycled water pipeline alignment and PSG are underlain by Tujunga fine sandy loam, Hanford fine sandy loam, and Hanford gravelly sandy loam soil types. The HSG property consists of the Tujunga fine sandy loam soil type.[60]

These soil types are not predominantly composed of clay, and the potential to create risks to life or property related to expansive soils is considered to be low. Additionally, as discussed above, the Proposed Project would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes. With adherence to all applicable regulations, impacts from expansive soils would be less than significant.

GEO-5: *The Proposed Project does not include the use of septic tanks or alternative waste water disposal systems. No impact would occur.*

The Proposed Project would not include septic tanks or other alternative wastewater disposal systems. Additionally, construction of the Proposed Project would occur entirely within existing City facilities and public road rights-of-way in a fully urbanized portion of the San Fernando Valley. The area containing the Project site components is currently served by the City’s sewer system. Operation of the Proposed Project, such as disposal of brine associated with AWPF operation, would use the existing sewer system. Therefore, no construction or operational impacts associated with septic tanks or alternative wastewater disposal systems would occur.

3.6.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to geology and soils. No mitigation measures are required.

[59] California Department of Conservation. Division of Mines and Geology. *Seismic Hazard Zone Report for the Van Nuys 7.5-Minute Quadrangle, Los Angeles County, California*. 1997. Available online at: http://gmw.consrv.ca.gov/shmp/download/quad/VAN_NUYS/reports/vn_eval.pdf, accessed August 18, 2015.

[60] City of Los Angeles Department of Public Works Bureau of Engineering. Navigate LA. *Soil Types Map*. Available online at: http://navigatela.lacity.org/common/mapgallery/pdf/Soil_Types_Revised_021015.pdf, accessed August 20, 2015.

3.6.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to geology and soils.

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SECTION 3.7
GREENHOUSE GAS EMISSIONS AND ENERGY

This section describes the Proposed Project's impact related to greenhouse gas (GHG) emissions generated during construction and operation, as well as the Proposed Project's consistency with applicable GHG emissions and climate change legislation. GHG emissions data, including modeling output worksheets, are included in Appendix C of this Draft EIR. This section also evaluates the environmental effects related to energy use and conservation associated with implementation of Proposed Project. The potential for impacts to energy conservation have been evaluated in accordance with Appendix F of the CEQA Guidelines.

3.7.1 Environmental Setting

The standard definition of GHG includes six substances: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF_6).[61] Tropospheric O_3 (a short-lived, not-well-mixed gas) and black carbon are also important climate pollutants. CO_2 is the most abundant GHG, and collectively CO_2, CH_4, and N_2O amount to 80 percent of GHG effects.

CO_2, CH_4, and N_2O concentrations have increased in the atmosphere since pre-industrial times, and this increase is the main driver of climate change. Globally, CO_2 increased by 40 percent from 278 ppm circa 1750 to 390.5 ppm in 2011.[62] During the same time interval, CH_4 increased by 150 percent, from 722 parts per billion (ppb) to 1,803 ppb, and N_2O by 20 percent, from 271 ppb to 324.2 ppb. The increase of CO_2, CH_4, and N_2O is caused by anthropogenic emissions from the use of fossil fuels as a source of energy, fertilizer usage, and from land use and land use change, in particular, agriculture.

For each GHG, a global warming potential (GWP) has been calculated to reflect how long emissions remain in the atmosphere and how strongly energy is absorbed on a per-kilogram basis relative to CO_2. GWP is a metric that indicates the relative climate forcing of a kilogram of emissions when averaged over the period of interest (both 20-year and 100-year horizons are used for the GWPs shown in Table 3.7-1). To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent of CO_2, denoted as CO_2e. CO_2e is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect.

61 CARB, First Update to the Climate Change Scoping Plan, 2014.
62 CARB, First Update to the Climate Change Scoping Plan, 2014.

Table 3.7-1
Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (20-Year)	Global Warming Potential (100-Year)
Carbon Dioxide	100	1	1
Nitrous Oxide	121	264	265
Nitrogen Triflouride	500	12,800	16,100
Sulfur Hexafluoride	3,200	17,500	23,500
Perfluorocarbons	3,000-50,000	5,000-8,000	7,000-11,000
Black Carbon	days to weeks	270-6,200	100-1,700
Methane	12	84	28
Hydrofluorocarbons	Uncertain	100-11,000	100-12,000

Source: CARB, *First Update to the Climate Change Scoping Plan*, 2014.

The primary effect of rising global concentrations of atmospheric GHG is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide, which would induce further changes in the global climate system during the current century. Adverse impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[63]

- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[64]

- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[65]

- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[66]

- Increasing the number of days conducive to O_3 formation (e.g., clear days with intense sun light) by 25 to 85 percent (depending on the future temperature scenario) in high O_3 areas located in the Southern California area and the San Joaquin Valley by the end of the 21st Century;[67] and

63 USEPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904, April 24, 2009.
64 Intergovernmental Panel on Climate Change, *Climate Change,* 2007.
65 Intergovernmental Panel on Climate Change, *Climate Change,* 2007.
66 Cal/EPA, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.
67 Cal/EPA, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.

- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[68]

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade. However, there remain significant scientific uncertainties. For example, uncertainties exist in predictions of local effects of climate change, occurrence of extreme weather events, and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the climate system, the uncertainty surrounding the implications of climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or would cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific impacts is possible.

Over the last decade, the Statewide GHG emissions decreased from 468 million metric tons (MMT) CO_2e in 2000 to 456 MMT CO_2e in 2011- a decrease of 2.7 percent.[69] The emissions in 2011 are the lowest of the 12-year period, while 2004 had the highest emissions, with 495 MMT CO_2e. During the same period, California's population grew by 10.5 percent. As a result, California's per capita GHG emissions have decreased by 11.9 percent between 2000 and 2011. The recent recession had a major impact on GHG emissions between 2008 and 2009, when emissions decreased by almost 6 percent.

3.7.2 Regulatory Setting

Federal

United States Supreme Court Ruling

The United States Supreme Court ruled in *Massachusetts v. Environmental Protection Agency, 127 S. Ct. 1438 (2007)*, that CO_2 and other GHGs are pollutants under the Clean Air Act (CAA), and must regulated by the United States Environmental Protection Agency (USEPA) if it determines they pose an endangerment to public health or welfare. On December 7, 2009, the USEPA Administrator made two distinct findings: (1) the current and projected concentrations of the six key GHGs in the atmosphere (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) threaten the public health and welfare of current and future generations; and (2) the combined emissions of these GHGs from motor vehicle engines contribute to GHG pollution, which threatens public health and welfare.

Council on Environmental Quality Guidelines

On December 18, 2014, the Council on Environmental Quality (CEQ) released revised draft guidance that describes how federal departments and agencies should consider the effects of GHG emissions and climate change in their NEPA reviews. The revised draft guidance supersedes the draft GHG and climate change guidance released by CEQ in February 2010. This guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action. The guidance also

[68] Cal/EPA, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.

[69] CARB, First Update to the Climate Change Scoping Plan, 2014.

emphasizes that agency analyses should be commensurate with projected GHG emissions and climate impacts, and should employ appropriate quantitative or qualitative analytical methods to ensure useful information is available to inform the public and the decision-making process in distinguishing between alternatives and mitigations. It recommends that agencies consider 25,000 metric tons of CO2e emissions on an annual basis as a reference point below which a quantitative analysis of GHG is not recommended unless it is easily accomplished based on available tools and data.

State

California's Energy Efficiency Standards for Residential and Nonresidential Buildings

Located in Title 24, Part 6 of the California Code of Regulations and commonly referred to as "Title 24," these energy efficiency standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The goal of Title 24 energy standards is the reduction of energy use. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.[70] On May 31, 2012, the California Energy Commission (CEC) adopted the 2013 Building and Energy Efficiency Standards. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption.

Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. It calls for the Secretary of Cal/EPA to be responsible for coordination of State agencies and progress reporting.

In response to the EO, the Secretary of the Cal/EPA created the Climate Action Team (CAT). California's CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the State. The council was given formal recognition in EO S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the EO. The CAT has since expanded and currently has members from 18 State agencies and departments. The CAT also has ten working groups, each of which has a major focus area and coordinates policies among their members.

Executive Order B-30-15

In April 2015, Governor Edmund Brown issued an EO establishing a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Governor

[70] The CEC, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, *Title 24, Part 6, of the California Code of Regulations*, http://www.energy.ca.gov/title24.

Brown's EO S-03-05 goal of reducing statewide emissions 80 percent below 1990 levels by 2050. In addition, the EO aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40 percent below 1990 levels by 2030) that was adopted in October 2014.

Assembly Bill 32 (AB 32)

In September 2006, the California Global Warming Solutions Act of 2006, also known as AB 32, was signed into law. AB 32 focuses on reducing GHG emissions in California and requires CARB to adopt rules and regulations that would achieve GHG emissions equivalent to Statewide levels in 1990 by 2020. CARB initially determined that the total Statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million metric tons of CO_2e. The 2020 target reduction was estimated to be 174 million metric tons of CO_2e.

To achieve the goal, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill (SB) 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the CEC to establish GHG emission performance standards for the generation of electricity. These standards would also apply to power that is generated outside of California and imported into the State.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.[71] On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs emissions from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing SF_6 emissions from the non-electricity sector.

The CARB AB 32 Scoping Plan (Scoping Plan) contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by CARB with input from the CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the State economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

CARB recently released the Proposed First Update to the Climate Change Scoping Plan.[72] This update identifies the next steps for California's leadership on climate change. The first update to the initial AB 32 Scoping Plan describes progress made to meet the near-term objectives of AB

[71] CARB, Proposed Early Action Measures to Mitigate Climate Change in California, April 20, 2007.
[72] CARB, First Update to the Climate Change Scoping Plan, 2014.

32 and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the State as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020.

As discussed above, in December 2007, CARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons of CO_2e. As part of the update, CARB is proposing to revise the 2020 statewide limit to 431 million metric tons of CO_2e, an approximately one percent increase from the original estimate. The 2020 business-as-usual forecast in the update is 509 million metric tons of CO_2e. The State would need to reduce those emissions by 15 percent to meet the 431 million metric tons of CO_2e 2020 limit.

Senate Bill (SB) 375

SB 375, adopted in September 30, 2008, provides a means for achieving AB 32 goals through the reduction in emissions by cars and light trucks. SB 375 requires Regional Transportation Plans (RTP)s prepared by metropolitan planning organizations to include Sustainable Communities Strategies (SCS). In adopting SB 375, the Legislature found that improved coordination between land use planning and transportation planning is needed in order to achieve the GHG emissions reduction target of AB 32. Further, the staff analysis for the bill prepared for the Senate Transportation and Housing Committee's August 29, 2008, hearing on SB 375 stated that the bill would help implement AB 32 by aligning planning for housing, land use, transportation and GHG emissions for the 17 metropolitan planning organizations in the State.

Senate Bill (SB) 743

SB 743, adopted September 27, 2013, encourages land use and transportation planning decisions and investments that reduce vehicle miles traveled that contribute to GHG emissions, as required by AB 32. Key provisions of SB 743 include reforming aesthetics and parking CEQA analyses for urban infill projects and eliminating the measurement of auto delay, including level of service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 requires the State Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas that promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. It also allows OPR to develop alternative metrics outside of transit priority areas.

California Green Building Code

The California Green Building Code, referred to as CalGreen, is the first Statewide green building code. It was developed to provide a consistent, approach for green building within California. CalGreen lays out minimum requirements for newly constructed buildings in California, which would reduce greenhouse gas emissions through improved efficiency and process improvements. It requires residential and non-residential builders to install plumbing that cuts indoor water use by as much as 20 percent, to divert 50 percent of construction waste from landfills to recycling, and to use low-pollutant paints, carpets, and floors.

CEQA Guidelines Amendments

SB 97 required the Governor's OPR to develop CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions." The CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. Noteworthy revisions to the CEQA Guidelines include the following:

- Lead agencies should quantify all relevant GHG emissions and consider the full range of project features that may increase or decrease GHG emissions as compared to the existing setting;
- Consistency with the CARB Scoping Plan is not a sufficient basis to determine that a project's GHG emissions would not be cumulatively considerable;
- A lead agency may appropriately look to thresholds developed by other public agencies, including the CARB's recommended CEQA thresholds;
- To qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project. General compliance with a plan, by itself, is not mitigation;
- The effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis; and
- Given that impacts resulting from GHG emissions are cumulative, significant advantages may result from analyzing such impacts on a programmatic level. If analyzed properly, later projects may tier, incorporate by reference, or otherwise rely on the programmatic analysis.

Regional

Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS)

While Southern California is a leader in reducing emissions, and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation. SCAG completed the RTP/SCS, which includes a strong commitment to reduce emissions from transportation sources to comply with SB 375. Goals and policies included in the RTP/SCS to reduce air pollution consist of adding density in proximity to transit stations, mixed-use development and encouraging active transportation (i.e., non-motorized transportation such as bicycling).

California Air Pollution Control Officers Association (CAPCOA)

CAPCOA is a non-profit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA promotes unity and efficiency in State air quality issues, and strives to encourage consistency in methods and practices of air pollution control. In 2008, CAPCOA published the CEQA and Climate Change White Paper.[73] This paper is intended to serve as a resource for reviewing GHG emissions from projects under CEQA. It considers the application of thresholds and offers approaches toward determining whether GHG emissions are significant. The paper also evaluates tools and methodologies for estimating impacts, and summarizes mitigation measures.

[73] CAPCOA, CEQA and Climate Change White Paper, January 2008.

South Coast Air Quality Management District

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 metric tons per year of CO_2e for stationary source/industrial projects where the SCAQMD is the lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds and provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that would provide input to the SCAQMD staff on developing CEQA GHG Significance Thresholds. The working group is currently discussing multiple methodologies for determining project significance. These methodologies include categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

Local

Integrated Resource Plan

The Integrated Resource Plan (IRP) is the LADWP plan for providing reliable, affordable, and environmentally responsible electric service to customers. The IRP takes into account future energy demand, regulatory requirements, advances in renewable energy and other technologies, conservation and energy efficiency programs, and other factors. While LADWP has multiple and concurrent GHG emissions reduction strategies, the primary focus is on early replacement of coal-fired generation. Because coal-fired energy production emits relatively high levels of CO_2, switching to cleaner fuels would significantly lower the overall emission levels. Early coal replacement facilitates LADWP's compliance with the AB 32 Cap and Trade program.

During calendar year 2012, 33 percent of the energy delivered to LADWP customers was generated from two coal-fired generating stations, the Intermountain Power Project (IPP), located in Utah, and the Navajo Generating Station (NGS), located in Arizona. The NGS's operating agreement and land lease expires in December 2019, and IPP's Power Purchase Agreement (PPA) contract is in effect until June 2027. Although these stations provide dependable, low cost base load generation to Los Angeles, they emit about twice as much CO_2 as energy generated from natural gas. Accordingly, the 2013 IRP focuses on early coal replacement options as a means to lower LADWP's CO_2 emission levels.

LADWP's CO_2 emissions reduction strategy must comply with the following State regulations:

- SB 1368, the California Greenhouse Gas Emissions Performance Standard Act, enacted in 2006, prohibits LADWP and other California utilities from entering into long-term financial commitments for base load generation unless it complies with the CO_2

emissions performance standard. The CO_2 emissions level must be equal, or below the emissions performance standard of 1,100 pounds per megawatt-hour that can be achieved by gas-fired combined cycle units. This standard also applies to existing power plants for any long-term investments or contractual extensions, effectively prohibiting LADWP from continued acceptance of coal-fired generation beyond the current contractual expiration dates for NGS (2019) and IPP (2027).

- AB 32, the California Global Warming Solutions Act of 2006, calls for reducing the State's CO_2 emissions to 1990 levels by 2020. The regulations for implementing a GHG emissions Cap and Trade program under AB 32 were finalized and adopted on October 20, 2011 by CARB. Enforcement and compliance with the trading program began January 1, 2013. The LADWP has been granted an administrative allocation of emission allowances that reflects its resource projections through 2020.

3.7.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to GHG if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Appendix F of the State CEQA Guidelines provides guidance for evaluation of environmental impacts related to energy. Impacts on energy conservation are considered significant if implementation of the Project would:

- Result in wasteful, inefficient, and unnecessary consumption of energy during construction and operation of the Project.

The CEQA Guidelines require lead agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guideline allows lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

The City of Los Angeles and LADWP have not adopted GHG thresholds of significance for CEQA. The SCAQMD Governing Board has adopted the staff proposal for GHG significance threshold of 10,000 metric tons per year of CO_2e for stationary source/industrial projects where the SCAQMD is the lead agency. Although the SCAQMD is not the lead agency for the Proposed Project, this threshold is applicable due to the industrial nature of the Proposed Project. In addition, this threshold is consistent with the 10,000-metric-ton standard used by the Market Advisory Committee for inclusion in a GHG Cap and Trade System in California.

Methodology

GHG emissions were estimated using a spreadsheet methodology and using the emissions factors and emission rates obtained from Appendix A - the Data Tables used by CalEEMod for off-road construction equipment (version 2013.2.2) and EMFAC2014 emission factors for worker and truck trips. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operational from a variety of land use projects.

The Proposed Project would generate operational emissions from increased electricity use, worker vehicle trips, and delivery trucks. During operations, vehicle trips associated with 16 full-time staff and 7 chemical truck deliveries per month would generate negligible GHG emissions compared to the total GHG emissions generated by water treatment and transfer (i.e., typically less than one ton per year).

Regarding energy, water conveyance in California requires substantial amounts of energy. The CEC estimates that approximately 9,727 kilowatt hours per million gallons (kWh/mg) are consumed in the conveyance of water to Southern California.[74] Based on the importation of 30,000 AFY, or 9,777 mg/year (which would be offset by the Proposed Project), about 95.1 million kWh would be consumed annually.

Consistent with other estimates of energy intensity for treatment of recycled water for use in groundwater recharge, it is estimated that the Proposed Project would require 3,437 kWh/mg.[75] It is further estimated that it would require 1,960 kWh/mg to pump the purified water to HSG and PSG. Therefore, the total energy intensity for treatment and conveyance of water under the Proposed Project would be 5,397 kWh/mg. At 30,000 AFY, or 9,777 mg/year, the Project would consume approximately 52.8 million kWh annually.

Impact Analysis

GHG-1: *Operation of the Proposed Project would not generate GHG emissions exceeding the SCAQMD threshold. The impact would be less than significant.*

The fundamental purpose of the Proposed Project is to reduce the City's dependence on imported water sources by increasing the local groundwater supply available for potable use. Historically, during normal precipitation years, imported water has accounted for nearly 90 percent of annual supply for the City of Los Angeles. In addition to being costly, less environmentally sustainable, and less secure during emergency circumstances, imported water supplies are large consumers of energy, mainly due to the need to convey and pump the imported water over extensive distances. Based on the importation of 30,000 AFY, or 9,777 mg/year, about 95.1 million kWh is currently consumed annually by imported water supplies. This importation of water to Southern California thereby generates 31,233 metric tons per year of carbon dioxide equivalent (CO_2e) emissions, as shown in Table 3.7-2.

For the Proposed Project, operation of the proposed AWPF would generate GHG emissions from energy use during operations and from construction activity. It is anticipated that other sources, including vehicle trips associated with 16 staff members and 7 truck deliveries per month during operations, would result in negligible emissions in metric tons. The primary source of GHG emissions would be related to energy consumption for the treatment processes, such as the RO membrane system. The estimated electricity consumption of 52.8 million kWh per year is based on 30,000 AFY of advanced treated water generated at the proposed AWPF and conveyed to HSG and PSG. As shown in Table 3.7-2, the Proposed Project would result in

74 CEC, Refining Estimates Of Water-Related Energy Use In California (CEC-500-2006-118), 2006.
75 WateReuse Research Foundation, Implications of Future Water Supply Sources for Energy Demands, 2012.

17,596 metric tons per year of CO_2e emissions. These emissions include construction emissions (7,970 total metric tons) amortized over a 30-year span per SCAQMD methodology.

Since the Project would offset imported water supplies of up to 30,000 AFY, the associated CO_2e emissions would also be offset with Project implementation. The net reduction in GHG emissions would be 13,637 metric tons per year. The estimated net GHG emissions would not exceed the 10,000 metric tons of CO_2e per year quantitative significance threshold. Therefore, the Proposed Project would result in a less than significant impact related to GHG emissions.

Table 3.7-2
Proposed Project Greenhouse Gas Emissions

Source	Carbon Dioxide Equivalent (Metric Tons Per Year)
Imported Water	
Energy – Conveyance of Imported Water	31,233
Proposed Project	
Energy - Treatment	11,036
Energy - Pumping	6,294
Construction Amortized	266
Total Emissions	17,596
Net Emissions	(13,367)
Significance Threshold	10,000
Exceed Threshold?	**No**

Source: TAHA, 2016

GHG-2: *The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. The impact would be less than significant.*

AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. CARB's First Update to the Climate Change Scoping Plan: Building on the Framework includes measures to meet California's goal of reducing emissions to 1990 levels by 2020 and also reiterates the State's role in the long-term goal established in EO S-3-05, which is to reduce GHG emissions to 80 percent below 1990 levels by 2050.

According to CARB, the 2020 goal was established as an achievable, mid-term target, and the 2050 GHG emissions reduction goal represents the level scientists believe is necessary to stabilize the climate.[76] However, the Plan does not recommend additional measures for meeting specific GHG emissions limits beyond 2020. In general, the measures described in the plan are designed to meet emissions goals in 2020 and do not become increasingly stringent until after 2020.

Measures included in the Scoping Plan would indirectly address GHG emissions levels associated with construction activities, including the phasing-in of cleaner technology for diesel engine fleets (including construction equipment) and the development of a low-carbon fuel standard. Policies formulated under the mandate of AB 32 that apply to construction-related activity, either directly or indirectly, are assumed to be implemented Statewide and would affect

[76] CARB, First Update to the Climate Change Scoping Plan, 2014.

the Proposed Project should those policies be implemented before construction begins. The Proposed Project would comply with any mandate or standards set forth by the Scoping Plan update.

The Scoping Plan did not directly create any regulatory requirements related to the Proposed Project. However, regulatory changes would affect GHG emission rates from vehicles used during Project operations and emission rates associated with electricity demand. Therefore, it is assumed that Project construction and operation would not conflict with the Scoping Plan update.

The purpose of the Proposed Project is to offset the current use of imported water with recycled water for groundwater replenishment. Since water delivery is one of the most energy-intensive activities in the State, implementing programs that support local water use would reduce GHG emissions. Therefore, the State has adopted goals for development of alternative water sources, such as recycled water and stormwater.[77] The State Water Resources Control Board adopted recycled water goals to increase usage above the 2002 usage levels by at least one million AFY by 2020 and by at least two million AFY by 2030.[78] The Proposed Project would provide a sustainable and reliable source of recycled water for groundwater basin replenishment, and, therefore, would be consistent with the goals of the Scoping Plan update.

The Proposed Project would not conflict with the Scoping Plan update or any other plans, policies, or regulations for the purpose of reducing GHG emissions. Therefore, impacts related consistency with GHG reduction plans would be less than significant.

GHG-3: *Neither construction nor operation of the Proposed Project would result in wasteful, inefficient, or unnecessary consumption of energy. The impact would be less than significant.*

Construction

During construction, the Proposed Project would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site preparation, trenching, building construction, and equipment installation.

California regulations limit idling from both on-road and off-road diesel-powered equipment and are enforced by CARB. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. Also, given the high cost of fuel, contractors and owners have a strong financial incentive to avoid unnecessary energy consumption during operation of off-road vehicles.

Despite the increase in energy demand during construction, adherence with local, State, and federal regulations, which limit engine idling times, would reduce short-term energy demand. Therefore, the construction of the Proposed Project would not result in wasteful, inefficient, and unnecessary consumption of energy and impacts would be less than significant.

[77] CARB, First Update to the Climate Change Scoping Plan, 2014.
[78] CARB, First Update to the Climate Change Scoping Plan, 2014.

Operation

Operation of the proposed AWPF would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, electronics, and other equipment. Energy would also be consumed during vehicle trips associated with the operators and maintenance staff. However, the primary source of energy consumption would be related to the treatment processes for the proposed AWPF and pumping of the purified water to HSG and PSG, which, as discussed above, would require approximately 52.8 million kWh/year to provide 30,000 AFY for GWR.

As previously discussed, water conveyance and treatment in California requires substantial amounts of energy. The CEC estimates that approximately 9,727 kWh/mg are consumed in the conveyance of water to Southern California.[79] Based on the importation of 30,000 AFY, or 9,777 mg/year (which would be offset by the Proposed Project), about 95.1 million kWh would be consumed annually.

The fundamental purpose of the Proposed Project is to reduce the City's dependence on imported water sources by increasing the local groundwater supply available for potable use. Since the Project would offset imported water supplies of up to 30,000 AFY, the associated electricity consumption would also be offset with Project implementation. The net reduction in electricity consumption would be approximately 42.3 million kWh per year with Project implementation. Therefore, an energy savings would occur and energy consumption associated with operation of the Project would not be expected to be wasteful or inefficient, and impacts related to energy use would be less than significant.

3.7.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to GHG emissions and energy. No mitigation measures are required.

3.7.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to GHG emissions and energy.

[79] CEC, Refining Estimates Of Water-Related Energy Use In California (CEC-500-2006-118), 2006.

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SECTION 3.8
HAZARDS AND HAZARDOUS MATERIALS

This section addresses the potential of the Proposed Project to expose the public and environment to hazards and hazardous materials during construction and operation. The analysis in this section is based in part on information from regulatory databases. The regulatory database listings of the sites within a 0.5-mile radius of the Project site and surrounding area returned by the database searches are contained within Appendix F of this Draft EIR.

3.8.1 Environmental Setting

Hazardous substances are defined by state and federal regulations as substances that must be regulated in order to protect the public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be hazardous. The California Code of Regulations Title 22, Division 4.5, Chapter 11, Article 2, Section 66261.10 provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

According to Title 22 (California Code of Regulations Chapter 11, Article 3), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or which is being stored prior to disposal.

Toxic substances may cause short-term or long-term health effects, ranging from temporary effects to permanent disability or death. Examples of toxic substances include most heavy metals, pesticides, benzene, gasoline, hexane, natural gas, sulfuric acid, lye, explosives, pressurized canisters, and radioactive and biohazardous materials. Soils may also be toxic because of accidental spilling of toxic substances.

Use, Disposal, Storage, and Transport of Hazardous Materials

The DCTWRP site is currently developed with a wastewater treatment facility and ancillary facilities. Records from the City of Los Angeles Fire Department (LAFD) show that in 2004, DCTWRP stored or used reportable quantities of acetylene, argon, calcium hypochlorite, cleaning solvent, diesel fuel, engine oil, ferric chloride, gear compound, grease, helium, muriatic acid, oxygen, propane, sodium bisulfate, freon, helium, hexane, hydrogen, and nitrogen.[80] Existing wastewater treatment processes at DCTWRP use some materials that can be considered hazardous, such as sodium hypochlorite (for disinfection through chlorination) and

[80] City of Los Angeles Department of Public Works Bureau of Sanitation, *Integrated Resources Plan Draft EIR,* page 3.10-10. Website: http://www.lacity-irp.org/drafteirsections/014_3.10-HazMat.pdf, accessed March 29, 2016.

sodium bisulfite (for dechlorination prior to effluent discharge). Both substances come in either a solid or liquid form, and neither poses a safety risk to the public as they are commonly used in wastewater treatment processes and the transport, use, and handling of these materials are regulated by state agencies. The City has a hazardous materials inventory statement and a consolidated contingency plan, as well as a federal risk management plan and a California Accidental Release Prevention Program (CalARP), for DCTWRP to properly manage and control these hazardous materials.

Regulatory Database Search

DCTWRP, HSG, PSG, and areas surrounding the proposed recycled water and brine line alignments include a mix of public facilities, open space, commercial, and residential uses. In order to evaluate current conditions regarding hazardous materials, hazardous waste, and known releases of hazardous materials on the Proposed Project site and in the surrounding area, a regulatory database search was conducted. DCTWRP, HSG, and PSG, and the recycled water pipeline and brine line alignments were evaluated. The regulatory database listings of sites within a 0.5-mile radius of the Proposed Project components that were returned by the database searches are contained within Appendix F of this Draft EIR.

The EnviroStor and GeoTracker databases were reviewed for known hazardous materials sites. The EnviroStor database is the Department of Toxic Substances Control's (DTSC) internet-accessible database and the GeoTracker database is the California State Water Resources Control Board's (SWRCB) internet-accessible database. Both are used to track and record data from land disposal sites and unauthorized releases of hazardous materials from underground storage tanks. The EnviroStor database also includes those sites listed on the Cortese List and the U.S. EPA National Priorities List.

According to the databases, no hazardous materials sites are located at PSG or within the Arleta Avenue recycled water pipeline alignment. One leaking underground storage tank (LUST) cleanup site, Al-Sal Oil Co. Station #15 is located adjacent to the recycled water pipeline alignment at the northwest corner of Arleta Avenue and Osborne Street. One cleanup program site, three evaluation sites, eight additional LUST cleanup sites, seven permitted underground storage tank (UST) sites, and two school cleanup sites exist within a 0.5-mile from the proposed recycled water pipeline alignment. One permitted UST is located on the western edge of the DCTWRP site near the Japanese Gardens and parking lot. No other hazardous materials sites are located at DCTWRP.

Two hazardous materials sites are associated with the Sepulveda Air National Guard Station (ANGS) and are located adjacent to and north of DCTWRP at 15900 Victory Boulevard. According to the database, Sepulveda ANGS was previously listed as a military evaluation site (EnviroStor) and as a cleanup site (GeoTracker) for two areas near the northern edge of the Sepulveda ANGS property. In terms of the military evaluation site, a preliminary assessment and site inspection to determine eligibility for the Military Munitions Response Formerly Used Defense Site Program was completed in March 2012. The site was referred for further evaluation under the above stated program and the cleanup status of the site is listed as active as of September 2015. As a part of the cleanup site related to the Sepulveda ANGS, two USTs were removed and contaminated soil was excavated. According to the database search, assessment and interim remedial action at the Sepulveda ANGS began in May 2014 and the site was deemed completed in February 2015.

Additionally, Arco #5201, a leaking UST, is located at the intersection of Victory Boulevard and Haskell Avenue, adjacent to the brine line connection with the VORS maintenance hole within Victory Boulevard. The site cleanup was completed and closed as of August 1997.

According to the GeoTracker database, the Los Angeles County Department of Public Works (LACDPW) Flood Maintenance Division's Hansen Yard is located in the north corner of the HSG site at the intersection of Branford Street and Glenoaks Boulevard and is listed as a leaking UST cleanup site. The leak was discovered and reported in 2002 and the case was closed and completed in December 2010. HSG also contains one permitted UST associated with spreading ground operations.

Emergency Evacuation and Response Plans

LAFD provides emergency response services and has jurisdiction over the Project site and surrounding area, which includes DCTWRP, recycled water pipeline alignment, PSG, and HSG. LAFD provides services to all communities located within the City limits, with 106 neighborhood fire stations located across LAFD's 471 square-mile jurisdiction. Fire Station No. 88, located at 5101 Sepulveda Boulevard, is approximately 1.3 miles from DCTWRP and Fire Station No. 39, located at 14415 Sylvan Street, is approximately 1.7 miles from DCTWRP. Fire Station No. 77, located at 9224 Sunland Boulevard, is approximately 1.7 miles from HSG. Fire Station No. 7, located at 14630 Plummer Street, is approximately 0.6 mile from PSG.[81]

LACDPW has identified Disaster Routes for each Los Angeles County Operational Area. The Project site is located in the North Operational Area, with I-5, I-405, and U.S. Route 101 designated as Primary Disaster Routes, and Arleta Avenue, Devonshire Street, San Fernando Road, Victory Boulevard, and Van Nuys Boulevard identified as Secondary Disaster Routes. It should be noted that these Disaster Routes are not the same as evacuation routes, and are generally utilized during emergencies to move emergency equipment, personnel, and supplies during a disaster.[82] No evacuation routes have been identified for DCTWRP, PSG, HSG, or areas surrounding the proposed recycled water pipeline and brine line alignments.

The City of Los Angeles Emergency Management Department (EMD), established by a City ordinance in 2000, manages the City's response to and recovery from an emergency, crisis, disaster, or significant event.[83] The EMD is responsible for the coordination of Los Angeles' emergency planning, training, response and recovery efforts in the midst of major disasters that require involvement by multiple City departments. EMD also works with numerous municipalities, state and federal agencies, and the private sector to provide outreach, as well as educational and community preparedness activities.

Proximity to Schools

The Proposed Project components are located within the boundaries of the Los Angeles Unified School District (LAUSD). LAUSD covers an area totaling 720 square miles, with more than 640,000 students in kindergarten through 12th grade enrolled at over 900 schools and 187 public charter schools.

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[81] City of Los Angeles Fire Department Fire Station Locator, website: http://www.lafd.org/fire_stations/find_your_station, accessed July 8, 2015.

[82] Los Angeles County Department of Public Works, *North Operational Area Map*, website: http://dpw.lacounty.gov/dsg/disasterroutes/map/disaster_rdm-North.pdf, accessed July 8, 2015.

[83] City of Los Angeles Emergency Management Department, website: http://emergency.lacity.org/index.htm, accessed July 8, 2015.

The closest public schools to DCTWRP are Bassett Street Elementary School, located at 15756 Bassett Street, and Sylvan Park Elementary School, located at 6238 Noble Avenue, approximately 0.7 mile north and 0.9-mile east of DCTWRP, respectively. The Los Angeles Hebrew High School, located at 5900 Sepulveda Boulevard, is approximately 0.7 mile southeast of DCTWRP. Arleta High School, located at 14200 Van Nuys Boulevard, and Beachy Elementary School, located at 9757 Beachy Avenue, are approximately 0.3 mile and 0.6 mile southeast of PSG, respectively. The closest schools to HSG are Sun Valley High School, located at 9171 Telfair Avenue, and Stonehurst Elementary School, located at 9851 Stonehurst Avenue, approximately 0.7 mile south and 1.2 miles east of HSG, respectively.

There are no schools located within one-quarter of a mile from DCTWRP, HSG, or PSG. However, Sharp Avenue Elementary School, located at 13800 Pierce Street, and Vena Avenue Elementary School, located at 9377 Vena Avenue, as well as Beachy Elementary School and Arleta High School, are located within one-quarter mile of the proposed Arleta Avenue recycled water pipeline alignment.

Wildland Fires

Wildland fires often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may be visible from miles around. They can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. Interface or intermix fires (also referred to as urban-wildland interface fires) occur in areas where both vegetation and structures provide fuel.

Wildland fires can endanger human life and existing structures to the extent that they occur or originate in developed or partially-developed areas. The California Department of Forestry and Fire Protection's Fire Resource and Assessment Program provides Fire Hazard Severity Zone maps showing the severity of the threat of wildfires and the designation of responsibility for fire protection.

Based on the Fire Hazard Severity Zone map for Los Angeles County, DCTWRP, PSG, HSG, and the proposed recycled water pipeline alignment are located within urbanized/developed areas and are outside of designated fire hazard severity zones.[84] Additionally, DCTWRP, PSG, HSG, and the proposed recycled water pipeline are not located within a selected wildfire hazard area in the City of Los Angeles General Plan.[85]

3.8.2 Regulatory Setting

Federal

The U.S. Environmental Protection Agency (USEPA) is the primary federal agency regulating hazardous wastes and materials. The USEPA broadly defines a hazardous material as one that is specifically listed in USEPA regulations, has been tested, and meets one of the four characteristics established by the USEPA (toxicity, ignitability, corrosiveness, and reactivity), or that has been declared hazardous by the material generator based on its knowledge of the material. The USEPA defines hazardous materials as any item or chemical that can cause harm

84 California Department of Forestry and Fire Protection, Fire Resource and Assessment Program, *Fire Hazard Severity Map for Los Angeles County*, website: http://frap.cdf.ca.gov/webdata/maps/los_angeles/fhsz_map.19.pdf., accessed July 8, 2015.

85 City of Los Angeles Department of City Planning, *City of Los Angeles General Plan Safety Element Exhibit D, website*: http://planning.lacity.org/cwd/gnlpln/saftyelt.pdf, accessed July 8, 2015.

to people, plants, or animals when released by spilling, leaking, pumping, pouring, emptying, discharging, injecting, leaching, dumping, or disposing into the environment. Federal regulations pertaining to hazardous wastes and materials are generally contained in Titles 29, 40, and 49 of the Code of Federal Regulations. The terms hazardous wastes and hazardous materials are used interchangeably in this section.

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (42 USC Sections 6901 – 6987), including the Hazardous and Solid Waste Amendments of 1984, protects human health and the environment, and imposes regulations on hazardous waste generators, transporters, and operators of treatment, storage, and disposal facilities. The Hazardous and Solid Waste Amendments also requires the USEPA to establish a comprehensive regulatory program for underground storage tanks. The corresponding regulations in 40 CFR 260–299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

Hazardous Materials Transportation Act

The United States Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration are the three entities that regulate the transport of hazardous materials at the federal level. The Hazardous Materials Transportation Act (49 CFR 171, Subchapter C) governs the transportation of hazardous materials. These regulations are promulgated by the United States Department of Transportation and enforced by the USEPA.

State

California Environmental Protection Agency

CalEPA has been granted primary responsibility by the USEPA for administering and enforcing hazardous materials management plans within California. The CalEPA defines a hazardous material more generally than the USEPA as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released (26 CCR 25501). Raw materials and products, such as bulk chemicals, stored and used at typical publicly owned treatment facilities can be defined as a hazardous material per CalEPA regulations.

California regulations governing hazardous materials include detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of in order to reduce human health risks. In particular, the State has acted to regulate the transfer and disposal of hazardous waste. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.). Hazardous waste treatment, storage, and disposal facilities are also highly regulated and must meet standard criteria for processing, containment, and disposal of hazardous materials (26 CCR 25220).

California Accidental Release Prevention Program

As specified in California Code of Regulations, Title 19, Division 2, Chapter 4.5, Articles 1 through 11, all businesses that handle specific quantities of hazardous materials are required to prepare a CalARP Program Risk Management Plan, which is the state equivalent of the federal Risk Management Plan. The CalARP Program Risk Management Plans include the preparation of an off-site consequence analysis of worst-case release of the stored chemicals and the preparation of emergency response plans, including coordination with local emergency response agencies. The CalARP Program Risk Management Plans are required to be updated at least every 5 years and when there are significant changes to the stored chemicals.

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act (also known as the Business Plan Act) requires a business using hazardous materials to prepare a Business Plan describing the facility, inventory, emergency response plans, and training programs. Typically, businesses prepare these plans biennially and submit them to the LAFD, Hazardous Materials Unit.

Hazardous Waste Control Act

The state equivalent of the Resource Conservation and Recovery Act is the Hazardous Waste Control Act. It created the State Hazardous Waste Management Program, which is similar to the Resource Conservation and Recovery Act program. The Hazardous Waste Control Act establishes requirements for the proper management of hazardous substances and wastes with regard to criteria for (1) identification and classification of hazardous wastes; (2) generation and transportation of hazardous wastes; (3) design and permitting of facilities that recycle, treat, store, and dispose of hazardous wastes; (4) treatment standards; (5) operation of facilities; (6) staff training; (7) closure of facilities; and (8) liability requirements.

Title 22 of the California Code of Regulations

Title 22 of the California Code of Regulations includes state hazardous waste regulations enforced by the California DTSC and local Certified Unified Program Agencies. Authority from the State was delegated to the local Certified Unified Program Agencies to establish a unified hazardous waste and hazardous materials management program for hazardous waste generators, treatment of hazardous waste subject to tiered permitting, facilities with underground storage tanks and aboveground storage tanks, risk management and prevention plans, and hazardous materials management plans and inventory statements required by the Uniform Fire Code.

California Health and Safety Code

State hazardous waste control laws enforced by DTSC are included in the California Health and Safety Code. These regulations identify standards for the classification, management, and disposal of hazardous waste in California.

California Occupational Safety and Health Program

Under an agreement with Occupational Safety and Health Program, the State of California operates an occupational safety and health program in accordance with Section 18 of the Occupational Safety and Health Act of 1970. Initial approval of the California State Plan was published on May 1, 1973, and certification for completing all developmental steps was received on August 19, 1977.

Emergency Services Act

Under the California Emergency Services Act, the State developed an emergency response plan to coordinate emergency services provided by all governmental agencies. The plan is administered by the California Office of Emergency Services, which coordinates the responses of other agencies, including the USEPA, FEMA, the California Highway Patrol, RWQCBs, air quality management districts, and county disaster response offices. Local emergency response teams, including the fire, police, and sheriff's departments, provide most of the services to protect public health.

California Government Code Section 65962.5

California Government Code Section 65962.5(a)(1) requires that the DTSC compile, update, and submit to the Secretary for Environmental Protection, at least annually, a list of all hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code. This list, commonly referred to as the Cortese List, is a compilation of sites designated by the State Water Resources Control Board (SWRCB) (leaking underground storage tank [LUST] sites), the Integrated Waste Board (solid waste information system sites [SWF/LS]), and the DTSC (Cal-Sites). The list is no longer updated by the CalEPA. Below are the data resources that provide information regarding the facilities or sites identified as meeting Cortese List requirements:

- List of Hazardous Waste and Substances sites from the DTSC EnviroStor database.
- List of LUST sites by county and fiscal year from the SWRCB GeoTracker database.
- List of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
- List of active cease and desist orders and cleanup and abatement orders from the SWRCB.
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code identified by the DTSC.

Local

City of Los Angeles General Plan

The Safety Element of the City's General Plan contains the following policies related to the production, use, storage, and transport of hazardous materials:

- *Policy 1.1.4 Health/environmental protection*. Protect the public and workers from the release of hazardous materials and protect City water supplies and resources from contamination resulting from accidental release or intrusion resulting from a disaster event, including protection of the environment and public from potential health and safety hazards associated with program implementation.
- *Policy 1.1.5 Risk reduction.* Reduce potential risk hazards due to natural disaster to the greatest extent feasible within the resources available, including provision of information and training.

- *Policy 3.1.2 Health/safety/environment.* Develop and establish procedures for identification and abatement of physical and health hazards which may result from a disaster. Provisions shall include measures for protecting workers, the public and the environment from contamination or other health and safety hazards associated with abatement, repair and reconstruction programs

City of Los Angeles Local Hazard Mitigation Plan

In July 2011, the City of Los Angeles adopted a local hazard mitigation plan.[86] The plan consists of hazard vulnerability and risk analysis, hazard mitigation strategies and actions, and methods of implementing and monitoring the plan. The purpose of the plan is to combine hazard mitigation strategies with day to day operation activities and other City programs to develop improved capabilities to prepare for and prevent hazards. The plan contains several projects or strategies that correspond to different risk levels. Each project includes detailed information on the description of the action, cost, timeline, financing, who the responsible agency is, and what hazards are specifically addressed by the project.

City of Los Angeles Municipal Code

Divisions 4 and 5 of Chapter 5, Section 57, of the Los Angeles Municipal Code (LAMC) regulate the construction of buildings and other structures used to store flammable hazardous materials and the storage of these same materials. This ensures that businesses are properly equipped and operate in a safe manner and in accordance with all applicable laws and regulations. Permits required by the LAMC are issued by the Los Angeles Fire Department.

Chapter 6, Article 4, of the LAMC requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains.

South Coast Air Quality Management District Rule 1166

Rule 1166 sets requirements to control the emission of VOCs when excavating, grading, handling, or treating certain contaminated soils. General provisions of the rule include the following:

- Prior to excavation, a mitigation plan approved by the executive officer must be obtained.
- The SCAQMD must be notified 24 hours prior to excavation.
- The excavation must be monitored at least once every 15 minutes commencing at the beginning of excavation or grading.
- Additional mitigation measures (e.g., spraying, covering, etc.) must be applied if VOCs exceed levels established by the rule.
- A site-specific plan is needed if the volume of contaminated soil exceeds 2,000 cubic yards (CY).

[86] City of Los Angeles Emergency Management Department Local Hazard Mitigation Plan, website: http://emergency.lacity.org/stellent/groups/departments/@emd_contributor/documents/contributor_web_content/lacityp_030830.pdf, accessed July 8, 2015.

3.8.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in a safety hazard for people residing or working in the project area:
- For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Methodology

The assessment of impacts concerning hazards and hazardous materials and their use, transport, disposal, or release related to public health and the environment, as well as the assessment of potential impacts related to contaminated sites, was based on the site assessment and investigation reports listed at the beginning of this section.

Impact Analysis

HAZ-1: *The Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The impact would be less than significant.*

Construction

Onsite and offsite construction activities would include the use of machinery and other equipment that may require fueling or maintenance/servicing with other petroleum-based products (e.g., grease, oil). These materials are considered hazardous and could cause temporary localized soil and water contamination. Incidents of spills or other localized contamination may occur during refueling, operation of machinery, undetected fluid leaks, or mechanical failure. In addition, during construction of the Proposed Project, paints, solvents, and other materials (wood and cement sealers, etc.) may be used. These types of materials are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the DTSC, USEPA, and LAFD. All construction activities involving the transportation, usage, and disposal of hazardous materials would be subject to federal, state, and local health and safety requirements. This would include the prevention of spills or leaks related to construction equipment and vehicles. With adherence to all applicable regulations, the impact related to the routine use and handling of hazardous materials during construction would be less than significant.

Operation

Onsite Components

Implementation of the Proposed Project would result in the transport, use, and storage of chemicals to neutralize and treat wastes associated with the proposed AWPF. As discussed in Section 2.5.1, DCTWRP, as presently planned, the Proposed Project would utilize purification processes and technologies that may include ozonation, BAC, MF, RO, and AOP systems to produce purified recycled water.

Operation of the proposed AWPF would require the daily use of a number of chemicals that would be considered hazardous. Due to the fact that the existing DCTWRP currently operates a wastewater treatment facility, the proposed AWPF would only require up to seven additional chemical deliveries per month. The transportation of these chemicals would require compliance with the Hazardous Materials Transportation Act and would be conducted in a safe and controlled manner. Furthermore, DCTWRP would be required to update its existing CalARP Program Risk Management Plan to include the chemicals and their volumes that would be transported, used, or disposed of for the proposed AWPF. The process for revising the CalARP Program Risk Management Plan would include the evaluation of security and prevention measures so that operation of the AWPF would not result in an impact related to the routine transport, use, and disposal of hazardous materials. Any recommended upgrades or procedural changes would be implemented prior to receiving additional truck deliveries. With adherence to all applicable federal, state, and local regulations, impacts related to the use and handling of hazardous materials during onsite operation would be less than significant.

Offsite Components

No hazardous materials are expected to be transported, used, or disposed of in the long-term operation and maintenance of the proposed recycled water pipeline. The pipeline would convey purified recycled water and would not pose a hazard to the public. Similarly, no hazardous materials would be transported, used or disposed of during long-term groundwater replenishment at PSG and HSG. No impact to hazardous materials related to the use and handling of hazardous materials during offsite operational activities would occur during operation of the Proposed Project.

HAZ-2*:* *The Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The impact would be less than significant.*

Construction

Onsite Components

Relatively small quantities of hazardous materials that would be used during construction of onsite components (e.g., petroleum-based products, paints, solvents, sealers, etc.) would be transported, used, stored, and disposed of according to City, County, state, and federal regulations. These substances are not considered acutely hazardous. Consequently, the potential for a significant release involving these materials is relatively low. Construction of the proposed AWPF and other facilities at DCTWRP would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As discussed, construction activities would be temporary in nature and would involve the limited transport, storage, use, and disposal of hazardous materials.

Excavation and grading activities would occur at DCTWRP. Construction of the flow equalization tank would generate approximately 48,000 CY of excavated material, 12,000 CY of which would be retained onsite for reuse during Project construction and the remaining 36,000 CY would be hauled offsite for disposal. Should any excavated material contain hazardous substances, it would be handled and transported in strict accordance with federal, state, and local requirements to avoid the impacts on human health.

Brine line construction would generally use a linear construction technique called trenching. As the trench is excavated, the material would be loaded into dump trucks hauled off site. Should any excavated material contain hazardous substances, it would be handled and transported in strict accordance with federal, state, and local requirements to avoid impacts on human health. Therefore, onsite construction impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be less than significant.

Offsite Components

As discussed, construction activities would be temporary in nature and would involve the limited transport, storage, use, and disposal of hazardous materials. Such hazardous materials could include on-site fueling/servicing of construction equipment, and the transport of fuels, lubricating fluids, and solvents. These substances are not considered acutely hazardous. Hazardous materials that would be used during construction of offsite components would be transported, used, stored, and disposed of according to City, County, state, and federal regulations. Consequently, the potential for a significant release involving these materials is relatively low.

Some excavation and grading activities would occur at PSG and HSG. Should any excavated material contain hazardous substances, it would be handled and transported in strict accordance with federal, state, and local requirements to minimize the impact on human health. Compliance with federal, state, and local requirements would ensure a less than significant impact related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials during the construction of offsite components.

Operation

Onsite Components

As previously discussed, operation of the proposed AWPF and other onsite components would involve the routine transport, use, and disposal of hazardous materials. The chemicals used during operation of the proposed onsite components would be housed within or adjacent to the AWPF. The AWPF would be designed with appropriate containment, security measures, seismic mitigation, and other engineering controls to prevent the release of hazardous materials into the environment. The transportation of chemicals would require compliance with the Hazardous Materials Transportation Act and would occur in a safe and controlled manner. In addition, the existing CalARP Program Risk Management Plan contains several procedures currently in place that prevent the accidental release of hazardous materials at DCTWRP. The current CalARP Program Risk Management Plan requires that processes involving potentially hazardous chemicals be frequently monitored, and the facility is equipped with detectors that monitor for potential leaks. The plan also requires that DCTWRP contains expansion chambers, rupture discs, and pressure relief valves to protect against excess pressure to stop the flow of chemicals from the tanks in the event of an emergency. DCTWRP would be required to update its CalARP Program Risk Management Plan to include the chemicals and their volumes that would be transported, used, or disposed of for the proposed AWPF. The process for revising the CalARP Program Risk Management Plan would include the evaluation of security and prevention measures so that operation of the AWPF would not result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Any recommended upgrades or procedural changes would be implemented prior to receiving additional truck deliveries. Therefore, impacts related to operation of the proposed AWPF and other onsite components would be less than significant.

Offsite Components

No hazardous materials are expected to be transported, used, or disposed of in the long-term operation and maintenance of the proposed recycled water pipeline. The pipeline would convey purified recycled water and would not pose a hazard to the public. Similarly, no hazardous materials would be transported, used or disposed of during long-term groundwater replenishment at HSG and PSG. No impact involving the release of hazardous materials into the environment would occur during operation of offsite components.

HAZ-3: *The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The impact would be less than significant.*

Construction

Onsite Components

There are no schools located within 0.25-mile of DCTWRP. No impact to schools would occur during construction of onsite components.

Offsite Components

As mentioned above, there are no schools located within 0.25-mile of PSG or HSG. Portions of the proposed Arleta Avenue recycled water pipeline alignment are within 0.25-mile of Sharp Avenue Elementary School, Vena Avenue Elementary School, Beachy Elementary School, and Arleta High School. However, as discussed above, the handling of relatively minor amounts of hazardous materials during construction would be in compliance with applicable regulations. Furthermore, these minor amounts of hazardous materials (i.e., petroleum-based products, such as grease or motor oil) are not considered acutely hazardous, and the use of these materials would not occur for an extended period of time in any one area along the recycled water pipeline alignment. Therefore, impacts would be less than significant during construction of offsite components.

Operation

Onsite Components

Operation of the proposed AWPF would involve the use of hazardous materials. However, DCTWRP is not located within 0.25-mile of an existing or proposed school. Therefore, no operational impact to schools within 0.25-mile of DCTWRP would occur.

Offsite Components

As mentioned above, there are no schools located with 0.25-mile of PSG or HSG. Although the proposed recycled water pipeline alignment is located within 0.25-mile of several schools, operation of the recycled water pipeline would not involve the use of hazardous materials. The pipeline would convey purified water and would not pose a hazard to schools. No impact would occur with operation of the offsite components.

HAZ-4: *The Proposed Project may be located on or immediately adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, it would not create a significant hazard to the public or the environment. The impacts would be less than significant.*

Onsite Components

DCTWRP is listed in the GeoTracker database due to current water treatment operations involving hazardous materials and waste discharge requirements. There are two permitted USTs located within 0.5-mile of DCTWRP and one that is found within the DCTWRP property. The permitted UST at DCTWRP is located on the northwest side of the site and is operated by the City of Los Angeles Department of Public Works. Additionally, Arco #5201 is located less than 0.5-mile from DCTWRP, north of Victory Boulevard. The site was previously listed as a leaking UST cleanup site. The leak was discovered in 1991 and the case was closed and completed as of 1997.

Two sites associated with the Sepulveda ANGS are within 0.5-mile of DCTWRP. The Sepulveda ANGS was previously listed as a military evaluation site (EnviroStor) and as a cleanup site (GeoTracker). In terms of the military evaluation site (EnviroStor), a preliminary assessment and site inspection to determine eligibility for the Military Munitions Response Formerly Used Defense Site Program was completed in March 2012. The site was referred for further evaluation under the above stated program, and the cleanup status of the site is currently listed as active as of September 2015. As a part of the cleanup site (GeoTracker), two USTs were removed and contaminated soil was excavated. The cleanup status is considered completed, closed as of February 2016.

As one of two sites is listed as open, construction of the AWPF and brine line have the potential to be impacted by a known release site associated with the Sepulveda ANGS. While unlikely, should contaminated soils be encountered during construction, excavated material would be monitored and tested prior to disposal. Excavated material that is deemed hazardous would be subject to strict federal, state, and local regulations for its handling, transport and disposal. These activities would occur under the oversight of the DTSC, SWRCB, and LAFD. Adherence to federal, state, and local standards would minimize the risk to the public or the environment. Therefore, impacts would be less than significant.

Offsite Components

There are no hazardous materials sites at PSG. According to the database search, two leaking UST cleanup sites, one school investigation site, and one permitted UST are located within 0.5-mile of PSG. Both of the leaking UST cases have been completed and closed as of December 1996 and June 2004, and the school investigation site does not require any further action as of February 2004.

One LUST cleanup site, Al-Sal Oil Co. Station #15, is located adjacent to the proposed recycled water pipeline alignment at the northwest corner of Arleta Avenue and Osborne Street, and eight other LUST cleanup sites are located within 0.5-mile of the proposed recycled water pipeline, all of which have been completed and closed. A cleanup program site, Great Western, is also listed as completed and closed and two of three evaluation sites have a status of no action required. The third evaluation site was referred to the EPA as of June 27, 2013 and is located 0.4 miles from the proposed recycled water pipeline alignment. In addition, two school investigations were listed within 0.5-mile of the proposed recycled water pipeline alignment and have a status of no action required.

Five current water treatment operations involving hazardous materials and waste discharge requirements are listed on the GeoTracker database at HSG. Additionally, several hazardous materials sites are located within 0.5-mile of HSG. According to the EnviroStor database, there are nine sites that require evaluation within 0.5 mile of HSG; eight of these sites are inactive or require further evaluation and one does not require further action as of September 2011. Additionally, there are four sites that have tiered permits, one corrective action site that has been certified as of September 2015, and two active voluntary cleanup sites. According to the GeoTracker database, there are nine leaking UST cleanup sites where all cases have been completed and closed, ten permitted USTs, three open or active land disposal sites, and ten other cleanup sites within 0.5-mile of HSG. The LACDPW Flood Maintenance Division's Hansen

Yard is located within the boundaries of HSG and was previously listed as a leaking UST cleanup site with the case closed and completed in December 2010. Although cleanup has been previously completed, construction of the proposed improvements at HSG has the potential to be impacted by a known release site associated with the Hansen Yard.

While unlikely, should contaminated soils be encountered during construction of the proposed improvements, excavated material (e.g., soil, slurry, and groundwater) would be monitored and tested prior to disposal. Excavated material that is deemed hazardous would be subject to strict federal, state, and local regulations for its handling, transport and disposal. These activities would occur under the oversight of the DTSC, SWRCB, and LAFD. Adherence to federal, state, and local standards would minimize the risk to the public or the environment. Therefore, impacts would be less than significant for the offsite components.

HAZ-5: *The Proposed Project is located within 2 miles of a public airport or public use airport; however, it would not result in a safety hazard for people residing or working in the Project area. The impacts would be less than significant.*

Onsite Components

The Van Nuys Airport, located at 16461 Sherman Way, is approximately 0.8-mile northwest of DCTWRP. However, the proposed AWPF and associated facilities would not create a safety hazard from proximity to a public airport as the use of the site would be similar to existing conditions. Additionally, according to the Los Angeles County Airport Land Use Plan, the Van Nuys Airport Influence Area and corresponding safety zone do not encompass any portion of the DCTWRP property.[87] Therefore, impacts related to safety hazards involving public or public use airports would be less than significant.

Offsite Components

The Whiteman Airport, located at 12653 Osborne Street, is approximately 0.6 mile northwest of HSG, approximately 1.5 miles east of PSG, and approximately 1.25 miles northeast of the proposed recycled water pipeline alignment. However, the Proposed Project would not create a safety hazard from proximity to a public airport as the use of the sites would be similar to existing conditions. Additionally, according to the Los Angeles County Airport Land Use Plan, the Whiteman Airport Influence Area and corresponding safety zone do not include any areas of the offsite components.[88] Therefore, impacts related to safety hazards involving public or public use airports would be less than significant.

HAZ-6: *The Proposed Project is not within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the Project area. No impact would occur.*

DCTWRP, PSG, HSG, and the proposed recycled water pipeline alignment are not located near a private airstrip. Therefore, no impacts related to safety hazards involving private airstrips would occur.

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[87] Los Angeles County Department of Regional Planning. *Los Angeles County Airport Land Use Plan*, website: http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf, accessed July 15, 2015.

[88] Los Angeles County Department of Regional Planning. *Los Angeles County Airport Land Use Plan*, website: http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf, accessed July 15, 2015.

HAZ-7: *The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The impacts would be less than significant.*

Construction

Onsite Components

Construction of the proposed AWPF and other onsite components would involve the transport of equipment and materials on public roadways. Other than the delivery of materials and supplies to the site and the hauling of debris and excess soil from the site, construction of the proposed AWPF would be confined within DCTWRP property boundary. Therefore, no roadway lane closures would be required for construction of the proposed AWPF and ancillary facilities at DCTWRP.

Brine line construction would generally use a linear construction technique called trenching and take place along DCTWRP's eastern boundary and access roads northeast of DCTWRP as well as within short segments of Haskell Street and Victory Boulevard, where the line would connect to the VORS. Therefore, construction would occur primarily on non-public roads and would not occur for an extended period of time in any one area. However, installation of the line within the public roadways would require temporary lane closures. These construction activities could impact emergency response time during the construction period. Construction of the proposed brine line would not occur on a Primary Disaster Route identified by the LACDPW. However, the brine line would be located within Victory Boulevard, a designated Secondary Disaster Route. However, full roadway closures are not anticipated, and any active construction areas would be covered with metal plates during non-work hours. To minimize the effects of the brine line connection, a traffic management plan would be prepared by the construction contractor and approved by City of Los Angeles Department of Transportation (LADOT). The Traffic Management Plan would set forth the requirements for maintaining emergency response access and vehicle traffic flow through the construction zone using such techniques as advance signage, flag persons, and off-peak construction (see Section 3.15, Transportation and Traffic). With implementation of the Traffic Management Plan, the short-term construction impacts related to emergency response would be less than significant.

Offsite Components

Construction of the proposed improvements at PSG and HSG would involve the transport of equipment and materials on public roadways. Other than the delivery of materials and supplies to the sites and the hauling of debris and excess soil from the sites, construction of the proposed improvements would be confined within the HSG property boundaries. All proposed improvements at PSG would occur within the boundaries of PSG, with the exception of the portion of the recycled water pipeline that would need to traverse Devonshire Street, a Secondary Disaster Route, from the southern portion of PSG to the reach the new outlet structure north of Devonshire Street in the northern portion of PSG. The portion of the pipeline crossing Devonshire Street would be installed using a trenching method of construction.

Installation of the recycled water pipeline on Arleta Avenue would use a trenching method as well. Construction of the proposed recycled water pipeline would not occur for an extended period of time in any one area since construction within roadways would be performed in sections. These construction activities would entail short-term changes to traffic patterns, which could impact emergency response time during the construction period. Arleta Avenue is designated as a Secondary Disaster Route by the LACDPW. Installation of the proposed recycled water pipeline within the roadway would require temporary restrictions and closures of on-street parking and the closure of up to two travel lanes. However, full roadway closures are not anticipated and any active construction areas would be covered with metal plates during non-work hours. To minimize the effects of the proposed recycled water pipeline installation, a traffic management plan would be prepared by the construction contractor and approved by LADOT. The Traffic Management Plan would set forth the requirements for maintaining emergency response access and vehicle traffic flow through the construction zone using such techniques as advance signage, flag persons, and off-peak construction (see Section 3.15 Transportation and Traffic). With implementation of the Traffic Management Plan, short-term construction impacts to emergency response would be less than significant.

Operation

Onsite Components

Long-term operation of the Proposed Project's onsite components would not impair implementation of or physically interfere with an adopted emergency response plan. Operation and maintenance of the proposed AWPF would occur entirely within the property boundaries. It is estimated that there would be up to seven chemical deliveries per month during operation of the AWPF. Chemical delivery trucks would access the proposed AWPF using Victory Boulevard and Woodley Avenue and unload onsite. In terms of operation, the proposed AWPF and ancillary facilities would require routine maintenance every 7 to 10 years that would take place onsite. The delivery and maintenance trucks would not involve activities that would disrupt area roadways. In addition, the proposed brine line would be located entirely underground. Routine maintenance and inspection associated with the brine line would occur approximately every 5 to 10 years and would not substantially disrupt area roadways. Therefore, the impact would be less than significant.

Offsite Components

Long-term operation of the Proposed Project's offsite components would not impair implementation of or physically interfere with an adopted emergency response plan. Operation and maintenance of the proposed improvements at PSG and HSG would occur entirely within the property boundaries. The delivery trucks would not involve activities that would disrupt area roadways. In addition, the proposed recycled water pipeline within Arleta Avenue would be located entirely underground. Routine maintenance and inspection associated with the recycled water pipeline would occur approximately every 5 to 10 years and would not substantially disrupt area roadways. Therefore, the impact would be less than significant.

HAZ-8: *The Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.*

Construction

The Proposed Project site is located within urban areas of the City of Los Angeles. According to the Selected Wildfire Hazard Areas map within the City's General Plan, DCTWRP, PSG, HSG, and proposed recycled water pipeline alignment are not located within a City-designated Mountain Fire District, Fire Buffer Zone, or Industrialized Area.[89] Additionally, according to the

[89] City of Los Angeles Department of City Planning, City of Los Angeles General Plan Safety Element, Exhibit D, adopted November 26, 1996, website: http://planning.lacity.org/cwd/gnlpln/saftyelt.pdf, accessed July 8, 2015.

Fire Hazard Severity Zone map for Los Angeles County, DCTWRP, PSG, HSG, and proposed recycled water pipeline alignment are located within urbanized/developed areas beyond the limits of even those hazard zones having very low wildfire threat.[90] Although there is an area within the Hansen Dam Recreation Area, located approximately 0.8-mile northwest of HSG, that is ranked as having a moderate, high, and very high wildfire threats, construction activities would not occur in this area and are not anticipated to increase the risk of fire.[91] Therefore, construction of the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, and no impact would occur.

Operation

Project operations are not anticipated to increase the risk of wildland fires. DCTWRP is located within an urban area in the City of Los Angeles and is not within or adjacent to any designated wildland fire hazard areas. All other Project components (i.e. proposed improvements at PSG and HSG, and recycled water pipeline) would be located within urbanized areas, and would not increase the potential for wildland fires to occur within the vicinity. Therefore, operation of the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, and no impact would occur.

3.8.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to hazards and hazardous materials. No mitigation measures are required.

3.8.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to hazards and hazardous materials.

[90] California Department of Forestry and Fire Protection, Fire Resource and Assessment Program, *Fire Hazard Severity Map for Los Angeles County*, website: http://frap.cdf.ca.gov/webdata/maps/los_angeles/fhsz_map.19.pdf, accessed July 8, 2015.

[91] California Department of Forestry and Fire Protection, Fire Resource and Assessment Program, *Fire Hazard Severity Map for Los Angeles County*, website: http://frap.cdf.ca.gov/webdata/maps/los_angeles/fhsz_map.19.pdf, accessed July 8, 2015.

SECTION 3.9
HYDROLOGY, WATER QUALITY, AND GROUNDWATER

This section presents existing conditions and potential impacts related to hydrology, water quality, and groundwater associated with implementation of the Proposed Project.

3.9.1 Environmental Setting

Precipitation

Mean annual precipitation in the San Fernando Valley is about 14 inches, with approximately 80 percent of the annual rainfall occurring from December through March. During the 2011-12 Water Year, the weighted average rainfall from all rainfall stations on the valley floor areas was 10.8 inches, which is 66 percent of the 100-year mean.[92] Based on a current review of National Oceanic and Atmospheric Administration (NOAA) data, precipitation in the Los Angeles area has been at 60 percent and below the mean since 2013.[93]

Surface Water Drainage

Regional Drainage

Surface drainage in the San Fernando Valley is largely conveyed via the Los Angeles River. The Los Angeles River originates in the Simi Hills and Santa Susana Mountains and flows from Canoga Park in the western end of the San Fernando Valley southeast to its mouth in Long Beach at the Pacific Ocean.

The Los Angeles River Watershed covers 870 square miles (Figure 3.9-1). The drainage area of the Los Angeles River and its tributaries above the Sepulveda Basin is 152 square miles, comprising the northwestern most portion of the Los Angeles River Watershed. The river is a mostly concrete-lined channel of varying cross sections and shapes that increases in size as it picks up urban tributary runoff and storm runoff on its way to the Pacific Ocean. Local creeks and channels in the Project area that drain to the Sepulveda Basin and to the Los Angeles River are shown in Figure 3.9-2.

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92 City of Los Angeles Department of Water and Power and City of Los Angeles Department of Public Works Bureau of Sanitation, 2014. *Final Revised Salt Management Plan for San Fernando Basin Water Year 2011- 12*, prepared for Los Angeles Regional Water Quality Control Board. April 2014.

93 National Oceanic and Atmospheric Administration. California Nevada River Forecast Center Monthly Precipitation Summary, Water Years 2012-2015. http://www.cnrfc.noaa.gov/monthly_precip_2012.php

Source: State Water Resources Control Board, 2016: Prepared By AECOM, 2016.

Figure 3.9-1

Los Angeles River Watershed

Figure 3.9-2
Local Surface Waters and Drainage in DCTWRP Area

Upstream and immediately downstream of the Sepulveda Dam, the Los Angeles River is a rectangular reinforced concrete channel. At the Glendale Narrows stretch of the river, downstream of the Sepulveda Basin, approximately six miles of the river has a non-concrete, soft bottom with patches of vegetation and free-flowing water (due to the high groundwater levels) that supports aquatic species.[94] Flow in the Los Angeles River is dependent on stormwater runoff, discharges of recycled water, dry weather nuisance runoff, and rising groundwater. Based on data collected at the Arroyo Seco stream gaging station on the Los Angeles River, the most significant contribution is stormwater runoff, whereas rising groundwater and recycled water are secondary contributors.[95]

Regional drainage in the area of HSG and PSG is provided by the concrete-lined Tujunga Wash and Pacoima Wash flood control channels, respectively. The Pacoima Wash joins the Tujunga Wash along the north side of Tujunga Spreading Grounds, about 1.5 miles southwest of HSG and 2.5 miles southeast of PSG. The Tujunga Wash joins the Los Angeles River in the Studio City area, downstream of the Sepulveda Basin.

On-site Drainage

DCTWRP is located in the Sepulveda Flood Control Basin (Figure 3.9-3). The plant has a concrete flood wall on the west boundary, and two earthen flood control berms on the south and east boundaries to protect the plant from the 100-year storm (See further discussion under flood protection). DCTWRP is a self-contained facility and does not receive surface drainage (run-on) from surrounding areas.[96]

DCTWRP is approximately 50 percent impervious, consisting mainly of buildings and paved areas, while the remaining portions are landscaped and dirt areas. The existing site is graded such that the main DCTWRP entrance driveway and gate near the southwestern boundary of the site are at a higher elevation compared to elevation of the service buildings in the central portion of the site. The area around the service buildings is generally flat, where stormwater runoff flows away from the service buildings towards the north and east.[97]

The plant's service roads provide surface drainage for runoff within the site, which ultimately enters catch basins to the east of the existing warehouse and maintenance facilities in the southwestern corner of the plant. Valves located in the catch basins direct the first one hour of the runoff to either the AVORS, bypassing the plant's process, or to the Los Angeles River. Any runoff from the area in the northern half of the site enters a sewer surface drain, which is located in the northeast portion of the site.[98]

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94 United States Army Corps of Engineers and City of Los Angeles, 2013. Los Angeles River Ecosystem Restoration Integrated Feasibility Report Feasibility Study and Environmental Impact Statement/ Environmental Impact Report, Los Angeles County, California. September 2013.

95 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

96 City of Los Angeles Department Public Works Bureau of Sanitation, 2015. *Storm Water Pollution Prevention Plan, DC Tillman Water Reclamation Plant,* August 12 2015.

97 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

98 City of Los Angeles Department Public Works Bureau of Sanitation, 2015. *Storm Water Pollution Prevention Plan, DC Tillman Water Reclamation Plant,* August 12 2015.

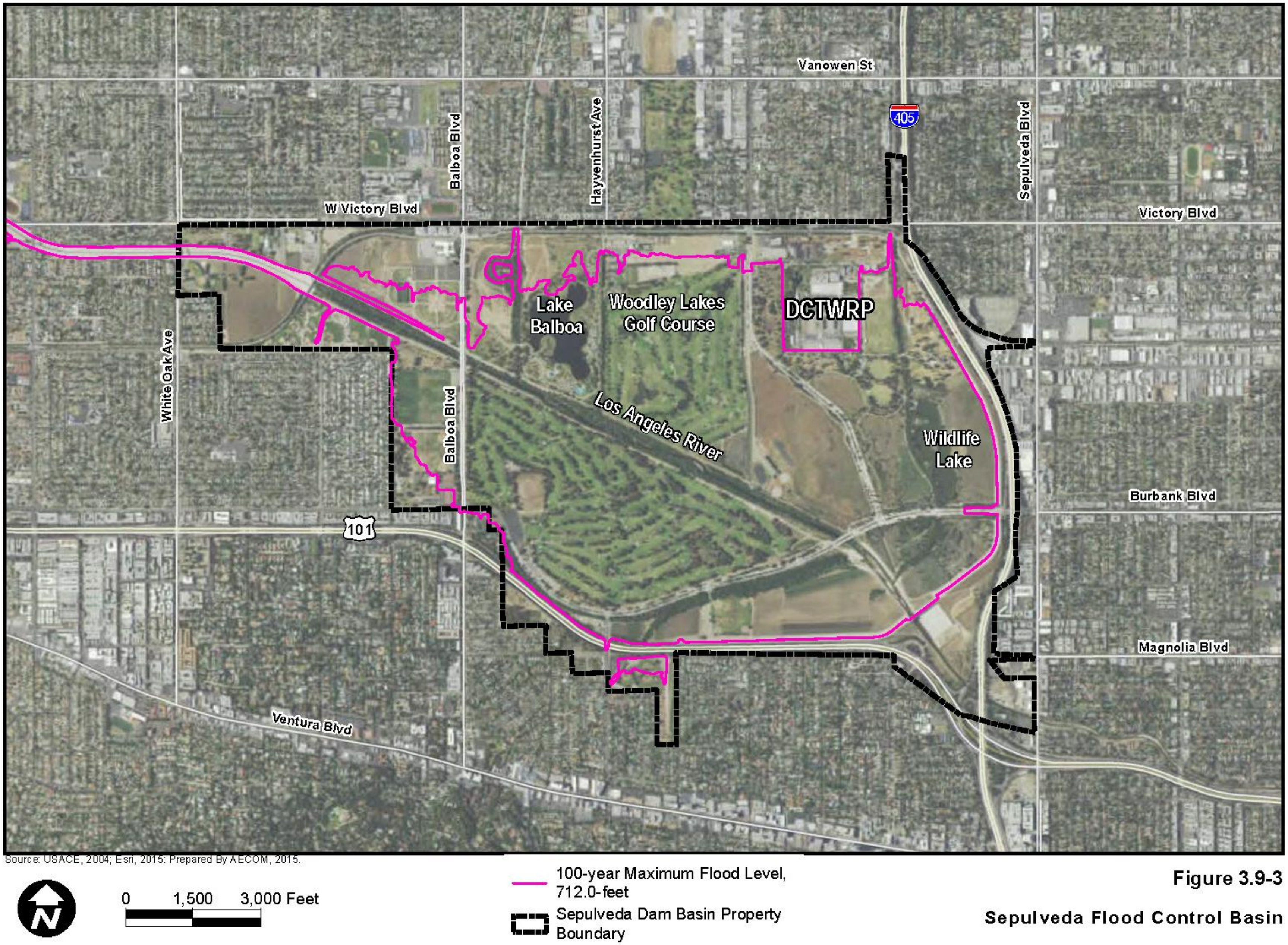

Figure 3.9-3

Sepulveda Flood Control Basin

Flows of DCTWRP Recycled Water to Surface Waters

The recycled water currently produced by DCTWRP is used in several ways. A small portion (about 2 mgd) is needed for various in-plant processes. An average of approximately 4 mgd is currently used for NPR, such as large irrigation customers and industrial process customers. The large majority of the recycled water is directed through a network of pipes to various water bodies located in the Sepulveda Basin. Recycled water from these water bodies, which include the Japanese Garden lake, Lake Balboa, and the Wildlife Lake, ultimately flows to the Los Angeles River. The flow-through process at the lakes serves to maintain water quality within the lakes to prevent fish kills, odor problems, and algae blooms. Additionally, intermittent overflows from an operational safety weir within DCTWRP discharge into a pipeline which also carries stormwater and flows from the Japanese Garden lake to the Los Angeles River at a discharge point located south of Sepulveda Dam.

Flood Hazards and Flood Control

The Sepulveda Dam and Flood Control Basin are owned and operated by the Corps. In 1971, the Corps signed a lease with the City of Los Angeles allowing for the construction and operation of a water reclamation plant (DCTWRP) within the flood control basin in accordance with various requirements and restrictions. A flood barrier surrounds DCTWRP, consisting of a concrete floodwall on the west boundary and earthen berms on the south and east side of the plant. The elevation of the concrete wall and the berms is 715.0 feet above mean sea level. This protects DCTWRP from inundation from the 100-year storm event, which could reach elevations of 712.0 feet. The elevation on the north side of the property is at or above 712.0 feet MSL, high enough so there is no run-on to DCTWRP.[99]

At water surface elevations higher than 715.0 feet MSL, inundation of DCTWRP would result in contamination of surface waters from untreated or partially treated wastewater sewage. Continued increase of the water surface elevation would result in plant shut down and diversion of untreated sewage to the City of Los Angeles Hyperion Treatment Plant in Playa del Rey.[100]

Flood Risk Management

Corps staff, stationed at the Sepulveda Dam, monitor water levels of the Los Angeles River at the Dam. The Corps has specific notification procedures for facilities in the Sepulveda Basin, when the Sepulveda Dam water levels reach any of four designed water surface alert levels.[101] These include:

- Potential Flood Warning – Level 1 – Water surface elevations at 680 to 688 feet at the Sepulveda Dam
- Pending Flood Warning – Level 2 - Water surface elevation at 700 feet at the Sepulveda Dam
- Ongoing Basin Flooding – Level 3 - Water surface elevations at > 710 feet (spillway flow)
- DCTWRP Flooding – Level 4 – Water surface elevations > 715 feet

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[99] City of Los Angeles Department Public Works Bureau of Sanitation. *Storm Water Pollution Prevention Plan, DC Tillman Water Reclamation Plant,* August 12 2015.

[100] United States Army Corps of Engineers. Sepulveda Dam Basin Los Angeles County, California Master Plan and Environmental Assessment. September 2011.

[101] City of Los Angeles Department of Public Works Bureau of Sanitation. *DCT Flood Evacuation Plan*. October 2014.

LASAN has prepared the DCT Flood Evacuation Plan that contains procedures for monitoring rainfall levels and potential flooding conditions to minimize the potential flood damage to property, and for the protection and safety of the employees, contractors, and visitors.[102]

DCTWRP also has an established set of operating procedures to implement during wet weather that is specified in LASAN's Wet Weather Preparedness and Operations Plan 2013/2014.[103] This plan addresses storage and containment of increased flows to DCTWRP during wet weather conditions using flow equalization basins and other on-site storage features.

Off-site Spreading Grounds

Five active spreading facilities are located in the San Fernando Basin. LACDPW operates the Branford, Hansen, Lopez, and Pacoima spreading grounds, whereas the City of Los Angeles, in cooperation with LACDPW, operates the Tujunga Spreading Grounds. These five spreading facilities are used for spreading stormwater as well as imported water, when available. Projects are underway or completed to deepen and improve the capacity of the spreading basins.[104] Table 3.9-1 lists the recent annual spreading volumes for each of these spreading grounds. Table 3.9-2 provides a 15-year history of annual spreading operations.

The Proposed Project involves spreading of purified recycled water to HSG and PSG for a total of an additional 30,000 AFY combined for both spreading grounds. However, as discussed in Chapter 2 of the Draft EIR, only up to 19,000 AFY of purified water can be spread at HSG based on the capacity of the spreading grounds, which can receive a maximum of 35,000 AFY from all sources. Spreading at HSG beyond the 35,000 AFY limit could contribute to increased groundwater levels, which can create potential impacts at nearby facilities. This would include flooding and slope failure in adjacent gravel quarries and groundwater mounding beneath the Bradley Landfill, which could lead to water intrusion into the landfill containment systems and the generation of leachates (groundwater contaminated by dissolved and suspended material derived from the landfill waste). Based on other projected sources of spreading at HSG, only 19,000 to 20,000 AFY could be contributed by the Proposed Project before the 35,000 AFY limit was exceeded. Therefore, to achieve 30,000 AFY of GWR, it is necessary to spread the purified water produced by the Proposed Project at PSG in addition to HSG. It is anticipated that about 15,000 AFY would be spread at each spreading grounds, but up to 19,000 AFY could be spread at HSG and up to 23,000 AFY at PSG. Characteristics of HSG and PSG are provided in Table 3.9-3.

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[102] City of Los Angeles Department of Public Works Bureau of Sanitation. *DCT Flood Evacuation Plan*. October 2014.

[103] City of Los Angeles Department of Public Works Bureau of Sanitation. *Wet Weather Preparedness and Operations Plan 2013/2014,* October 2013.

[104] Upper Los Angeles River Area Watermaster. Annual Report Upper Los Angeles River Area Watermaster, Re: City of Los Angeles Vs. City of San Fernando, et al. Case No. 650079 - County of Los Angeles Watermaster Service In the Upper Los Angeles River Area (ULARA) Los Angeles County, California 2012-13 Water Year October 1, 2012 - September 30, 2013. December 2014.

Table 3.9-1
Current Annual Spreading Operations in the San Fernando Basin (2014-15)

Spreading Grounds	Oct 2014 (AF)	Nov 2014 (AF)	Dec 2014 (AF)	Jan 2015 (AF)	Feb 2015 (AF)	Mar 2015 (AF)	Apr 2015 (AF)	May 2015 (AF)	Jun 2015 (AF)	Runoff Year-to-Date (AFY)	Annual Historic Average (AFY)
Branford	39	68	165	91	34	34	7	16	10	464	552
Hansen	0	0	413	148	99	75	39	61	9	844	13,647
Lopez	0	0	0	0	0	0	0	0	0	0	587
Pacoima	0	25	742	99	79	58	5	8	17	1,033	6,851
Tujunga	0	0	194	0	0	40	26	2	0	262	5,034
Total	**39**	**93**	**1,514**	**338**	**212**	**207**	**77**	**87**	**36**	**2,603**	**26,671**

Source: LADWP 2015

Table 3.9-2
15-Year Historical Annual Spreading Operations in San Fernando Basin (1998-2013)

Water Year	Los Angeles County Department of Public Works (Native + Imported)						City of Los Angeles			GRAND TOTAL	City of Burbank (Imported)	Rainfall (inches) Weighted Average
	Branford	Hansen	Lopez	Pacoima	Tujunga	TOTAL	Headworks	Tujunga	TOTAL		Pacoima	
2012-13	570	1,758	501	7,015	927	10,771	0	11	11	10,782	6,703	8.72
2011-12	529	9,357	104	3,482	101	13,573	0	4	4	13,577	1,371	11.55
2010-11	690	19,064	3,922	24,164	31,476	79,316	0	4	4	79,320	11,187	25.21
2009-10	535	16,766	274	9,080	12,849	39,504	0	7,509	7,509	47,013	34	20.55
2008-09	706	0	1	2,000	7,233	9,940	0	0	0	9,940	--	12.58
2007-08	570	10,517	634	5,025	4,892	21,638	0	0	0	21,638	--	17.27
2006-07	532	5,762	44	436	1,200	7,974	0	0	0	7,974	--	5.36
2005-06	576	20,840	958	7,346	14,895	44,615	0	0	0	44,615	--	17.42
2004-05	1,448	33,301	940	17,394	21,115	74,198	0	0	0	74,198	--	45.66
2003-04	444	6,424	144	1,731	1,322	10,065	0	0	0	10,065	--	12.21
2002-03	932	9,427	518	3,539	1,914	16,330	0	0	0	16,330	--	21.22
2001-02	460	1,342	0	761	101	2,664	0	0	0	2,664	--	6.64
2000-01	562	11,694	172	3,826	1,685	17,939	0	0	0	17,939	--	22.29
1999-00	468	7,487	578	2,909	2,664	14,106	0	0	0	14,106	--	16.77
1998-99	547	8,949	536	696	3,934	14,662	0	0	0	14,662	--	10.83

Source: ULARA 2014
*Spreading by Burbank began in 2009-10 Water Year following completion of the Burbank MWD connection. These volumes are reported by LACDPW spreading data, and are therefore included in the “Grand Total” column.

Table 3.9-3
Physical Characteristics of HSG and PSG

	Size (acres)	Source Water for Recharge	Storage Volume (mg)	Intake Capacity (mgd)	Percolation rate (mgd)
HSG	156 gross 117 wetted	Controlled flows from Hansen Dam and Big Tujunga Dam	460	380	100
PSG	169 gross 107 wetted	Controlled flows from Pacoima Dam; partially controlled flows from Lopez Flood Control Channel; uncontrolled storm flows from East Canyon Channel and Pacoima Wash; imported water for groundwater replenishment	173	388	42*

* LACDPW will undertake a project that will increase the total storage volume to 390 mg and the percolation rate to 92 mgd; construction is estimated to be completed in 2018.

LACDPW has noted that when the spreading grounds are used for stormwater spreading, the percolation rates can significantly decline, particularly in high runoff years. LACDPW conducts basin maintenance activities typically following high runoff seasons. In contrast, groundwater replenishment with purified recycled water is not expected to cause any significant decline in percolation rates as the purified recycled water is extremely low in suspended solids and turbidity.[105]

Water Quality

Surface Water Quality

Beneficial Uses

The Los Angeles River, the primary surface water draining the Project area has the following beneficial uses for Reach 5 (segment within the Sepulveda Basin), as designated by the Los Angeles Regional Water Quality Control Board (RWQCB) in the Water Quality Control Plan for the Los Angeles Region (Basin Plan):

- Ground Water Recharge
- Water Contact Recreation
- Non-contact Water Recreation
- Warm Freshwater Habitat
- Wildlife Habitat
- Wetland Habitat [106]

Potential beneficial uses designated by the Basin Plan are:

- Municipal and Domestic Water Supply[107]

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105 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.
106 Water bodies designated as WET may have wetlands habitat associated with only a portion of the waterbody.
107 The RWQCB has only conditionally designated the MUN beneficial use.

- Industrial Service Supply.

The SWRCB and Los Angeles RWQCB have set narrative and numeric water quality standards that must be achieved to protect the beneficial uses of surface waters, including the Los Angeles River.

Pollutants of Concern

Section 303(d) of the Clean Water Act requires states to develop a list of impaired waters that do not meet water quality standards. This list of impaired water bodies is known as the 303(d) List. The Los Angeles River is on the SWRCB's 303(d) list of water quality impaired water bodies. Reach 5 (within the Sepulveda Basin) is impaired for ammonia, copper, lead, nutrients (algae), oil and trash. Below Sepulveda Dam (Reach 4), the river is impaired for ammonia, coliform bacteria, copper, lead, nutrients (algae) and trash.

The Los Angeles RWQCB must develop Total Maximum Daily Loads (TMDLs) to address the water quality impairments. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. National Pollutant Discharge Elimination System (NPDES) permits and waste discharge requirements issued by the RWQCB incorporate effluent limits and/or best management practices to help achieve the TMDLs. Current approved TMDLs for Los Angeles River include: Nitrogen Compounds, Trash, Metals and Bacteria. Other TMDLs are still being developed.

Groundwater

San Fernando Groundwater Basin

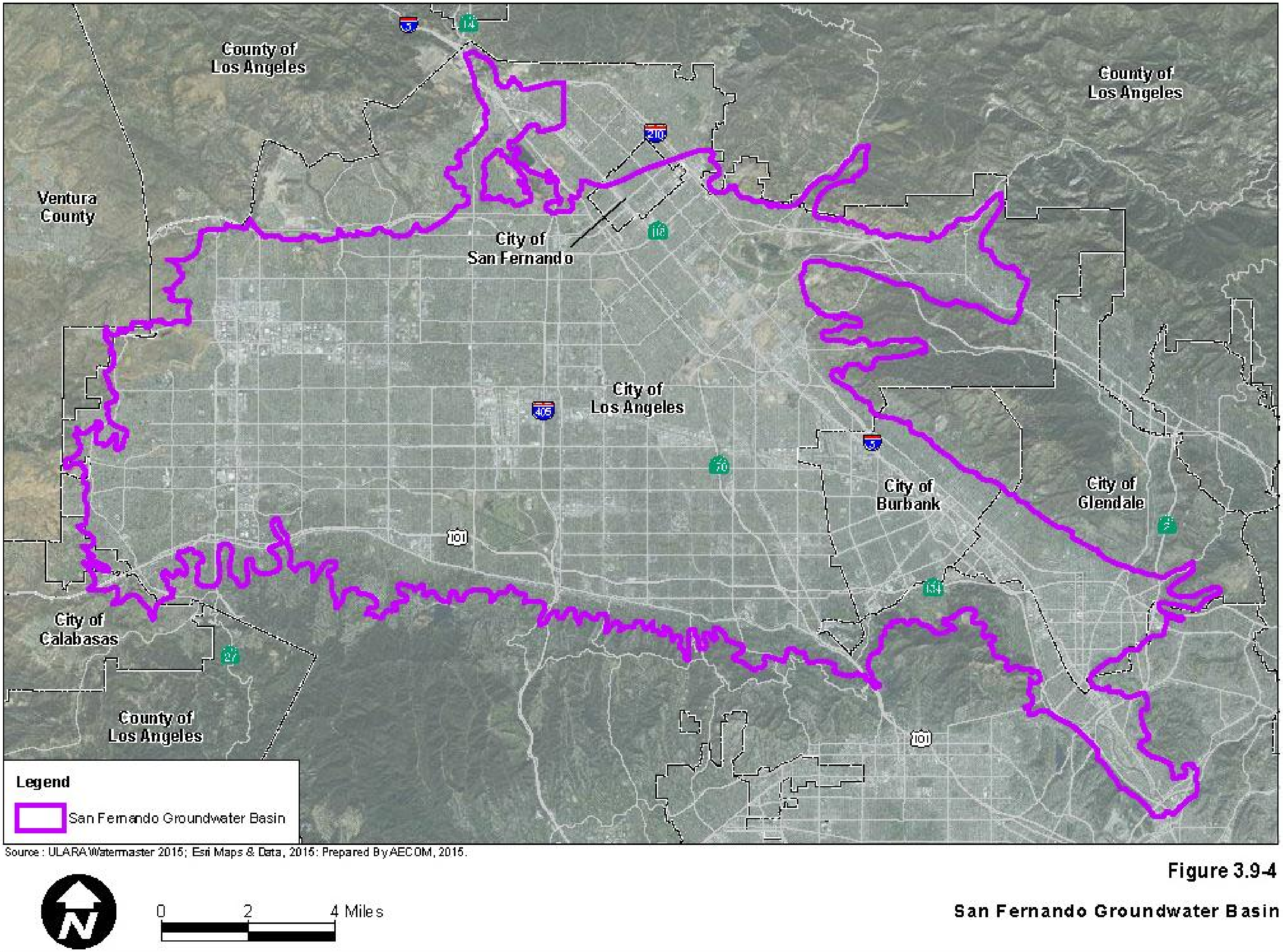
The primary source of local groundwater for the City of Los Angeles is the SFB. The SFB is the largest of the four adjudicated basins in the Upper Los Angeles River Area (ULARA) covering 112,000 acres. The basin is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills.[108] Figure 3.9-4 illustrates the approximate ground surface boundaries of the SFB.

Groundwater Basin Geology and Storage Capacity

The SFB includes the water-bearing sediments beneath the San Fernando Valley, Tujunga Valley, Browns Canyon, and the alluvial areas surrounding the Verdugo Mountains near La Crescenta and Eagle Rock. The basin has a maximum thickness of potentially water-bearing sediments of approximately 1,200 feet. The water-bearing sediments of the basin consist of the lower Pleistocene Saugus Formation, Pleistocene and Holocene age alluvium. The groundwater in this basin is mainly unconfined with some confinement within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas. The total storage capacity of the SFB is calculated at 3,670,000 AF by adding values for the San Fernando, Sylmar, Verdugo and Eagle Rock Basins.[109]

[108] California Department of Water Resources. South Coast Hydrologic Region - San Fernando Valley Groundwater Basin, California's Groundwater Bulletin 118, Updated February 27, 2004.

[109] California Department of Water Resources. South Coast Hydrologic Region - San Fernando Valley Groundwater Basin, California's Groundwater Bulletin 118, Updated February 27, 2004.



Source : ULARA Watermaster 2015; Esri Maps & Data, 2015: Prepared By AECOM, 2015.

Figure 3.9-4

San Fernando Groundwater Basin

Groundwater Levels and Production

Groundwater levels in the SFB vary seasonally and by locality, with levels in the western section of the SFB at approximately 50 feet below ground surface (bgs) and levels in the eastern section at between 200 and 500 feet bgs. At HSG, groundwater most likely would be encountered at approximately 200 feet bgs. Most production wells in the area are completed in the upper Saugus Formation. Production rates for these wells range from 800 to 1,500 gpm.

LADWP has ten major wellfields within the SFB containing 115 wells that collectively have the ability to pump and serve approximately 547 cubic feet per second (cfs) of water.[110] Of these wellfields, the Tujunga Wellfield (TWF) and the Rinaldi-Toluca Wellfield (RTWF) are the closest wellfields down gradient of HSG and PSG. No other wells are up gradient of, or closer to HSG and PSG.[111]

LADWP currently holds adjudicated water rights to extract approximately 87,000 AFY from the SFB. However, those rights would be increased in an amount equal to groundwater replenishment of the basin provided by the Proposed Project.

Groundwater Flows

Groundwater generally flows from the edges of the SFB toward the middle of the basin, then beneath the Los Angeles River Narrows into the Central Subbasin of the Coastal Plain of Los Angeles Basin. In general, the groundwater flow direction in the regional aquifer (Saugus Formation) is southeast. Flow velocity ranges from about 5 feet per year in the western part of the SFB to 1,300 feet per year beneath the Los Angeles River Narrows.[112]

Groundwater Recharge

Recharge of the SFB is from a variety of sources:

- Spreading of imported water and stormwater runoff that contains natural streamflow from the surrounding mountains
- Precipitation falling on impervious areas
- Infiltration of water flowing in surface washes
- Reclaimed wastewater in landscape irrigation
- Industrial discharges

Precipitation has a direct influence on groundwater recharge and, ultimately, on the amount of groundwater in storage in the SFB. Urban development over time has resulted in a significant portion of the rainfall being collected and routed into lined channels that discharge directly into the Los Angeles River. To partially offset the increased runoff due to urbanization, Pacoima, Big Tujunga and Hansen dams, originally built for flood control, are now utilized to regulate storm

110 City of Los Angeles Department of Water and Power and City of Los Angeles Department of Public Works Bureau of Sanitation. *Final Revised Salt Management Plan for San Fernando Basin Water Year 2011- 12*, prepared for Los Angeles Regional Water Quality Control Board. April 2014.

111 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

112 California Department of Water Resources. South Coast Hydrologic Region - San Fernando Valley Groundwater Basin, California's Groundwater Bulletin 118, Updated February 27, 2004.

flows and to allow recapture of a portion of the flow in downstream spreading basins operated by the LACDPW and the City of Los Angeles.[113]

As previously discussed, the spreading grounds in SFB are primarily used for the artificial recharge of stormwater runoff. Surface water/stormwater is not used for direct water supply in the SFB; however, it is actively captured and recharged through replenishment operations conducted by LACDPW in the spreading grounds, and instream recharge in the Los Angeles River. There are also a number of stormwater retention basins and low impact development (LID) projects in the SFB, which recharge stormwater. Surface and stormwater may also be naturally recharged along unlined stream stretches; however, most streams in the SFB are concrete lined. Stormwater is also recharged naturally at unpaved areas (parks, golf courses, landscaped areas, dirt lots, and residential lawns and gardens, etc.) where the geology promotes deep percolation.

Groundwater Quality

Water quality in the eastern part of the SFB (the HSG and PSG area) can be described as hard to very hard, and is geochemically characterized as calcium sulfate bicarbonate-type water. The sulfate water-type is reflected in groundwater geochemistry of samples from water supply wells in Reseda, North Hollywood, Burbank and Glendale. Data from 125 public supply wells in the SFB indicate an average total dissolved solids (TDS) content of 400 milligrams per liter (mg/L), and a range from 176 to 1,160 mg/L. Data from wells located in the western portion of the basin show a TDS range from 326 to 768 mg/L, and electrical conductivity ranges from 540 to 995 micro ohms.

The overall quality of the groundwater is generally within the recommended limits of California Title 22 Drinking Water Standards, except for: 1) areas in the eastern SFB which display high concentrations of trichloroethylene, perchloroethylene, hexavalent chromium, and nitrate as NO_3 (or nitrogen as N); 2) areas in the western portion of the SFB which tend to have excess concentrations of naturally-occurring sulfate and TDS. In each area, the pumped groundwater is being treated or blended to meet State Drinking Water Standards, or the impacted wells have been temporarily removed from service.[114]

Salt and Nutrients

LADWP has developed a Salt Management Plan (SMP) as required by the City's Amended Waste Discharge Requirement Order R4-2008-0040 for reuse of recycled water from DCTWRP and the Los Angeles-Glendale WRP. This SMP evaluates the impact of groundwater salinity of all recharge activities in the SFB, including irrigation with recycled water, through a mass balance calculation of chloride and TDS. In addition, the SMP serves as a short-term monitoring plan for the salinity management of the basin.[115]

[113] City of Los Angeles Department of Water and Power and City of Los Angeles Department of Public Works Bureau of Sanitation, 2014. *Final Revised Salt Management Plan for San Fernando Basin Water Year 2011-12*, prepared for Los Angeles Regional Water Quality Control Board. April 2014.

[114] City of Los Angeles Department of Water and Power and City of Los Angeles Department of Public Works Bureau of Sanitation. *Final Revised Salt Management Plan for San Fernando Basin Water Year 2011- 12*, prepared for Los Angeles Regional Water Quality Control Board. April 2014.

[115] City of Los Angeles Department of Water and Power and City of Los Angeles Department of Public Works Bureau of Sanitation. *Final Revised Salt Management Plan for San Fernando Basin Water Year 2011- 12*, prepared for Los Angeles Regional Water Quality Control Board. April 2014.

As part of the SMP, the City has been conducting quarterly groundwater monitoring for chloride and TDS since the fourth quarter of 2008, using an existing network of monitoring wells and reported to the RWQCB on a yearly basis. Based on the data collected from December 2008 to December 2013, it can be interpreted that chloride and TDS levels have remained fairly consistent and stable.[116]

The salt loading analysis in the City's 2014 SMP estimates the levels of chloride and TDS in the SFB as a result of spreading grounds recharge, rainfall on the valley floor, rainfall in the hills and mountains, return water, and irrigation by recycled water. From averaged data of Water Years (WY) 2006-07 through 2010-11, LADWP analyzed the resulting loading of salts and nutrients to the SFB from these water sources. The SMP modeling results show that recycled water is not the main source of chloride and TDS loading within the SFB, with approximately 88 percent of the chloride loading and 86 percent of the TDS loading are caused by return water.

Beneficial Uses

The Los Angeles RWQCB has designated the following beneficial uses for the SFB as specified the Basin Plan: Municipal Supply, Industrial Supply and Agricultural Supply. For the Proposed Project, the waste discharge requirements issued by the RWQCB would be based on protection of beneficial uses for groundwater and the applicable Basin Plan numeric or narrative water quality objectives to protect the uses. The Basin Plan requirements include numeric objectives for minerals and compliance with drinking water maximum contaminant levels (MCLs). The Basin Plan also applies the state's Anti-degradation Policy.

3.9.2 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States. Under the CWA, the United States Environmental Protection Agency (USEPA) has implemented many pollution control standards for industries, as well as water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutants from a point source into navigable waters, unless an NPDES permit is obtained.

Section 402 sets forth regulations for direct and indirect discharges and stormwater discharges into waters of the United States pursuant to a NPDES permit (CWA Section 402). NPDES permits contain industry-specific, technology-based limits and may also include additional water quality-based limits, and establish pollutant-monitoring requirements. A NPDES permit may also include discharge limits based on Federal or State water quality criteria or standards including TMDLs.

In 1987, the CWA was amended to include a program to address stormwater discharges for industrial and construction activities. Stormwater discharge is covered by an NPDES permit either as an individual or general permit. The Los Angeles RWQCB administers the NPDES permit program under the CWA in the Proposed Project area.

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[116] City of Los Angeles Department of Water and Power and City of Los Angeles Department of Public Works Bureau of Sanitation. *Final Revised Salt Management Plan for San Fernando Basin Water Year 2011- 12*, prepared for Los Angeles Regional Water Quality Control Board. April 2014.

National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program. The National Flood Insurance Program is a federal program administered by the Flood Insurance Administration of FEMA. It enables individuals who have property (a building or its contents) within the 100-year floodplain to purchase insurance against flood losses. Community participation and eligibility, flood hazard identification, mapping, and floodplain management aspects are administered by state and local programs and support programs within FEMA itself. FEMA works with the states and local communities to identify flood hazard areas and publishes a flood hazard boundary map of those areas.

State

State of California Constitution Article X, Section 2

Article X, Section 2 prohibits the waste or unreasonable use of water, regulates the method of use and method of diversion of water and requires all water users to conserve and reuse available water supplies to the maximum extent possible.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is California's comprehensive water quality control law. Porter-Cologne regulates both surface water and groundwater and gives the RWQCB authority to issue Waste Discharge Requirements to recycled water producers. This Act is promulgated in the California Code of Regulations Title 22. Title 22 includes requirements for treatment and reuse of tertiary treated recycled water projects throughout California.

The Act also requires the adoption of water quality control plans (basin plans) by the RWQCBs for watersheds within their regions. The basin plans are reviewed triennially and amended as necessary by the RWQCB, subject to the approval of the California Office of Administrative Law, the SWRCB, and ultimately the USEPA. Moreover, pursuant to Porter-Cologne, these basin plans become part of the California Water Plan. Water quality standards for the Proposed Project area are contained in the Water Quality Control Plan for the Los Angeles Region which was adopted in 1994. This plan sets numeric and/or narrative water quality criteria controlling the discharge of wastes to the State's waters and land.

Anti-Degradation Policy (Resolution No. 68-16) requires the RWQCB, in regulating the discharge of waste, to: (a) maintain existing high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that described in SWRCB or RWQCB policies; and (b) require that any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters, must meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that: a) a pollution or nuisance will not occur and b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

State Water Resources Control Board Recycled Water Policy

With Resolution No. 2009-0011, the SWRCB adopted the Recycled Water Policy for the State of California.[117] This policy encourages increased use of recycled water and local stormwater and requires the use of local water sources. The policy specifically identifies the use of recycled water as having a beneficial impact because it supports the sustainable use of groundwater and/or surface water and substitutes for the use of potable water. It encourages local and regional water agencies to optimize their use of local water sources by emphasizing water recycling, water conservation, and the maintenance of supply infrastructure and use of stormwater (including dry-weather urban runoff).

In addition, the policy requires wastewater entities to develop a Salt and Nutrient Management Plan (SNMP) for the groundwater basins in California. The development of the regional SNMP covering the SFB is being coordinated by the ULARA Watermaster and is expected to be completed in the Spring of 2016.

California Water Code

The use of water in the State is governed by the California Water Code or Title 23 of the California Code of Regulations. Title 23 requires that water resources must be put to beneficial use to the fullest extent of which they are capable, and that the waste, unreasonable use, or unreasonable method of use of water is illegal. The conservation of water is encouraged as a reasonable and beneficial use in the interest of the people and for the public welfare.

Section 461 stipulates that the primary interest of the people of the State of California is the conservation of all available water resources and requires the maximum reuse of reclaimed water as an offset to using potable resources.

Section 1210 assigns exclusive rights to recycled water to the owner of the treatment plant as opposed to any parties who have supplied water discharged into the waste water collection system.

Section 1211 provides that approval by the SWRCB is required prior to making any change in the point of discharge, place of use, or purpose of use of recycled water. This does not apply to changes in the discharge or use of recycled water that do not result in decreasing the flow in any portion of a watercourse.

Section 13510 declares that the people of the State have a primary interest in the development of facilities to recycle water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the State.

California Code of Regulations, Title 22, Division 4, Chapter 3 – Groundwater Replenishment using Recycled Water

The use of recycled water throughout the State of California is governed by Title 22, Division 4, Chapter 3. Water Recycling Criteria are incorporated in water reclamation requirements issued by the local RWQCB. Groundwater replenishment using recycled water is also governed by Title 22, Division 4, Chapter 3. The California Department of Public Health has updated the

[117] State Water Resources Control Board. 2009. Recycled Water Policy. Available online at http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/recycledwaterpolicy_approved.pdf. Accessed February 4, 2015.

regulations to govern groundwater replenishment for aquifers designated as sources of drinking water using recycled water from domestic wastewater sources. The regulations for groundwater replenishment using recycled water became effective on June 18, 2014, and will be implemented through the SWRCB's Division of Drinking Water (DDW).[118]

Requirements for groundwater replenishment Under Title 22, Article 5.1 Indirect Potable Reuse: Groundwater Replenishment – Surface Application are used by the DDW to evaluate projects for approval or denial. Requirements include:

- Requiring recycled water to meet MCLs established for drinking water.
- Establishing the volume of recycled water used based on Total Organic Carbon, dilution, and treatment levels.
- Requiring recycled water to be retained in a groundwater basin for a minimum of two months before reaching a well used for drinking water with validation by a tracer study.
- Requiring quarterly monitoring for specified pollutants and chemicals and yearly monitoring of constituents indicating the presence of wastewater in produced recycled water and in downgradient monitoring wells.
- Implementing a wastewater source control program.

Project proponents must submit a Title 22 Engineering Report to the DDW and RWQCB for review. After completion of the report, the DDW holds a public hearing followed by issuance of Findings of Fact and Conditions for submission to the RWQCB.

Prior to the issuance of a permit, the RWQCB reviews DDW's Findings of Fact and Conditions and considers provisions in the adopted Basin Plan for the RWQCB region, applicable State policies (including the SWRCB Recycled Water Policy), and applicable federal regulations if recycled water is discharged to "Waters of the U.S." The Basin Plan establishes water quality objectives for surface water and groundwater to protect beneficial uses. The RWQCB then holds a public hearing to consider the permit. Ultimately, if approved, permits are issued by the RWQCB in the form of water reclamation requirements (WRRs) and waste discharge requirements (WDRs).

California Department of Fish and Wildlife

Section 1600, Streambed Alteration Agreement, requires the CDFW to review project impacts to waters of the State (bed, banks, channel, or associated riparian areas of a river, stream, or lake), including impacts to wildlife and vegetation from sediments, diversions, and other disturbances.

California General Construction Permit

Construction activities, including linear underground projects that disturb one acre or more are required to be covered under California's General Permit for Discharges of Stormwater Associated with Construction Activity, Order 2012-0006-DWQ (NPDES No. CAS000002)

[118] California Department of Public Health. 2014.DPH-14-003E Groundwater Replenishment Using Recycled Water, Title 22, California Code of Regulations, Division 4, Chapter 3, May 30. Available online at: http://www.cdph.ca.gov/services/DPOPP/regs/Documents/DPH-14-003E%20Final%20Text.pdf. Accessed August 17, 2015.

(General Construction Permit). Activities subject to permitting include clearing, grading, stockpiling, and excavation.

The General Construction Permit requires the submittal of a Notice of Intent (NOI) to the SWRCB and the development and implementation of a construction Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will specify Best Management Practices (BMPs) that will be implemented to reduce or prevent construction pollutants from leaving the site in stormwater runoff and will also minimize erosion associated with construction. The SWPPP must contain site map(s) that show the construction site perimeter; existing and proposed structures and roadways; stormwater collection and discharge points, general topography both before and after construction; and drainage patterns across the site. Additionally, the SWPPP must describe the monitoring program to be implemented.

California General Industrial Permit

Certain industrial activities, as determined by their Standard Industrial Classification Code (SIC) are required to be covered under California's General Permit for Stormwater Discharges associated with Industrial Activities Order, 2014-00577-DWQ (NPDES No. CAS000001) (General Industrial Permit). The General Industrial Permit requires the submittal of a NOI to the SWRCB and the development and implementation of an industrial SWPPP and stormwater monitoring program. The SWPPP would specify BMPs that would be implemented to reduce or prevent pollutants from leaving the site in stormwater runoff. Additionally, the SWPPP must describe the monitoring program to be implemented. DCTWRP is currently covered under the General Industrial Permit, and LASAN has prepared and implements an industrial SWPPP and monitoring program. LASAN would need to update these documents as appropriate, to include the addition of the Proposed Project at the DCTWRP site.

Local

Los Angeles Regional Water Quality Control Board

As stated above, the SWRCB, with its RWQCBs, is the primary agency responsible for implementing the CWA and issuing NPDES permits. The SWRCB carries out its water quality protection authority through the adoption of basin plans[119]. The Los Angeles RWQCB is responsible for enforcing the Los Angeles Basin Plan. The RWQCB implements management plans to modify and adopt standards under provisions set forth in Section 303(c) of the CWA and California Water Code (Division 7, Section 13240).

The SWRCB Resolution 2005-0019 adopted amendments to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California in 2005. This policy provides implementation measures for numerical criteria contained in the California Toxics Rule, promulgated in May 2000 by USEPA. When combined with the beneficial use designations in the Los Angeles Basin Plan, these documents establish statewide water quality standards for toxic constituents in surface waters.

Waste Discharge Requirements

Discharges of wastewater to surface water and groundwater are regulated by the RWQCBs through issuance of WDRs. Discharges to surface water must meet technology based effluent

[119] Regional Water Quality Control Board. Water Quality Control Plan for the Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. June 1994.

limitations and water quality based effluent limitations to achieve water quality standards. The WDRs require a Monitoring and Reporting Program for all discharges. DCTWRP has been issued WDRs from the Los Angeles RWQCB for discharges of tertiary treated wastewater to the Los Angeles River (Order No. R4-2011-0196). The RWQCB also issued WDRs to DCTWRP for reuse of recycled water for irrigation, surface impoundments and industrial uses to protect the underlying groundwater basin (Order No. R4-2008-0040). The WDR requires compliance with numeric effluent limits, monitoring and reporting for constituents with applicable MCLs and notification limits (NLs) for drinking water, as well as chloride and TDS in groundwater.

Los Angeles County Municipal Stormwater (MS4) Permit

The Proposed Project is subject to the Final Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4 under Order R4-2012-0175 (NPDES Permit No. CAS004001) (MS4 Permit). In accordance with the provisions of the MS4 Permit, the County of Los Angeles and 84 co-permittee cities implemented a stormwater quality management program with the ultimate goal of reducing the amount of pollutants in stormwater and urban runoff.

As a part of the stormwater quality management program, the permittees developed and adopted LID Stormwater Mitigation Plans (formerly referred to as Standard Urban Stormwater Mitigation Plans or SUSMPs) policies or ordinances within their respective jurisdictions to address stormwater. Under LID ordinances, all new privately-owned development and redevelopment projects within the City of Los Angeles may be required to implement certain BMPs and/or stormwater mitigation measures to contain or treat the first 0.75-inch of rainfall runoff from every storm, and to implement on-site stormwater infiltration.

Construction Dewatering Permits

Construction dewatering discharges must be permitted either by the Los Angeles RWQCB under the Waste Discharge Requirements – General NPDES Permit for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (General NPDES Permit No. CAG994004) for construction dewatering discharge to surface waters or be authorized to discharge to local publicly owned treatment works (i.e., industrial or sanitary sewer system of municipal wastewater treatment plants). Discharge via either of these mechanisms must meet applicable water quality objectives, constituent limitations, and pretreatment requirements.

San Fernando Groundwater Basin Adjudication

The SFB is an adjudicated basin in which all water rights have been defined by a court. The basin was first adjudicated, along with the Verdugo, Sylmar and Eagle Rock basins in 1968, by the judgment of the decades-long Los Angeles County Superior Court Case No. 650079, entitled The City of Los Angeles vs. City of San Fernando, et al. A final judgment in January 1979 included provisions and stipulations regarding: water rights; the calculation of imported return water credit; storage of water; stored water credit; and arrangements for physical solution water for certain parties. The Judgment was based on maintaining a safe yield operation for the basin, whereby groundwater extractions over the long-term would be maintained in a manner that does not create an overdraft condition in the basin.[120] It also established the ULARA

[120] City of Los Angeles Department of Water and Power. *Urban Water Management Plan*. May 2011.

Watermaster, responsible for managing all the activities of the groundwater basin, which consists of native waters, import return waters, and stored waters, as defined by the adjudication. The Judgment also provided for a Court-appointed Watermaster to enforce the Judgment.

3.9.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines and the CEQA Initial Study conducted for the Proposed Project in 2013, the Proposed Project would have a significant impact on hydrology, water quality, and groundwater if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place within a 100-year flood area structures to impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Methodology

Potential project impacts were determined by evaluating the proposed changes on-site and proposed changes in recharge activities above current operations. These changes were then evaluated for significant impacts based upon the significance thresholds listed above taking into account required compliance with applicable regulations and standard best practices.

Impact Analysis

HWQ-1: *The Proposed Project would not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality. The impact would be less than significant*.

Surface Water Quality

Construction

The DCTWRP site currently contains buildings, paved roads, landscaping, and unpaved areas. The site is approximately 50 percent impervious surface area. Construction activities on the DCTWRP site would include construction of the AWPF and ancillary facilities, a maintenance building, warehouse, flow equalization tank and brine line to VORS. Off-site construction includes a new 42-inch recycled water pipeline in Arleta Avenue and improvements at HSG and PSG.

The proposed on-site and off-site construction activities would result in land disturbance over one acre, and therefore would be required to obtain coverage under the California Construction General Permit. A site-specific SWPPP would be developed and implemented to control pollutants in stormwater discharges during demolition and construction activities. Such BMPs would include but not be limited to erosion and sediment control, general housekeeping practices such as sweeping up of site debris, proper waste disposal procedures, use of tarps on any stockpiles, containment of building materials, and inspection for leaks and spills from construction vehicles. With implementation of BMPs outlined in the SWPPP and adherence of inspection and monitoring requirements, stormwater discharges during construction are not anticipated to violate any water quality standards or waste discharge requirements set by the RWQCB. Also, dewatering activities during construction would require compliance with the RWQCB's construction dewatering permit to minimize impacts to downstream receiving water quality. Less than significant impacts to the water quality of receiving waters would be anticipated during construction.

Due to construction of the proposed facilities (AWPF and ancillary facilities, maintenance building, warehouse, etc.), the Project would result in a change in impervious surface area at DCTWRP from approximately 19 acres to approximately 23 acres of impervious surface area. Off-site improvements would not result in increases in impervious surface area. The change in impervious surface area from construction of the proposed facilities at DCTWRP would generate an increase in stormwater runoff within the facility boundaries which is surrounded by flood control berms that prevent off-site storm flows from entering the site. It is anticipated that the current operating procedures would continue, involving directing the first hour of runoff to the VORS, bypassing the plant's processes, or to the Los Angeles River.

The Proposed Project would be considered significant redevelopment under the MS4 Permit SUSMP requirements. As part of the City of Los Angeles Department of Building and Safety approval process, LADWP would be required to prepare a Site-Specific Stormwater Mitigation Plan for the post-development Project site that contains BMPs including LID features that would be implemented to protect water quality in stormwater discharges leaving the Project site. Compliance with this requirement would ensure impacts to receiving water quality from stormwater discharges with implementation of the Proposed Project would be less than significant.

Operation

Currently, water discharged from DCTWRP occurs from two permitted sources: excess tertiary treated wastewater and overflows from Balboa Lake, Wildlife Lake and Japanese Garden Lake that is discharged to the Los Angeles River under Order No. R4-2011-0196 (NPDES Permit No CA0056227); and stormwater runoff generated on-site that is discharged per the requirements of the General Industrial Permit.

As discussed above in the Project Description, Chapter 2 of the Draft EIR, an annual average of approximately 27 mgd of recycled water is currently provided from DCTWRP to the lakes and the river, and, after Project implementation, a minimum annual average of 27 mgd would continue to be provided to the lakes and the river from DCTWRP. Therefore, operation of the Proposed Project, which would utilize the available unused treatment capacity of DCTWRP to provide recycled water for the advanced water purification processes, would not affect the flow-through process at the lakes and the river.

The water quality of the recycled water discharges would remain unchanged and would continue to meet existing RWQCB WDRs to protect water quality in the lakes and Los Angeles River. Additionally, no changes to outfall locations would occur. Long-term operation of the Proposed Project would have no impact on beneficial uses and water quality standards of the Los Angeles River.

LASAN would be required to update DCTWRP's Industrial SWPPP to include the new Project components and additional structural and non-structural BMPs as appropriate. Proper implementation of the SWPPP and monitoring program would ensure the Proposed Project is in compliance with the General Industrial Permit, and water quality impacts from stormwater discharges to the Los Angeles River would be considered less than significant.

Groundwater Quality

The Proposed Project would provide recharge of the SFB through spreading of recycled water that has undergone advanced treatment processes such as ozonation, BAC, MF, RO and AOP. As discussed in the Groundwater Replenishment Master Planning Report, LADWP and LASAN performed a 16-month pilot study from February 2010 to June 2011 to test the advanced treatment processes at DCTWRP, specifically MF, RO, and AOP. The purpose of the pilot study was to evaluate the treatment efficacy of using advanced water purification processes on DCTWRP recycled water.[121]

Water quality results from the pilot testing confirmed that all existing and draft drinking water and recycled water regulations can be met using the proposed treatment processes. All of the regulated compounds had average and maximum values in the product water below regulatory limits. No significant health risks have been suggested for these compounds at these concentrations. It was concluded that the advanced water purification processes tested at DCTWRP provided an exceptional water quality for use in groundwater replenishment and exceeds drinking water quality standards.[122] These advanced treatment processes would provide water that meets and exceeds the standards in Title 22, Article 5.1 for Indirect Potable Reuse: Groundwater Replenishment – Surface Application.

[121] RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

[122] RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

The Project would require issuance of WRRs and WDRs by the RWQCB for production, distribution and use of recycled water for groundwater replenishment under Title 22, Article 5.1 and ensure compliance with the State's Water Recycling Policy and the Basin Plan. The quality of the water produced from the proposed AWPF would require testing to demonstrate compliance with Title 22 requirements, applicable California MCLs and NLs of the drinking water regulations and other Basin Plan requirements to protect beneficial uses of the SFB. Quarterly and annual sampling requirements and system discharge limits would be established based on discussions with the RWQCB and DDW. It is anticipated that the quality of the treated water would be of a higher quality than the water in the receiving aquifer. Therefore, long-term, beneficial impacts to groundwater quality are anticipated with implementation of the Proposed Project.

HWQ-2: *The Proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). No impact would be expected.*

Construction

Construction activities would require water for dust control during demolition, grading, and construction activities. Water for these activities would be supplied from existing water connections or would be transported in trucks from an off-site source, and may include recycled water. As such, no impacts to local groundwater supplies, groundwater recharge, and groundwater levels are anticipated during construction of the Proposed Project.

Operation

The Proposed Project is intended to recharge the SFB with approximately 30,000 AFY of advanced treated (purified) recycled water. The Project is considered to have a beneficial impact on the basin volume, and in the long-term would help increase water levels in the SFB to support the maintenance of regional groundwater supply.

As part of the Groundwater Replenishment Master Planning Report, several groundwater model simulations were developed using the current version of the San Fernando Basin Groundwater Model (SFBGM) to numerically assess the potential effect of the Proposed Project on the SFB and the potential to meet all regulatory requirements.[123] The existing structure (e.g., grid, layers, hydraulic properties, etc.) of the SFBGM was not modified. The model simulations were run for a 20-year transient simulation period beginning in WY 2009-10.

The additional recharge of 30,000 AFY of recycled water would increase groundwater levels in the vicinity of HSG and PSG, which results in a beneficial effect for groundwater supply. In general however, increased groundwater levels could potentially interfere with operations at adjacent landfills. Also, increased pumping that accompanies additional recharge has the potential to lower water levels and adversely affect the production of existing well fields. Therefore, simulated groundwater levels from the SFBGM model were reviewed to examine

[123] RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

these potential issues. It should be noted that the simulations of the Proposed Project begin recycled water recharge in WY 2019-20.

The simulation indicates a decline in water level prior to the start of the Proposed Project, due to increased groundwater production from the LADWP well fields in WY 2018-19. Therefore, the groundwater replenishment operations of the Proposed Project are layered on the assumed basin-wide increase in pumping following the centralized system coming online. Modeling of the simulated groundwater levels at HSG and PSG following the start of the Proposed Project in WY 2019-20 shows groundwater levels rising noticeably at HSG.[124] However, groundwater levels remain well below the ground surface, so groundwater mounding is not anticipated to occur with implementation of the Proposed Project. In addition, as previously discussed, it is anticipated that up to 19,000 AFY could be spread at HSG and up to 23,000 AFY at PSG. Groundwater levels remain well below ground surface at PSG as well, and therefore groundwater mounding is not expected to affect adjacent landfills.

Percolation Rates of HSG and PSG

Based on available information, the percolation capacity of HSG would be sufficient to allow for continued recharge with stormwater as well as the additional 15,000 AFY of purified recycled water, if HSG receives water continuously throughout the year. The annual average volume of 15,000 AFY equates to a long term average of approximate 41 acre-feet per day. This rate is well below the percolation capacity of HSG of approximately 297 acre-feet per day HSG.[125]

Based on available information, the percolation capacity of PSG would be sufficient to allow for continued recharge with stormwater as well as the additional volume of purified recycled water. The annual average volume of 15,000 AFY equates to a long term average of approximately 41 acre-feet per day. This rate is significantly below the percolation capacity of PSG of approximately 128 acre-feet per day.[126]

In summary, based on the SFGWB modeling results, the proposed volume of the purified recycled water could be recharged effectively and safely at HSG and PSG, and would provide long term increases in groundwater basin levels to help maintain regional groundwater supply.

HWQ-3: *The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. The impact would be less than significant*.

Construction

Construction of the proposed facilities at DCTWRP would generate an increase in surface runoff due to an increase in impervious surface area. However, the Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The proposed facilities would be located within the existing flood control berm that protects DCTWRP from flooding in the Sepulveda Basin up to a 100-year storm, as well as provides

[124] RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

[125] RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

[126] RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

protection of stormwater run on from adjacent properties. As part of the Project grading plan approval process, a hydrology/drainage study would be prepared for review and approval by the City of Los Angeles Department of Building and Safety to ensure the new Project facilities at DCTWRP are designed for proper drainage to prevent flooding on and off-site. Therefore, impacts would be less than significant.

Operation

As mentioned in Chapter 2 of this Draft EIR (Project Description), only a single 40-mgd phase of DCTWRP is currently operated at a given time because the demand and infrastructure for recycled water is insufficient to warrant operating both phases simultaneously. The wastewater that would otherwise reach DCTWRP via the AVORS and East Valley Interceptor Sewer (EVIS) and be treated in the second 40-mgd phase instead bypasses the plant and is currently conveyed to Hyperion Treatment Plant in Playa Del Rey, where it undergoes a secondary level of treatment and is discharged into Santa Monica Bay. With operation of the Project, this wastewater would no longer be conveyed to Hyperion Treatment Plant and would instead be treated at DCTWRP. Because the Project would utilize this wastewater and the available unused treatment capacity of DCTWRP to provide recycled water for the advanced water purification processes, it would not result in any changes in flow volume or points of discharge for the existing Balboa Lake, Wildlife Lake, and Japanese Garden lake in the Sepulveda Basin or the Los Angeles River. Therefore, a Section 1211 permit from the SWRCB would not be required since proposed discharge and use of purified recycled water does not result in decreasing the flow in any portion of these watercourses.

No alterations to the existing drainage facilities and drainage patterns in the areas of the proposed off-site facilities (e.g. 42-inch underground pipeline to PSG and improvements at PSG and HSG) would be anticipated. The proposed off-site facilities would not result in increases in impervious surface area, and therefore would not generate runoff that could affect flood control in the area. No drainage-related impacts are anticipated.

Recharge of purified recycled water to HSG and PSG would not occur during times of the year (primarily winter months) when LACDPW is releasing storm flows from Hansen, Big Tujunga and Pacoima Dams to recharge the basins. During dry years it is projected that HSG and PSG would be unavailable for recharge 10 days and 5 days, respectively, and during wet years, HSG and PSG would be unavailable for 70 and 30 days, respectively. Also, recharge would not occur during periods when LACDPW is performing basin maintenance. A Memorandum of Understanding would be established between LADWP and LACDPW to establish these safe operating procedures to maximize stormwater recharge at HSG and PSG and allow LADWP to safely recharge with purified recycled water when the basins are available. No flooding impacts are anticipated.

HWQ-4: *The Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The impact would be less than significant*.

See responses to HWQ-1 and HWQ-3. Additionally, construction of the off-site facilities, including pipelines and modifications to HSG and PSG, would not result in any increases in runoff since pipelines would be located underground and modifications at HSG and PSG would not change impervious surface area. These features would not result in new sources of polluted runoff. Impacts would be less than significant.

HWQ-5: *The Project would not otherwise substantially degrade water quality. The impact would be less than significant*.

Title 22 groundwater regulations require a minimum underground retention time of two months from introduction of purified recycled water to interception at the nearest drinking water supply well. The SFBGM simulation conducted as part of the Recycled Water Master Planning Report was used to assess groundwater flow paths between the point of application of the recycled water (HSG and PSG) and down gradient to the TWF and the RTWF.[127] Based on the model results, the simulated retention time from HSG to the TWF and RTWF is estimated to be three years and six years, respectively. Based on the model results, the simulated retention time from PSG to the TWF and RTWF is estimated to be 4.5 years and 11.5 years, respectively. These retention times would meet the DDW groundwater replenishment requirements.[128]

Long term Project operation would include comprehensive monitoring as required by DDW and RWQCB for recycled water from the AWPF, diluent water, and groundwater. Monitoring would be conducted for numerous constituents as required by the groundwater replenishment regulations to ensure protection of groundwater beneficial uses and public health. The proposed monitoring program would be specified in the Engineering Report and final monitoring requirements would be issued as part of the RWQCB permit.

Compliance with the groundwater replenishment regulations including long term monitoring requirements issued in the RWQCB permit would ensure no degradation of groundwater quality. Impacts would be less than significant.

HWQ-6: *The Project would not place within a 100-year flood area structures to impede or redirect flood flows. The impact would be less than significant*.

The DCTWRP site is located within the Sepulveda Flood Control Basin which is owned and operated by the Corps. As discussed in HWQ-3, the proposed facilities at DCTWRP would be located within the existing flood control berm that protects DCTWRP from flooding in the Sepulveda Basin up to a 100-year storm, as well as provides protection of stormwater run on from adjacent properties. The proposed new structures at DCTWRP site would not impede or redirect flood flows as all development would be located within the existing flood control berm. Impacts would be less than significant.

HWQ-7: *The Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. The impact would be less than significant*.

The Proposed Project involves construction of an AWPF and ancillary facilities at the DCTWRP site in the Sepulveda Flood Control Basin that is controlled by the Sepulveda Dam. The existing flood control berm protects the plant from the 100-year storm. LASAN has a defined set of operational procedures to follow during storm events, including evacuation plans, should there be a breach in the flood control berm from a storm event exceeding the 100-year storm.

In addition, two wet weather storage basins are currently located east of the aeration tanks and secondary clarifiers, primarily used for temporary storage, without treatment, of wet weather flows.

127 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

128 RMC and CDM Smith. 2014. Groundwater Replenishment Master Planning Report prepared for Los Angeles Department of Water and Power and Department of Public Works, March 2012.

3.9.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to hydrology, water quality, and groundwater. Therefore, no mitigation measures are required.

3.9.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to hydrology, water quality, and groundwater.

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SECTION 3.10
LAND USE AND PLANNING

This section describes the Proposed Project's potential impacts to land use, including its relationship with surrounding land uses and its consistency with relevant land use plans, policies, and regulations.

3.10.1 Environmental Setting

Existing Land Uses

The proposed AWPF and ancillary facilities, brine line, maintenance building, warehouse, and flow equalization tank, would be located within the boundaries of the DCTWRP property. DCTWRP is a water reclamation facility located within the Sepulveda Dam Flood Control Basin (Sepulveda Basin) on 96 acres leased from the United States Army Corps of Engineers (Corps). The current wastewater treatment facilities, including support functions such as administration, storage, and maintenance, occupy only about 50 acres, which are protected by a flood control berm and wall. The Proposed Project facilities (with the exception of the underground brine line) would be located within the area protected by the berms.

The proposed 42-inch recycled water pipeline that would convey the purified water produced at the AWPF to PSG would connect to the existing 54-inch recycled water pipeline near the intersection of Branford Street and Arleta Avenue and proceed northwesterly along Arleta Avenue, then continue on Devonshire Street to PSG. The portion of the pipeline from Branford Street to Devonshire Street would be entirely located within the existing paved roadway of Arleta Avenue and would pass through primarily residential areas, with some commercial and institutional uses located along the alignment. From Devonshire Street, the pipeline would enter the PSG property and connect to the proposed outlet structures adjacent to Devonshire Street. A crossing in Devonshire Street would also be necessary to connect the southern and northern portions of PSG. The PSG property occupies 169 gross acres and includes twelve shallow spreading basins occupying 107 wetted acres.

The Proposed Project would also supply advanced treated water from the proposed new AWPF to the HSG property via an existing 54-inch recycled water pipeline. A new pipeline measuring approximately 200 linear feet and an outlet structure would be installed from the existing 54-inch pipeline into HSG; additionally, a gate valve would be installed at the end of the existing 54-inch pipeline. The new 200-foot pipeline, outlet structure, and gate valve would be located within the boundaries of the HSG property, which occupies 156 gross acres and includes eight medium spreading basins occupying 117 wetted acres.

Surrounding Setting

The DCTWRP property is immediately surrounded by Woodley Avenue Park on the west, south, and east, and by an Air National Guard facility on the north. The Japanese Garden occupies approximately 6.5 acres in the northwest corner of the DCTWRP property, northwest of the DCTWRP facilities and within the area protected by flood control berms and walls. The DCTWRP property is generally bounded by, but not abutting, Victory Boulevard to the north, I-405 to the east, and Woodley Avenue to the south and west. Residential neighborhoods are located north of Victory Boulevard and east of I-405. The Los Angeles River is located approximately 0.5-mile southwest of the DCTWRP property. Further west, across Woodley Avenue, is the Sepulveda Basin Recreation Area and Lake Balboa.

The area surrounding the recycled water pipeline alignment along Arleta Avenue is fully developed and urbanized. Land uses along the alignment primarily consist of residential uses, with some commercial and institutional land uses. PSG is bounded by residential neighborhoods to the west and northwest, Woodman Avenue to the southwest, Filmore Street to the southeast, and Arleta Avenue to the northeast. PSG is also bisected from east to west by Devonshire Street. The area surrounding PSG is primarily developed with residential land uses, and is abutted by Devonwood Park on the west and Devonshire Arleta Park on the east. The Pacoima Diversion Channel and Pacoima Wash are located to the east and to the southwest of the PSG property, respectively.

HSG is generally bounded by Branford Street to the northwest, Glenoaks Boulevard to the northeast, the Tujunga Wash Channel to the southeast, and San Fernando Road to the southwest. HSG is surrounded by open space and light manufacturing uses. The Hansen Dam and Hansen Recreation Area are located to the northeast of the HSG property. VGS is located southeast of HSG, across the Tujunga Wash Channel.

The existing land use and zoning designations for the Project site and the surrounding areas are shown in Figures 3.10-1a through 3.10-1c and 3.10-2a through 3.10-2c.

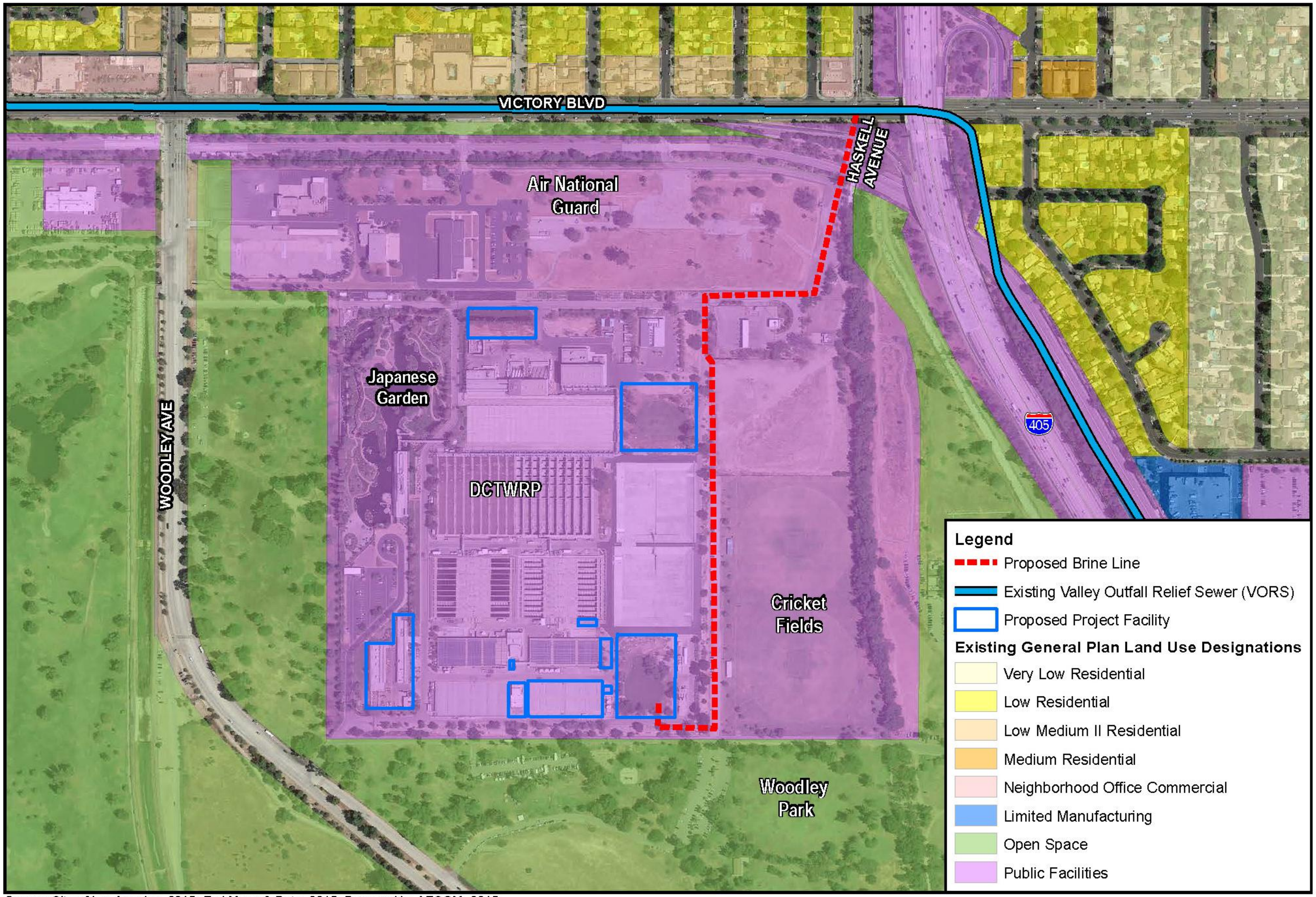
3.10.2 Regulatory Setting

The Proposed Project site is subject to the designations and regulations of several regional and local land use and zoning plans. At the regional level, the Project site is located within the planning area of the Southern California Association of Governments (SCAG), the region's federally-designated metropolitan planning organization. The Project site is also located within the City of Los Angeles in the communities of Encino, Arleta, Pacoima, and Sun Valley. Therefore, at the local level, the Project site is subject to the development regulations and policies set forth in the City of Los Angeles General Plan, and the City of Los Angeles General Provisions and Zoning Code and other applicable sections of the City of Los Angeles Municipal Code (LAMC).

Regional

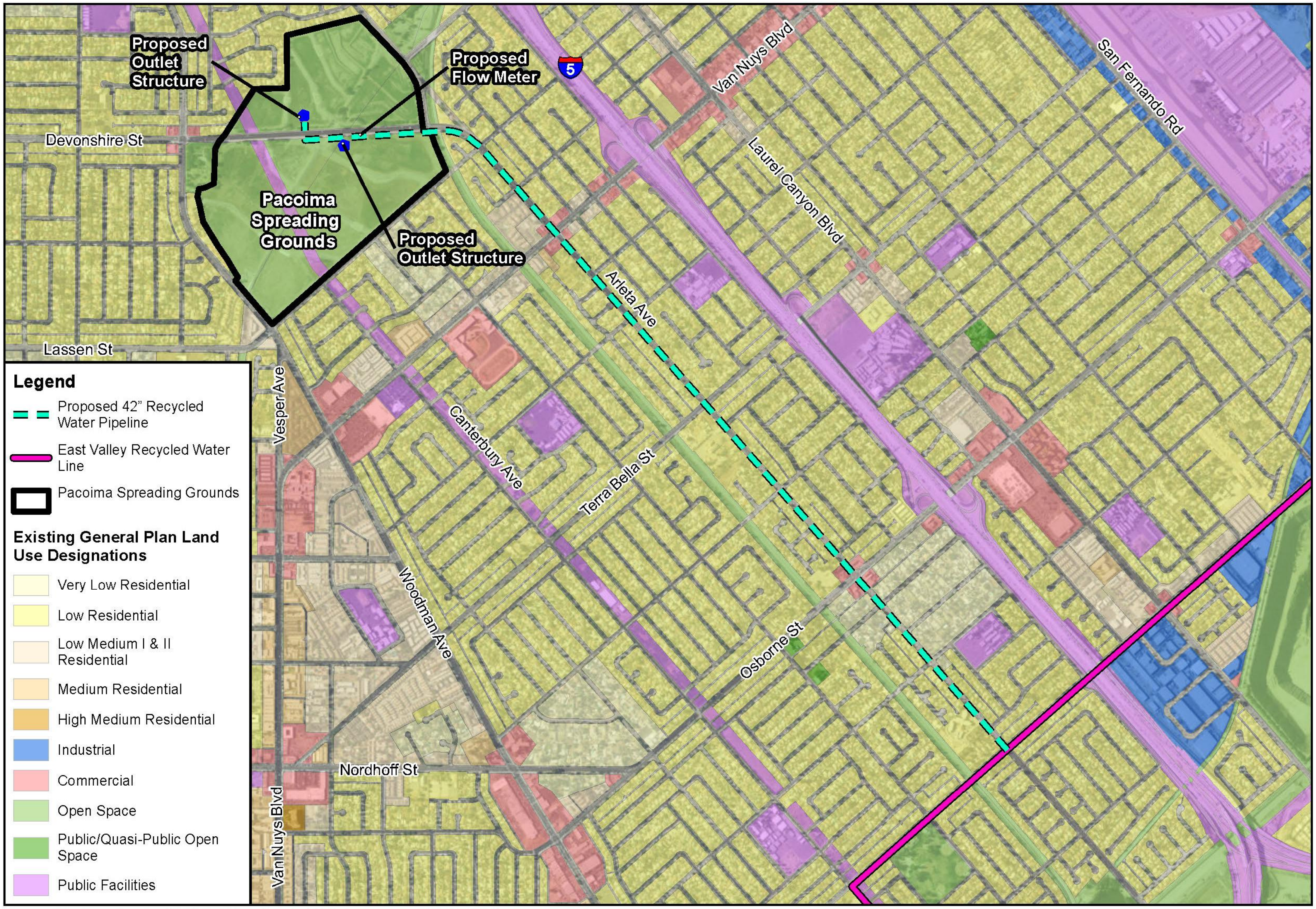
2008 Regional Comprehensive Plan

The 2008 Regional Comprehensive Plan is a guidance document and serves as an advisory document for use by local governments in the SCAG region as an informational resource and as a reference document for their use in developing plans and addressing local issues of regional significance. The 2008 Regional Comprehensive Plan defines a vision for the SCAG region that includes balancing resource conservation, economic vitality, and quality of life. It also provides a long-term planning framework that describes comprehensive responses to growth and infrastructure challenges and recommends an Action Plan targeted for the year 2035.



Source: City of Los Angeles, 2015; Esri Maps & Data, 2015: Prepared by AECOM, 2015.

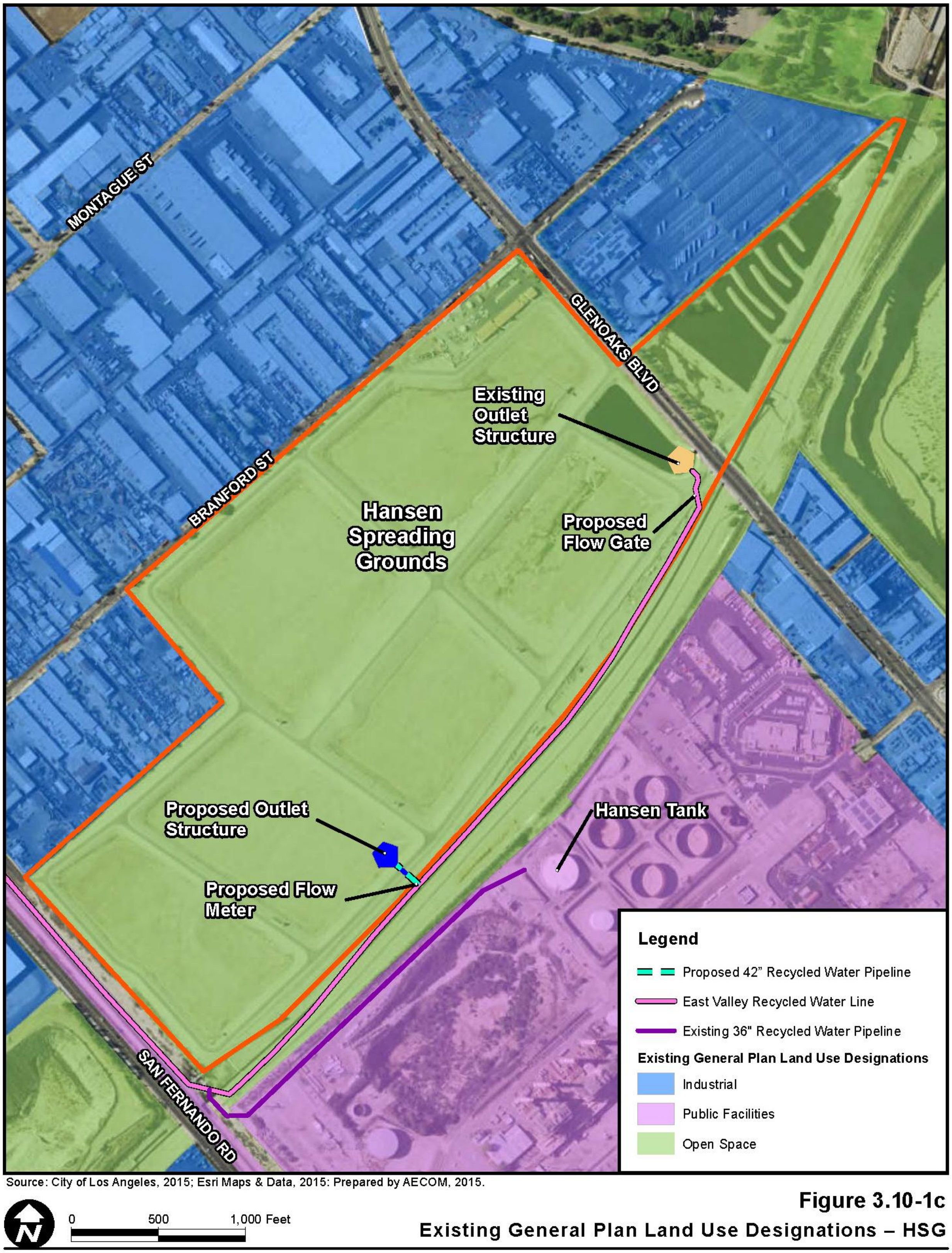
Figure 3.10-1a
Existing General Plan Land Use Designations – DCTWRP



Source: City of Los Angeles, 2016; Esri Maps & Data, 2016: Prepared by AECOM, 2016.

Figure 3.10-1b

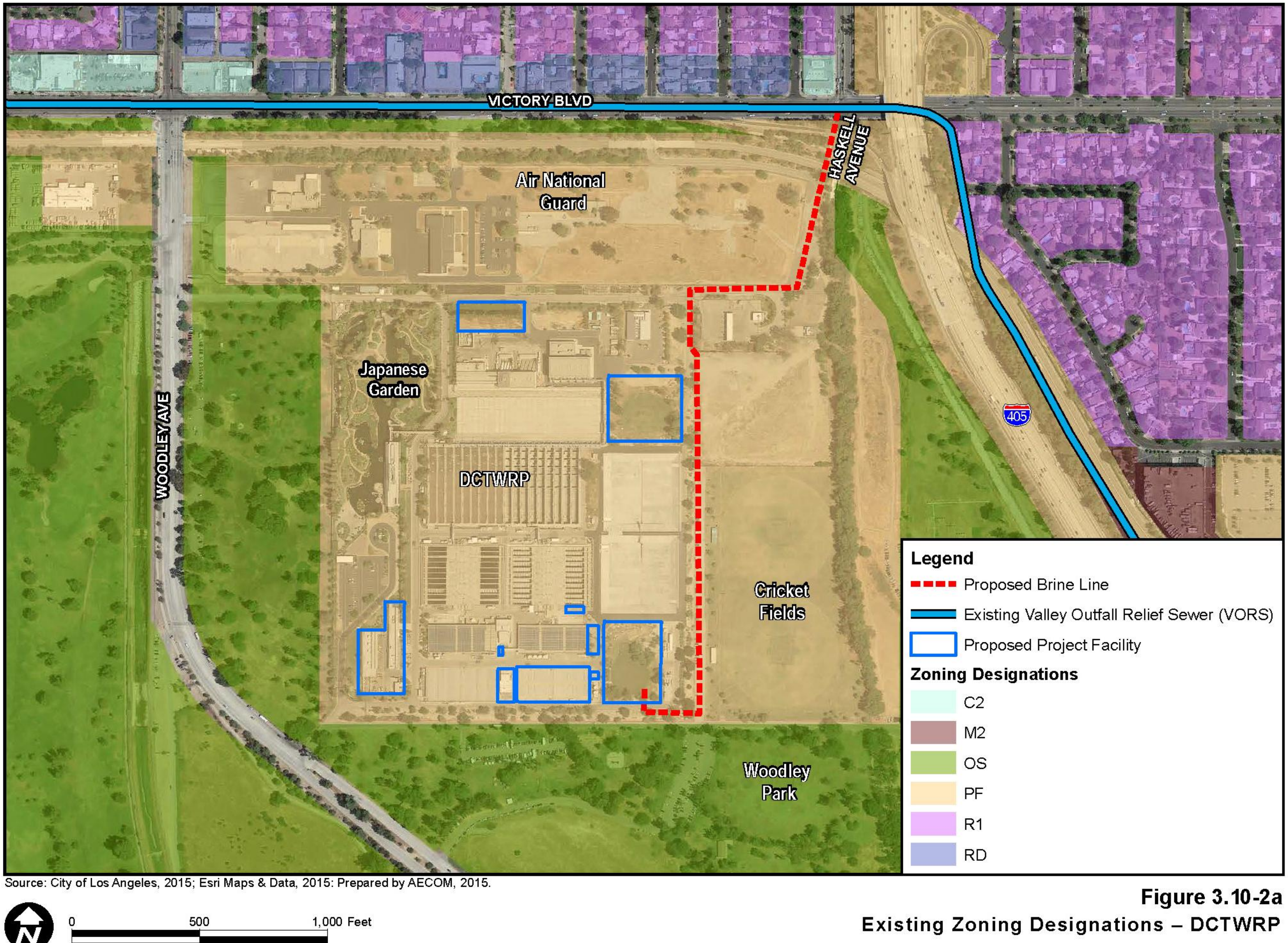
Existing General Plan Land Use Designations – PSG & Conveyance Pipeline



Source: City of Los Angeles, 2015; Esri Maps & Data, 2015: Prepared by AECOM, 2015.

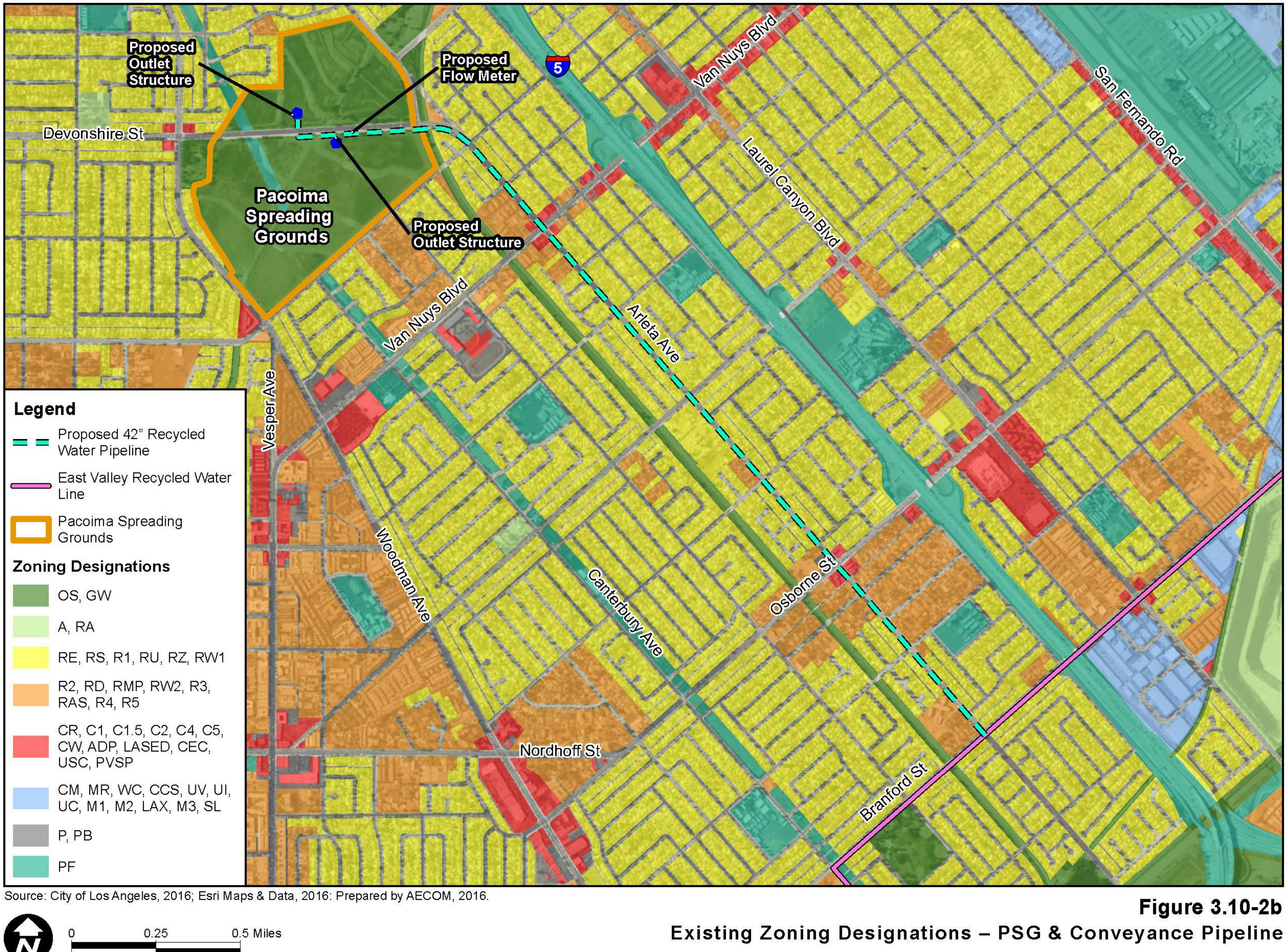
Figure 3.10-1c

Existing General Plan Land Use Designations – HSG



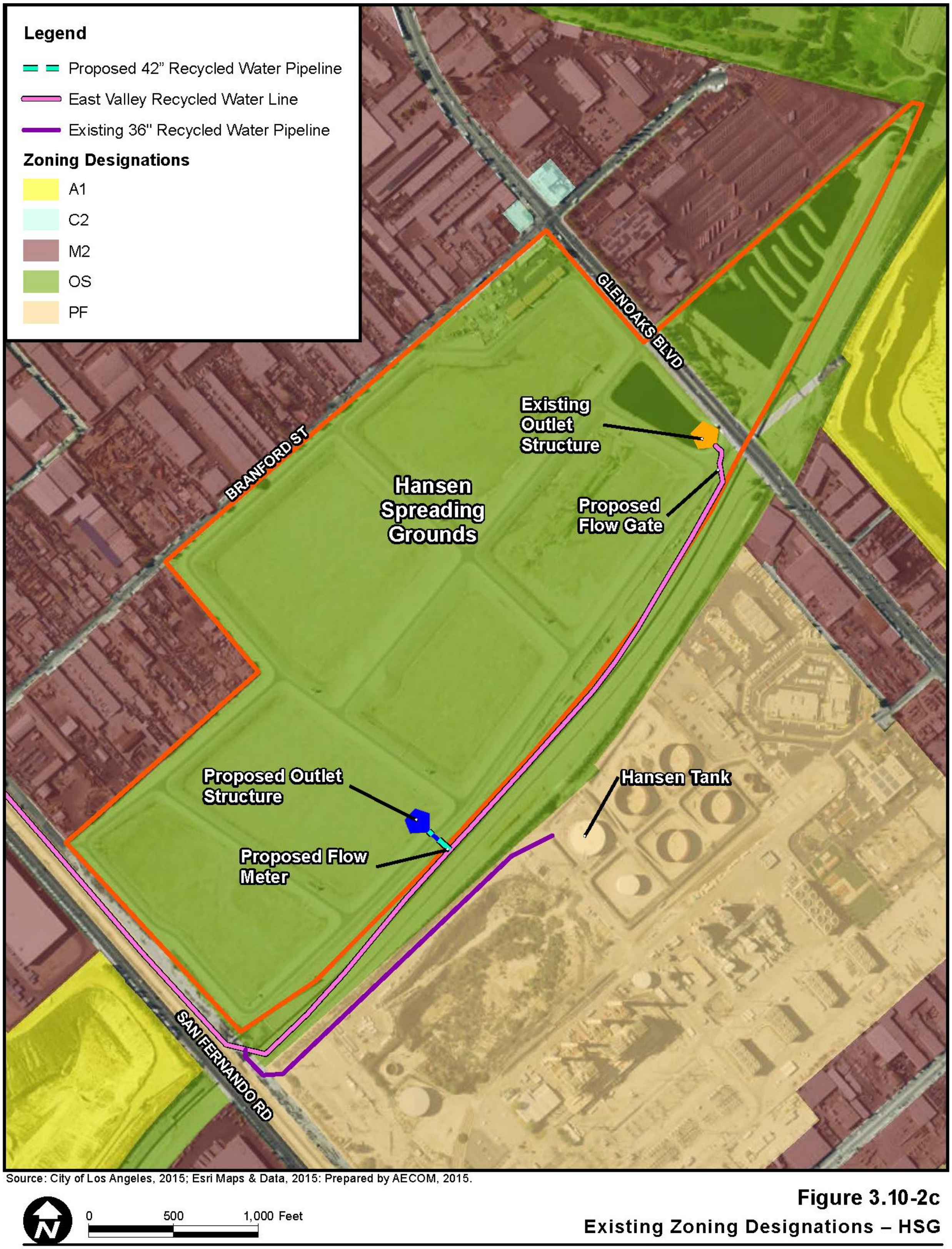
Source: City of Los Angeles, 2015; Esri Maps & Data, 2015: Prepared by AECOM, 2015.

Figure 3.10-2a
Existing Zoning Designations – DCTWRP



Source: City of Los Angeles, 2016; Esri Maps & Data, 2016: Prepared by AECOM, 2016.

Figure 3.10-2b
Existing Zoning Designations – PSG & Conveyance Pipeline



Source: City of Los Angeles, 2015; Esri Maps & Data, 2015: Prepared by AECOM, 2015.

Figure 3.10-2c
Existing Zoning Designations – HSG

The 2008 Regional Comprehensive Plan incorporates principles and goals of the Compass Blueprint Growth Vision and includes nine chapters addressing land use and housing, transportation, air quality, energy, open space, water, solid waste, economy, and security and emergency preparedness. It also provides a series of recommended near-term policies that developers and key stakeholders should consider for implementation, as well as potential policies for consideration by local jurisdictions and agencies when conducting project review. However, due to the advisory nature of the 2008 Regional Comprehensive Plan, SCAG reviews new projects based on consistency with the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Compass Growth Vision.

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

The RTP/SCS is a long-range plan that is updated by SCAG every four years. The 2012-2035 RTP/SCS serves as a regional transportation planning tool through the year 2035 composed of a financial plan, sustainable communities strategy, and a strategic plan. The RTP/SCS identifies available and reasonably foreseeable sources of funding, which it directs to multimodal transportation projects that benefit SCAG's member communities.[129] The vision for the 2012-2035 RTP/SCS is centered on three key principles for the region, including mobility, economy, and sustainability. SCAG is currently preparing the next update to the RTP/SCS, which will be published in 2016.

Southern California Compass Growth Vision Report

Adopted in 2004, the Compass Growth Vision Report presents the comprehensive Growth Vision for the six-county SCAG region, as well as the achievement of the Compass process. The report is focused on the physical aspects of regional growth, such as where people and jobs locate, the type and quantity of buildings that may be constructed, and how people and goods move in the region. The Compass project develops a vision for the future of the region with the following components:

- Public Participation
- Scenarios
- Testing and Evaluation
- The Growth Vision
- Strategies
- Benchmarks

The underlying goal of the growth visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income. The four principles of the Growth vision include the following:

- Improve mobility for all residents
- Foster livability in all communities
- Enable prosperity for all people
- Promote sustainability for future generations

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129 Southern California Association of Governments, *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*, adopted April 2012, available online at: http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx, accessed August 12, 2015.

Local

City of Los Angeles General Plan

The City of Los Angeles General Plan, adopted in December 1996 and re-adopted in August 2001, addresses community development goals and policies relative to the distribution of land use, both public and private. The General Plan is a dynamic document consisting of eleven elements, which include ten Citywide elements (Framework; Air Quality; Conservation; Housing; Noise; Open Space; Service Systems – Public Recreation Plan; Safety; Transportation; and Plan for a Healthy Los Angeles, Health and Wellness) and the Land Use Element, which comprises community plans for each of the City's 35 Community Plan areas. Portions of the Project site are located in four Community Plan areas. The Community Plan areas in which the Project site is located and the corresponding land use designations in those areas are described in the following paragraphs.

Encino-Tarzana Community Plan Area

The portion of the Project site on the DCTWRP property is located within the Encino-Tarzana Community Plan area. The DCTWRP property is designated as Public Facilities under the Community Plan, which is intended to correspond with the standards of need, site area, design and general location of facilities identified in the Service Systems and Safety Elements of the General Plan.[130]

Arleta-Pacoima Community Plan Area

The recycled water pipeline and the southern portion of PSG (south of Devonshire) are located within the boundaries of the Arleta-Pacoima Community Plan area. Under this community plan, the PSG property is designated Open Space and Public Facilities. The Open Space and Public Facilities designations reflect both current and future public uses within the community plan area.[131]

The recycled water pipeline would be located entirely within the existing road right-of-way of Arleta Avenue and within the boundaries of the PSG property, and does not contain any above-ground structures that would be subject to development regulations and policies contained within the General Plan. As such, the recycled water pipeline discussion identifies land use designations of the properties adjacent to this portion of the Project site. The properties adjacent to the proposed recycled water pipeline alignment include the following designations: Residential Single Family, Residential Multiple Family, Commercial, and Open Space.

Mission Hills-Panorama City-North Hills Community Plan Area

The northern portion of PSG (north of Devonshire) is located within the boundaries of the Mission Hills-Panorama City-North Hills Community Plan area, and is designated Open Space and Public Facilities under this community plan.

Sun Valley-La Tuna Canyon Community Plan Area

HSG is located within the Sun Valley-La Tuna Canyon Community Plan area and is designated Open Space.

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130 Los Angeles Department of City Planning, *Encino-Tarzana Community Plan*, December 1998.
131 Los Angeles Department of City Planning, *Arleta-Pacoima Community Plan*, November 1996.

City of Los Angeles Municipal Code

The portion of the Project site located within the boundaries of DCTWRP (the proposed AWPF and ancillary facilities, brine line, maintenance building, warehouse, and flow equalization tank) is zoned PF (Public Facilities). Land uses permitted in the PF zone include fire and police stations, public libraries, post offices, public health facilities, and public schools.[132] Additionally, flood control, water treatment, water pumping, water distribution, and water filtration facilities are allowed in the PF zone under a conditional use permit.[133] The DCTWRP property is also located within the Los Angeles River Improvement Overlay District.

The zoning designations for the properties adjacent to the recycled water pipeline alignment along Arleta Avenue include R1 (Residential One-Family), RA (Suburban Agriculture) RS (Residential Suburban), RD (Restricted Density Multiple Dwelling), C2 (Commercial), and OS.

The PSG property is primarily zoned OS (Open Space), with a narrow strip traversing the western portion of the property zoned PF at the location of the existing transmission line alignment. Land uses allowed in the OS zone include parks and recreation facilities, natural resource preserves, marine and ecological preserves, public water supply reservoirs and accessory uses, and water conservation areas.[134] HSG is also zoned OS.

3.10.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on land use and planning if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural communities conservation plan.

Methodology

The determination of consistency with applicable land use policies and ordinances is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the Project site. CEQA Guidelines Section 15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. A project is considered consistent with the provisions of the identified regional and local plans if it meets the general intent of the plans, and would not preclude the attainment of the primary intent of the land use plan or policy. If a project is determined to be inconsistent with specific objectives or policies of a land use plan, but is largely consistent with the land use goals of that plan and would not preclude the attainment of the primary intent of the land use plan, the project would not be considered inconsistent with the plan. In addition, inconsistency with

[132] LAMC Section 12.04.09.
[133] LAMC Section 12.24 U.
[134] LAMC Section 12.04.05.

specific objectives or policies of a land use plan does not necessarily mean that the project would result in a significant impact on the physical environment.

The analysis of land use compatibility addresses whether the Proposed Project would be compatible with the land use in proximity to the Project site in terms of use, size, intensity, density, scale, or other factors. The compatibility analysis is based on aerial photography, land use and zoning maps, applicable land use plans, and field surveys in which surrounding uses were identified and characterized. Accordingly, the analysis addresses general land use relationships and the urban form found in the Project area.

Impact Analysis

LUP-1: *The Proposed Project would not physically divide an established community. No impact would occur.*

The Proposed Project would not physically divide an established community. The Project components located at the DCTWRP property, which would include the proposed AWPF and ancillary facilities, brine line, maintenance building, warehouse, and flow equalization tank, would be located on a site that is currently developed with wastewater treatment and ancillary facilities. The portion of the brine line alignment traveling to the north of the DCTWRP property to connect to the VORS would be located entirely underground and placed within the existing road right-of-way. Following installation of the proposed brine line, the roadway would be returned to its existing condition.

The proposed new 42-inch recycled water pipeline would be constructed underground using a linear trenching technique within the existing road right-of-way along Arleta Avenue and then within the boundaries of the PSG property to reach the proposed outlet structures adjacent to Devonshire Street. Following installation of the proposed recycled water pipeline, the roadway would be returned to its existing condition.

The proposed improvements at PSG would include the installation of two new outlet structures, a new flow meter, and the extension of the proposed recycled water pipeline into PSG to reach the proposed new outlet structures. All proposed improvements would occur within the boundaries of PSG, with the exception of the portion of the recycled water pipeline that would need to traverse Devonshire Street from the southern portion of PSG to the reach the new outlet structure north of Devonshire Street in the northern portion of PSG. Similar to the construction method described for the recycled water pipeline along Arleta Avenue, the portion of the pipeline crossing Devonshire Street would be installed using a trenching method of construction. Following installation of the proposed recycled water pipeline crossing Devonshire Street, the roadway would be returned to its existing condition.

The proposed improvements at HSG would consist of the installation of a new outlet structure, a new flow meter, and a new 42-inch recycled water pipeline extending from the existing 54-inch recycled water pipeline and connecting to the new outlet structure. All improvements at HSG would occur within the boundaries of the HSG property.

No streets or sidewalks would be permanently closed as a result of the Proposed Project, and no separation of existing uses or disruption of existing access between land use types would occur. As such, the Proposed Project would not divide an established community, and no impact would occur.

LUP-2: *The Proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.*

The Project site is subject to the policies and/or regulations of SCAG's RTP/SCS and Compass Growth Vision Report at the regional level, and the City of Los Angeles General Plan and Municipal Code at the local level. An evaluation of the Proposed Project's consistency with these applicable land use plans, policies, and regulations is provided in the following paragraphs.

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

As discussed in Chapter 2 of this Draft EIR, the Proposed Project would be implemented to reduce the current use of imported water with purified recycled water for groundwater replenishment in the San Fernando Groundwater Basin. As described in Section 2.4, the overall purpose of the Proposed Project is to reduce dependence on imported water by increasing in groundwater replenishment. The Proposed Project would generally be consistent with the RTP/SCS, particularly the principle of sustainability, through the provision of a reliable source of water for groundwater replenishment. Therefore, impacts related to consistency with the RTP/SCS would be less than significant.

Southern California Compass Growth Vision Report

The Proposed Project would offset the current use of imported water with a reliable and sustainable source of purified recycled water for groundwater replenishment in the San Fernando Groundwater Basin. The Proposed Project would be generally consistent with the Growth Vision, particularly regarding the principle of sustainability. Therefore, impacts related to consistency with the Southern California Compass Growth Vision Report would be less than significant.

City of Los Angeles General Plan

The above-ground components of the Proposed Project include the AWPF and ancillary facilities, maintenance building, warehouse, and flow equalization tank at the DCTWRP property; two new outlet structures and a new flow meter at PSG; and a new outlet structure and a new flow meter at HSG. These above-ground structures would be subject to the policies set forth in the General Plan. The Project components at the DCTWRP property are located on parcels that are designated for Public Facilities land uses. The AWPF, maintenance building, warehouse, and flow equalization tank would be constructed entirely within the boundaries of the DCTWRP property, which is currently developed with wastewater treatment facilities. Although the above-ground land uses proposed to be constructed at DCTWRP are not listed under the Public Facilities designation, these facilities would be consistent and compatible with existing development on this portion of the Project site. Additionally, the Proposed Project would not change the existing land uses at the DCTWRP property. The proposed new outlet structures and flow meters would be installed at PSG and HSG. HSG and the portion of PSG on which these structures would be installed are designated for Open Space land uses under the General Plan. PSG and HSG consist of spreading basins used for groundwater recharge. The proposed improvements at PSG and HSG would not conflict with the General Plan land use designation and would be consistent with existing development on these portions of the Project site.

The proposed brine line connecting the AWPF to the existing VORS, the proposed recycled water pipeline connecting from the existing 54-inch pipeline to PSG, and the proposed 42-inch pipeline at HSG would be located underground and would not conflict with the existing General Plan land use designations because they would not preclude use of the land surface per the applicable land use regulations.

An analysis of the Proposed Project's consistency with applicable General Plan policies is provided in Table 3.10-1.

Table 3.10-1
Project Consistency with Applicable General Plan Policies

Policy	Consistency Discussion
Framework Element	
Policy 9.2.1. Collect and treat wastewater as required by law and Federal, State, and regional regulatory agencies.	The Proposed Project involves construction of an AWPF and associated facilities to treat recycled water to an advanced level for use as groundwater replenishment. The wastewater collected at DCTWRP would continue to be highly treated to produce recycled water. The Proposed Project advanced treatment would occur in accordance with all Federal, State, and regional regulations, as required. The Proposed Project would be consistent with this policy.
Policy 9.2.2. Maintain wastewater treatment capacity commensurate with population and industrial needs.	Implementation of the Proposed Project would not change the wastewater treatment capacity at DCTWRP. The Proposed Project would be generally consistent with this policy.
Policy 9.2.4. Continue to implement programs to upgrade the wastewater collection system to mitigate existing deficiencies and accommodate the needs of growth and development.	The Proposed Project would not upgrade the existing wastewater collection system; however, it would include upgrades to the existing wastewater treatment facility to create purified recycled water for groundwater replenishment from the recycled water generated at DCTWRP. Maintaining the reliability of potable water supply would serve to accommodate the needs of growth and development throughout the City. The Proposed Project would be generally consistent with this policy.
Policy 9.9.2. Develop reliable and cost-effective sources of alternative water supplies, including water reclamation and exchanges and transfers.	The Proposed Project would provide advanced purification of the recycled water currently generated at the existing water reclamation plant so that it could be used for groundwater replenishment. This advanced purified recycled water would create a reliable alternative source of potable water supply and reduce dependence on purchased imported water. The Proposed Project would be consistent with this policy.
Policy 9.9.5. Maintain existing water rights to groundwater and ensure continued groundwater pumping availability.	The Proposed Project would maintain the reliability of potable water supply through the advanced treatment of recycled water for groundwater replenishment, thereby ensuring continued availability of groundwater for pumping. The Proposed Project would be consistent with this policy.

Note: This table lists only those policies that are applicable to the Proposed Project (i.e., policies relating to residential or other land uses are not analyzed).

The Proposed Project would not conflict with the existing General Plan land use designations for the Project site, and would be compatible with the surrounding land uses. Additionally, the Proposed Project would be generally consistent with the applicable General Plan policies.

Therefore, impacts related to consistency with the City of Los Angeles General Plan would be less than significant.

City of Los Angeles Municipal Code

The above-ground components at DCTWRP are located on parcels zoned PF. As previously discussed, water treatment facilities are permitted within the PF zone under a conditional use permit, which is currently in place for the existing water reclamation plant. Thus, the proposed new AWPF, maintenance building warehouse, and flow equalization tank at the DCTWRP property would be consistent with the existing zoning designations and existing development on this portion of the Project site. HSG and the portion of PSG on which the proposed improvements would be installed are both zoned OS. The OS zone allows for, among other uses, public water supply reservoirs. PSG and HSG are currently developed with spreading basins, which are used to replenishment groundwater for potable water supply. The proposed improvements at PSG and HSG would be consistent with existing uses and would, therefore, be consistent with the existing zoning designations at PSG and HSG.

The proposed brine line connecting the AWPF to the existing VORS, the proposed recycled water pipeline connecting from the existing 54-inch pipeline to PSG, and the proposed 42-inch pipeline at HSG would be located underground and would not conflict with the existing zoning designations because they would not preclude use of the land surface per the applicable land use regulations.

The Proposed Project would be consistent with the existing zoning designations for the Project site; impacts related to consistency with the City of Los Angeles Municipal Code would be less than significant.

Los Angeles River Improvement Overlay District

The portion of the Project site located at the DCTWRP property lies within the boundaries of the Los Angeles River Improvement Overlay District, known as RIO. The RIO includes properties that are located in the vicinity of the Los Angeles River and provides design guidelines for new development projects related to landscaping; screening/fencing of parking facilities, mechanical equipment, and trash enclosures; and exterior site lighting.[135] Additionally, projects located within the Inner Core, areas adjacent to and abutting either side of the Los Angeles River, are also subject to design regulations on landscape buffers, fences, and river access.[136] The Project components that would be constructed at DCTWRP would be located entirely within the DCTWRP property, which is gated and screened from the surrounding open space areas with walls, berms, and trees and vegetation around the perimeter of the property. The proposed new facilities would be designed to be similar to and blend with the existing wastewater treatment facilities, and would continue to be screened from public view. DCTWRP is not located adjacent to or abutting the Los Angeles River, and does not provide access to the river. Thus, the Proposed Project would not be subject to the design regulations of the RIO Inner Core. Additionally, the Proposed Project would not conflict with the implementation of the design guidelines under the RIO on adjacent properties. The RIO does not impose any limits on the

[135] City of Los Angeles, *Zoning Information No. 2358, River Improvement Overlay District, Ordinance Nos. 183144 and 183145*, January 12, 2015. Available online at: http://zimas.lacity.org/documents/zoneinfo/ZI2358.pdf, accessed August 13, 2015.

[136] City of Los Angeles, *Zoning Information No. 2358, River Improvement Overlay District, Ordinance Nos. 183144 and 183145*, January 12, 2015. Available online at: http://zimas.lacity.org/documents/zoneinfo/ZI2358.pdf, accessed August 13, 2015.

size, use, height and/or setbacks of a building beyond what is restricted by the prevailing zoning and building codes. Therefore, impacts related to consistency with the RIO would be less than significant.

LUP-3: *The Proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan. Impacts would be less than significant.*

As discussed in Section 3.4, Biological Resources, the Project components proposed to be constructed within the DCTWRP property and within PSG do not coincide with the boundaries of any adopted habitat conservation plan or natural community conservation plan. HSG is located within the Tujunga Valley/Hansen Dam SEA. However, as discussed in Section 3.4, DCTWRP is located within the boundaries of the Sepulveda Dam Basin Master Plan AHMP area, and the proposed improvements at HSG would occur in areas that do not contain vegetation; thus conflicts with the provisions of the SEA are not anticipated. Additionally, construction of the Project components at DCTWRP would occur in areas developed with similar facilities and would not be located in areas containing previously undisturbed habitat. Therefore, the Proposed Project would not conflict with applicable habitat or natural community conservation plans, and impacts would be less than significant.

3.10.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to land use and planning. No mitigation measures are required.

3.10.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to land use and planning.

SECTION 3.11
MINERAL RESOURCES

This section addresses the impacts of the Proposed Project on mineral resources. The analysis also describes the existing physical conditions of the Project area and the regulatory setting as it relates to mineral resources.

3.11.1 Environmental Setting

In 1979, the California State Mining and Geology Board adopted guidelines for the management of mineral resources and preparation of local plans. The guidelines require local general plans to reference the State-identified mineral deposits and sites that are identified by the State Geologist for conservation and/or future mineral extraction. Subsequently, the State Mining and Geology Board identified urbanized areas where irreversible land uses precluded mineral extraction.

Mineral Resources Zones (MRZ) within the City of Los Angeles have been identified by the State Geologist according to the known or inferred mineral potential of such sites. Any proposed development plan must consider access to such deposits for the purposes of extraction. According to the City of Los Angeles General Plan, no portion of the DCTWRP, PSG, the proposed recycled water pipeline alignment, or the proposed brine line alignment is located in an area identified as an MRZ site. However, HSG is located within a designated MRZ-2 area.[137] MRZ-2 sites contain potentially significant sand and gravel deposits, which are to be conserved.

According to the City of Los Angeles General Plan, the southeast portion of HSG is designated as an area identified as an "Existing Rock and Gravel District – 1997".[138] Additionally, the Sun Valley-La Tuna Canyon Community Plan states that the community has the highest concentration of mineral processing facilities in the City of Los Angeles, including rock and gravel mining operations and cement and concrete processing. Existing mining operations within the Sun Valley-La Tuna Canyon community planning area include a sand, gravel, asphalt, and concrete manufacturing site at Sheldon Street and Glenoaks Boulevard, and an additional site located southwest of HSG at Branford Street between San Fernando Road and Laurel Canyon Boulevard.[139]

According to the State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, there are no active or inactive wells within 0.25 miles of DCTWRP, HSG, the proposed recycled water pipeline alignment, or the proposed brine line alignment.[140] However, the Los Angeles Basin is known to be a source of petroleum. Most of the petroleum is from the Lower Pliocene (three to five million years old) and from the Upper Miocene (five to 11 million years old) rock formations. According to the State of California Department of

[137] City of Los Angeles Department of City Planning, *City of Los Angeles General Plan Conservation Element Exhibit A, a*dopted September 2001.
[138] City of Los Angeles Department of City Planning, *Sun Valley – La Tuna Canyon Community Plan General Plan Land Use Map* as of June 13, 2012, available online at: http://planning.lacity.org/complan/valley/PDF/svyplanmap.pdf, accessed July 13, 2015.
[139] City of Los Angeles Department of City Planning, *Sun Valley – La Tuna Canyon Community Plan,* August 1999,
[140] California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Well Finder, search by address, website: http://maps.conservation.ca.gov/doggr/index.html#close, accessed July 13, 2015.

Conservation, Division of Oil, Gas, and Geothermal Resources, there are several plugged wells within 0.25 miles of PSG and the recycled water pipeline alignment.[141]

3.11.2 Regulatory Setting

State

California Surface Mining and Reclamation Act of 1975

The California Surface Mining and Reclamation Act of 1975 (Public Resources Code Section 2710 et seq.; subsequently amended) is the primary regulation related to on-shore surface mining in the state. It delegates specific regulatory authority to local jurisdictions. The Surface Mining and Reclamation Act requires the State Geologist (Division of Mines and Geology) to identify all mineral deposits within the state and to classify them as: (1) containing little or no mineral deposits; (2) significant deposits; or (3) deposits identified but further evaluation is needed. Local jurisdictions are required to enact specific plan procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans. A particular concern of the state legislators in enacting the Surface Mining and Reclamation Act was premature loss of minerals and protection of sites threatened by development practices that might preclude future mineral extraction.

Local

City of Los Angeles General Plan Conservation Element

The City of Los Angeles General Plan Conservation Element includes a discussion of mineral resources within the City. The Conservation Element contains two policies pertaining to mineral resources. Section 18 Policy 1 requires that the City continue to implement Surface Mining Reclamation Act provisions to establish extraction operations at appropriate sites; minimize operation impacts on adjacent uses, ecologically important areas and groundwater; protect the health and safety of the public; and require appropriate restoration, reclamation, and reuse of closed sites. Section 19 Policy 3 requires that the City continue to protect neighborhoods from potential accidents and subsidence associated with drilling, extraction, and transport operations, consistent with the California Department of Conservation, Division of Oil and Gas requirements.[142]

City of Los Angeles General Plan Land Use Element: Sun Valley – La Tuna Community Plan

The City of Los Angeles General Plan Land Use Element is comprises 35 community plans to guide the future development of the City. The Sun Valley-La Tuna Canyon Community Plan (within which HSG is located) contains resource management provisions related to mineral resources. Policy 3-1.4 requires the conservation of sand and gravel resources, the minimization of impacts of extraction activities on residential and commercial areas, and the provision for the reclamation and reuse of exhausted pits. A program as a means of

[141] California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Well Finder, search by address, website: http://maps.conservation.ca.gov/doggr/index.html#close, accessed July 13, 2015.

[142] City of Los Angeles Department of City Planning, *City of Los Angeles General Plan Conservation Element,* adopted September 2001, website: http://planning.lacity.org/cwd/gnlpln/consvelt.pdf, accessed July 13, 2015.

implementing Policy 3-1.4 is included within the plan and entails consideration of the future potential use of the LADWP VGS site, adjacent to HSG, as a sand and gravel extraction site.[143]

3.11.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on mineral resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Methodology

The assessment of impacts is based on data collected from the State Geologist and the State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, as well as the City of Los Angeles.

Impact Analysis

MIN-1: *The Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. The impact would be less than significant.*

The Project is located within an urbanized area. According to the City of Los Angeles General Plan and the Sun Valley-La Tuna Canyon Community Plan, there are known mineral resources located within the boundaries of HSG. A portion of HSG is located within a designated MRZ-2 area.[144] The City of Los Angeles General Plan states that many of the MRZ-2 designated sites were developed with structures prior to MRZ classification and, as a result, are unavailable for extraction.[145] Additionally, the southeast portion of HSG is within an area identified as an existing rock and gravel district.[146] However, HSG is currently developed as a spreading grounds facility, and no mining activities currently occur at HSG. The Proposed Project would not substantially alter the existing conditions or function of HSG and would not therefore result in the loss of availability of a known mineral resource.

The State Division of Oil, Gas, and Geothermal Resources does not identify any active wells within DCTWRP, HSG, PSG, or the brine or recycled water pipeline alignment. As such, the Proposed Project would not result in the loss of availability of a known mineral resource that

143 City of Los Angeles Department of City Planning, *Sun Valley – La Tuna Canyon Community Plan,* August 1999.

144 City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps. Areas Containing Significant Mineral Deposits, September 1, 1996.

145 City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Conservation Element.* Adopted September 2001. Available online at: http://planning.lacity.org/cwd/gnlpln/consvelt.pdf. Accessed July 13, 2015.

146 City of Los Angeles Department of City Planning, *Sun Valley – La Tuna Canyon Community Plan General Plan Land Use Map* as of June 13, 2012, website: http://planning.lacity.org/complan/valley/PDF/svyplanmap.pdf, accessed July 13, 2015.

would be of value to the region and the residents of the state. Therefore, impacts related to the availability of mineral resources would be less than significant.

MIN-2: *The Proposed Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The impact would be less than significant.*

As discussed above, the Project is located within an urbanized area. According to the City of Los Angeles General Plan, no portion of DCTWRP, PSG, or the proposed brine or recycled water pipeline alignment is located in an area identified as an MRZ site. However, the HSG is located within a designated MRZ-2 area. The City of Los Angeles General Plan states that much of the MRZ-2 designated sites were developed with structures prior to MRZ classification and, as a result, are unavailable for extraction. The Project would not substantially alter existing conditions or function at HSG.

According to the Sun Valley-La Tuna Canyon Community Plan, the southeast portion of HSG is identified as being within an existing rock and gravel district.[147] However, as discussed above, HSG is currently developed as a spreading grounds facility, and no mining activities currently occur at HSG. The Proposed Project would not substantially alter the existing conditions or function of HSG and would not therefore result in the loss of availability of a known mineral resource. Thus, implementation of the Proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, impacts related to mineral resource recovery sites would be less than significant.

3.11.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to mineral resources. No mitigation measures are required.

3.11.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to mineral resources.

[147] City of Los Angeles Department of City Planning, *Sun Valley – La Tuna Canyon Community Plan General Plan Land Use Map* as of June 13, 2012, website: http://planning.lacity.org/complan/valley/PDF/svyplanmap.pdf, accessed July 13, 2015.

SECTION 3.12
NOISE

This section provides an evaluation of noise and vibration levels associated with construction and operation of the Proposed Project. Topics addressed include short- and long-term increases in ambient noise levels associated with construction and operational activities; potential exposure of sensitive receptors to excessive noise and vibration levels; and mitigation measures to reduce noise and vibration impacts, where feasible. The following analysis is based on the Noise and Vibration Impact Study prepared for the Proposed Project by Terry A. Hayes Associates Inc. and is included as Appendix G of this Draft EIR.

3.12.1 Environmental Setting

Noise

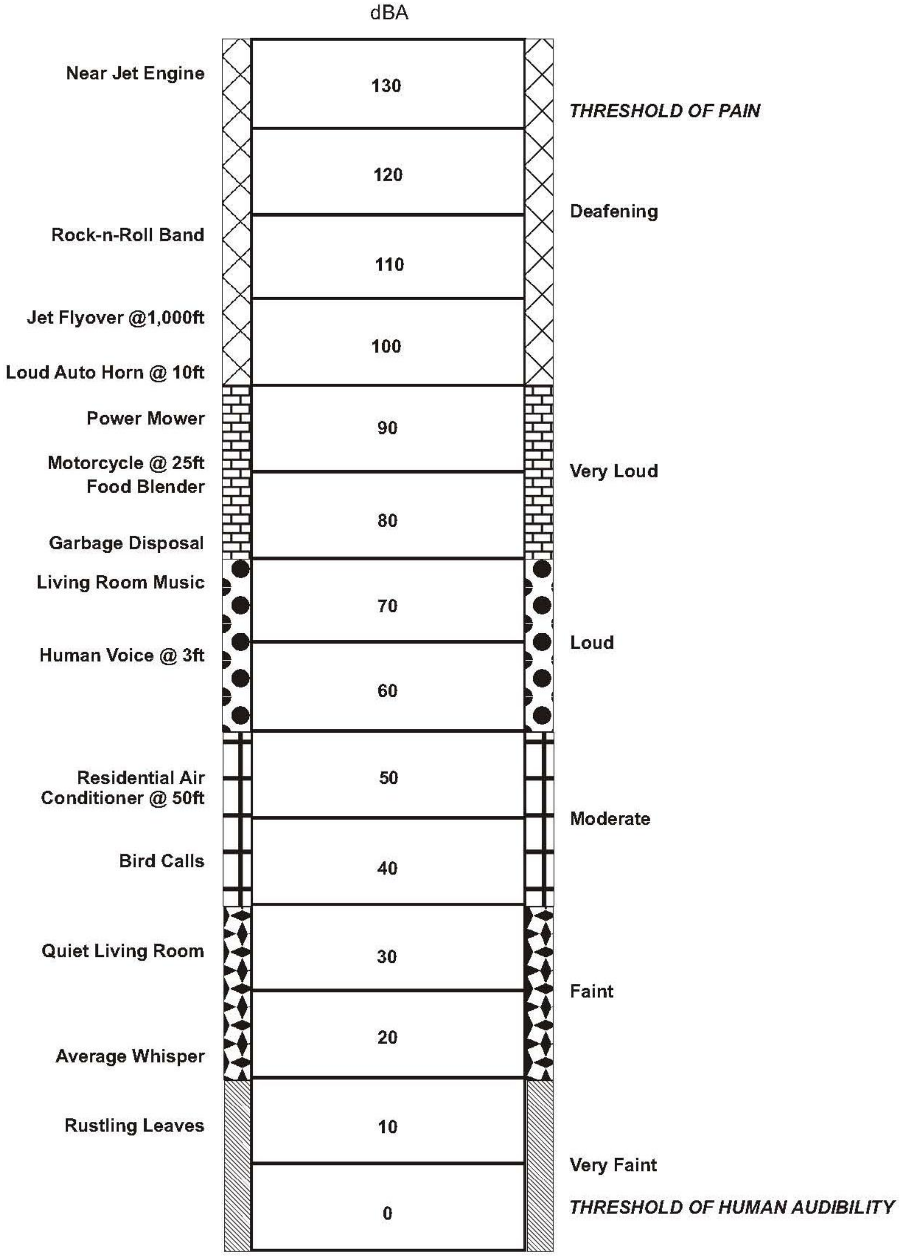
Sound is technically described in terms of the loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The A-weighted scale, abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. Figure 3.12-1 provides examples of A-weighted noise levels from common sounds.

This noise analysis discusses average sound levels in terms of Equivalent Noise Level (L_{eq}) and Community Noise Equivalent Level (CNEL). L_{eq} is the average sound level for any specific time period, on an energy basis. The L_{eq} for one hour is the energy average noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. L_{eq} can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. L_{eq} is expressed in units of dBA.

CNEL is an average sound level during a 24-hour period. CNEL is a noise measurement scale, which accounts for noise source, distance, single-event duration, single-event occurrence, frequency and time of day. Due to the lower background noise level, human reaction to sound between 7:00 p.m. and 10:00 p.m. is as if the sound were actually 5 dBA higher than if it occurred from 7:00 a.m. to 7:00 p.m. From 10:00 p.m. to 7:00 a.m., humans perceive sound as if it were 10 dBA higher. Hence, the CNEL is obtained by adding an additional 5 dBA to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and 10 dBA to sound levels in the night from 10:00 p.m. to 7:00 a.m. Because CNEL accounts for human sensitivity to sound, CNEL is always a higher number than the actual 24-hour average sound level.

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, the nature of work or human activity that is exposed to the noise source.

Figure 3.12-1 A-Weighted Decibel Scale



Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and may evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would likely cause a community response.

Noise levels decrease as the distance from the noise source to the receiver increases. Noise levels generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces (e.g., pavement) and 7.5 dBA over soft surfaces (e.g., grass) for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet over hard surface from the noise source, 77 dBA at a distance of 200 feet, and so on. Noise levels generated by a mobile source will decrease by approximately 3 dBA over hard surfaces and 4.5 dBA over soft surfaces for each doubling of the distance.

Generally, noise is most audible when traveling by direct line-of-sight.[148] In urban environments, barriers, such as walls, berms, or buildings, are often present, which breaks the line-of-sight between the source and the receiver, greatly reducing noise levels from the source since sound can only reach the receiver by bending over the top of the barrier (diffraction). However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced. In situations where the source or the receiver is located 3 meters (approximately 10 feet) above the ground, or whenever the line-of-sight averages more than 3 meters above the ground, sound levels would be reduced by approximately 3 dBA for each doubling of distance.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as rock blasting, pile driving, and heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The VdB acts to compress the range of numbers required to describe vibration.

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that may affect concentration or disturb sleep. In addition, high levels of vibration may damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes).

[148] Line-of-sight is an unobstructed visual path between the noise source and the noise receptor.

In contrast to noise, vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 VdB RMS or lower, well below the threshold of perception for humans which is around 65 VdB RMS. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Existing Noise and Vibration Environment

To characterize the existing noise environment around the project site, ambient noise was monitored using a SoundPro DL Sound Level Meter on Wednesday, July 8, 2015, between 10:00 a.m. and 4:00 p.m. Measurements were also taken on Tuesday, July 14, 2015, between 9:30 a.m. and 1:00 p.m., and on Thursday, March 31, 2016, between 9:30 a.m. and 11:00 a.m. The detailed locations are shown in Figures 3.12-2 through 3.12-5. Measurements were taken for 15-minute periods at each site. As shown in Table 3.12-1, the existing ambient sound levels range between 55.4 and 77.3 dBA L_{eq}. Traffic was the primary source of noise at each site.

Table 3.12-1
Existing Ambient Noise Levels

Figure Key	Noise Monitoring Location	Sound Level (dBA, L_{eq})
1	Single-Family Residence Fronting Victory Blvd. (6403 Densmore Ave.)	77.3
2	Woodley Park (6350 Woodley Ave.)	69.4
3	Japanese Garden - Southwest Corner (6100 Woodley Ave.)	55.4
4	Japanese Garden - Northeast Corner (6100 Woodley Ave.)	56.3
5	Devonshire Arleta Park (14215 Devonshire St.)	68.1
6	Nikkei Senior Gardens (9221 Arleta Ave.)	65.9
7	Devonwood Park (10230 Woodman Ave.)	66.3
8	Single-Family Residence (10534 Arleta Ave.)	60.5
9	Serra Medical Community Clinic (9375 San Fernando Rd.)	76.6

Source: TAHA, 2016

Sensitive Receptors

Sensitive receptors are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. They typically include residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas. The project is located in an urban environment, and many sensitive receptors are located near construction zones. These include, but are not limited to, the Japanese Garden, Woodley Park, Nikkei Senior Gardens, Devonshire Arleta Park, residences, community parks, medical facilities, and religious institutions.

Figure 3.12-2 Noise Monitoring Location – DCTWRP

LEGEND
Project Site Boundary
Noise Monitoring Locations
1. Single-Family Residence
2. Woodley Park
3. Japanese Garden - Southeast Corner
4. Japanese Garden - Northeast Corner

Source: TAHA 2016.

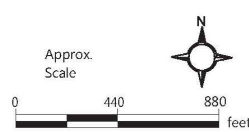
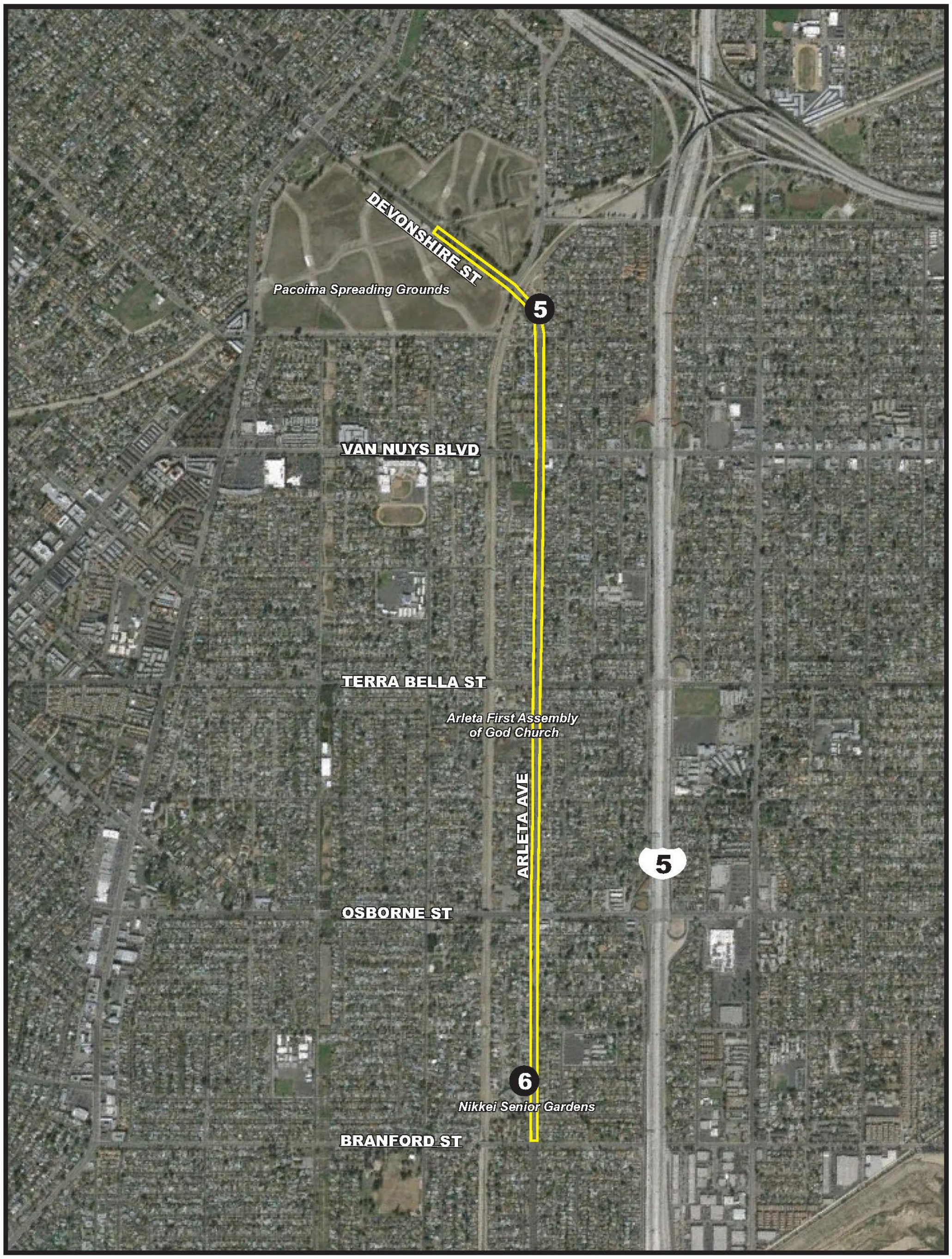


Figure 3.12-3 Noise Monitoring Location – Recycled Water Pipeline



LEGEND
Project Site Boundary
Noise Monitoring Locations
5. Devonshire Arleta Park
6. Nikkei Senior Gardens

Approx. Scale
0 1,150 2,300 feet

Source: TAHA 2016.

Figure 3.12-4 Noise Monitoring Location – PSG

LEGEND
Project Site Boundary
Noise Monitoring Locations
5. Devonshire Arleta Park
7. Devonwood Park
8. Single-Family Residence

Approx. Scale
0 410 820 feet

Source: TAHA 2016.

Figure 3.12-5 Noise Monitoring Location – HSG

Source: TAHA 2016.

3.12.2 Regulatory Setting

Federal

Noise Control Act of 1972

The Noise Control Act of 1972 established programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, the USEPA determined that subjective issues such as noise would be better addressed at local levels of government, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to specific federal agencies and to state and local governments. However, noise control guidelines and regulations contained in the USEPA rulings in prior years remain in place. No federal noise regulations are directly applicable to the Proposed Project.

Federal Transit Administration Guidance

The Federal Transit Administration (FTA) has published guidance for assessing building damage impacts from vibration. Table 3.12-2 shows the FTA building damage criteria for vibration. FTA has also established criteria related to vibration annoyance, which are shown in Table 3.12-3.

Table 3.12-2
Construction Vibration Damage Criteria

Building Category	PPV (inches per second)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA, *Transit Noise and Vibration Impact Assessment*, May 2006.

Table 3.12-3
Construction Vibration Annoyance Criteria

Land Use Category	Vibration Impact Level (VdB re micro-inch per second)		
	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
1. Buildings where vibration would interfere with interior operations.	65[d]	65[d]	65[d]
2. Residences and buildings where people normally sleep.	72	75	80
3. Institutional land uses with primarily daytime use.	75	78	83

[a] Frequent Events are defined as more than 70 vibration events of the same source per day.
[b] Occasional Events” are defined as between 30 and 70 vibration events of the same source per day.
[c] Infrequent Events" are defined as fewer than 30 vibration events of the same kind per day.
[d] This criterion limit is based on levels that are acceptable for most moderately-sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

Source: FTA, *Transit Noise and Vibration Impact Assessment*, May 2006

State

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. State regulations governing noise levels generated by individual motor vehicles and occupational noise control are not applicable to planning efforts, nor are these areas typically subject to CEQA analysis. In addition, there are no adopted State vibration standards.

Local

City of Los Angeles Municipal Code

The City of Los Angeles Municipal Code (LAMC) has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. Regarding construction, Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited) of the LAMC states that no construction or repair work shall be performed between the hours of 9:00 p.m. and 7:00 a.m. on Monday through Friday since such activities would generate loud noises and disturb persons occupying sleeping quarters in any adjacent dwelling, hotel, apartment, or other place of residence. Further, no person, other than an individual home owner engaged in the repair or construction of his/her single-family dwelling, shall perform any construction or repair work of any kind or perform such work within 500 feet of land so occupied before 8:00 a.m. or after 6:00 p.m. on any Saturday, nor at any time on any Sunday or on a federal holiday. Under certain conditions, the City may grant a waiver to allow limited construction activities to occur outside of the limits described above.

LAMC Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools) specifies the maximum noise level of powered equipment or powered hand tools. Any powered equipment or hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet is prohibited. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise-reduction device or techniques during the operation of equipment. In addition, there are no adopted City of Los Angeles vibration standards.

3.12.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact related to noise and vibration if it would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose people to or generate excessive ground-borne vibration or ground-borne noise levels;
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; and/or

- Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Construction Equipment Significance Criteria

Based on the LAMC, the Proposed Project would exceed the local standards and create a substantial temporary increase in noise levels if:

- Construction activities would occur within 500 feet of a noise-sensitive use and outside the hours allowed in the LAMC. The allowable hours of construction in the LAMC include 7:00 a.m. to 9:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturday. No construction activity is allowed on Sundays or federal holidays; and/or
- Equipment noise levels would exceed 75 dBA at 50 feet unless technically infeasible.

Construction Truck Significance Criteria

Project-related truck traffic would occur intermittently during daily construction activities. Truck activity could increase existing daytime noise levels along the roadway network. Based on what is described by Caltrans and FTA as a noticeable increase in mobile source noise, the Proposed Project would have a significant impact related to off-site truck noise if:

- Mobile source noise causes the ambient noise level measured at the property line of the affected uses to increase by 3 dBA.

Operational Significance Criteria

Based on the potential to generate a noticeable noise increase, as stated by the Caltrans and FTA, the Proposed Project would have a significant impact related to operational noise if:

- Operational activities would increase noise levels at sensitive receptors by 5 dBA.

Vibration Significance Criteria

The construction-related vibration analysis considers the potential for building damage and annoyance. There are no standards directly related to a sensitive land use like the Japanese Garden. The Japanese Garden has been assessed using the federal standards for land uses with high sensitivity to vibration. The Proposed Project would result in a significant construction or operational vibration impact if:

- Vibration levels would exceed 0.3 inches per second or 72 VdB at engineered concrete and masonry buildings (e.g., typical residential buildings).
- Vibration levels would exceed 0.12 inches per second or 65 VdB at the Japanese Garden.

Methodology

The noise and vibration analysis considers construction and operational sources. Construction noise levels were based on information obtained from USEPA. Noise levels associated with typical construction equipment were obtained from the Federal Highway Administration (FHWA) Roadway Construction Noise Model. This model predicts noise from construction operations based on a compilation of empirical data and the application of acoustical propagation formulas. Maximum equipment noise levels were adjusted based on anticipated percent of use. Example equipment noise levels at 15 and 50 feet were estimated by making a distance adjustment to the construction source noise level. The methodology used for this analysis can be viewed in Section 2.1.4 (Sound Propagation) of the Caltrans Technical Noise Supplement.

Vibration levels generated by construction equipment were estimated using example vibration levels and propagation formulas provided by FTA. The methodology used for the analysis can be viewed in Section 12.2 (Construction Vibration Assessment) of the FTA guidance.

Impact Analysis

NOI-1: *Short-term and temporary construction activity at DCTWRP, along the proposed recycled water pipeline, and at PSG would expose persons to or generate noise levels in excess of applicable standards established in the local general plan or noise ordinance. With incorporation of Mitigation Measures NOI-A through NOI-H, impacts associated with the recycled water pipeline and PSG would be reduced to a less than significant level. With incorporation of Mitigation Measures NOI-A through NOI-I, impacts associated with DCTWRP, specifically the warehouse, would be reduced, but would result in a significant and unavoidable impact.*

Construction

Noise impacts from construction of the Proposed Project would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. Construction activities typically require the use of numerous pieces of noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed in Table 3.12-4. Noise levels from individual pieces of equipment typically are between 72.6 and 81.0 dBA L_{eq} at 50 feet. Trenching activity typically includes equipment similar to a backhoe or front loader and activity at the spreading grounds would typically include scrapers, graders, and excavators. Pipe jacking, if necessary, would generate noise levels similar to an auger drill rig.

Table 3.12-4 presents anticipated noise levels when construction equipment is operating under full power conditions. However, equipment used on construction sites often operates at less than full power. To more accurately characterize construction-period noise levels, the noise levels shown in Table 3.12-5 take into account the likelihood that multiple pieces of construction equipment would be operating simultaneously and the typical overall noise levels that would be expected for each phase of construction. Based on the types of equipment used for the proposed activity, trenching is best represented by foundation noise levels, construction work at PSG and HSG is best represented by site preparation noise levels, and building-related construction activity is best represented by structural noise levels.

The impact analysis is based on the construction limits in the LAMC. Construction activity would comply with the allowable hours of construction in the LAMC, from 7:00 a.m. to 9:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. on Saturday, and no construction activity on Sundays or federal holidays. The LAMC limits equipment noise levels to 75 dBA at 50 feet unless technically infeasible. Noise levels from individual pieces of equipment would typically range from 72.6 to 81.0 dBA L_{eq} at 50 feet. As a whole process, unmitigated noise levels would typically exceed the allowable noise level stated in the LAMC. There are no sensitive receptors within 1,000 feet of HSG, and there is no potential for construction activity to audibly increase noise levels. However, there are sensitive receptors adjacent to the construction zones at DCTWRP (e.g., the Japanese Garden and Woodley Park), along the recycled water pipeline (e.g., Nikkei Senior Gardens and Devonshire Arleta Park), and at PSG (e.g., residences and parks).

Table 3.12-4
Noise Level Ranges of Typical Construction Equipment

Construction Equipment	Noise Level at 50 feet (dBA)
Backhoe	73.6
Front Loader	75.1
Scraper	79.6
Grader	81.0
Excavator	76.7
Crane	72.6
Concrete Mixer Truck	74.8
Compactor	76.2
Auger Drill Rig	77.4

Source: FHWA, *Roadway Construction Noise Model*, Version 1.1, 2008

Table 3.12-5
Typical Outdoor Construction Noise Levels

Construction Method	Noise Level at 50 feet (dBA, L_{eq})
Ground Clearing	84
Site Preparation	89
Foundations	78
Structural	85
Finishing	89

Source: USEPA, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, PB 206717, 1971

For informational purposes, the noise levels associated with each construction component and phase are discussed below.

Onsite Components

Construction at DCTWRP would include a number of activities. A new warehouse would be constructed in the northwest corner of the complex. This site is currently vacant and partially used for materials storage. This facility would accommodate all warehousing functions at DCTWRP to support both the recycled water treatment and advanced water purification processes. Construction activity would occur approximately 75 feet from the Japanese Garden. It is anticipated that construction activity would generate a noise level of 89 dBA L_{eq} at 50 feet. The existing noise level in the northeast corner of the Japanese Garden is 56.3 dBA L_{eq}. When added to the existing noise level, construction activity would raise the existing noise level by up to 29.2 dBA. The majority of construction activity would occur away from the perimeter and central to the project site. Based on the size of the project site, construction activity would typically be located 250 feet from the perimeter. At this distance, construction activity would generate a noise level of 75.0 dBA, which would raise the existing noise level in the northeast corner of the garden by up to 18.8 dBA. It is not anticipated that construction activity associated with the warehouse would be audible at Woodley Park due to distance (500 feet) and intervening facilities (berms and Japanese Garden walls). Nonetheless, the warehouse would result in a significant impact related to construction noise at the garden. Implementation of Mitigation Measure NOI-A through NOI-I would reduce construction noise impacts associated with the warehouse; however, the impact would be significant and unavoidable.

By relocating and consolidating the warehousing functions to the northern part of DCTWRP, all maintenance functions (i.e., for both recycled water treatment and advanced water purification processes) would be located at the site of the existing maintenance/warehouse complex in the southwest corner of DCTWRP. However, some modification and/or expansion of the existing facilities would be required. These improvements would remain within the overall footprint of the existing maintenance/warehouse facilities site, including vehicle access and parking areas. The line-of-sight between noise-generating activities at the modified facility and the Japanese Garden would be blocked by buildings and an approximately 8-foot wall. It is anticipated that construction activity would generate a noise level of 89 dBA L_{eq} at 50 feet. The existing noise level in the southwest corner of the Japanese Garden is 55.4 dBA L_{eq}. When added to the existing noise level, construction activity would raise the existing noise level by up to 9.2 dBA. In addition, construction activity associated with the maintenance facility would audibly increase noise levels at the portions of Woodley Park closest to the construction zone despite the presence of berms. Therefore, the maintenance facility would result in a significant impact related to construction noise. Implementation of Mitigation Measure NOI-A through NOI-I would reduce construction noise impacts associated with the maintenance facility to less than significant.

A flow equalization tank would be constructed on the eastern side of the project site, approximately 675 feet from the Japanese Garden. The existing noise level in the northeast corner of the Japanese Garden is 56.3 dBA L_{eq}. When added to the existing noise level, and considering intervening structures, construction activity would raise the existing noise level by up to 3.1 dBA. In addition, construction activity associated with the maintenance facility would audibly increase noise levels at the portions of the Woodley Park cricket fields closest to the construction zone despite the presence of berms. Therefore, the flow equalization tank would result in a significant impact related to construction noise. Implementation of Mitigation Measure NOI-A through NOI-I would reduce construction noise impacts associated with the flow equalization tank to less than significant.

The AWPF would be constructed approximately 1,050 feet from the Japanese Garden. To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the main AWPF facility. Numerous structures and buildings intervene and block the line-of-site between the garden and AWPF. There is no potential for construction noise associated with the AWPF to be audible at the Japanese Garden based on distance attenuation and presence of barriers. However, construction activity associated with the AWPF would audibly increase noise levels at the portions of Woodley Park closest to the construction zone despite the presence of berms. Therefore, the AWPF would result in a significant impact related to construction noise. Implementation of Mitigation Measure NOI-A through NOI-I would reduce construction noise impacts associated with the main AWPF facility to less than significant.

The brine line, a newly constructed pipeline, would be constructed along the eastern portion of the DCTWRP property. When trenching activity exits the project site at Victory Boulevard, residences would be located approximately 200 feet to the west. Trenching activity would typically involve a backhoe and front end loader operating simultaneously. The construction-related noise level would be approximately 78 dBA L_{eq} at 50 feet. The existing ambient noise level along Victory Boulevard is approximately 77.3 dBA L_{eq}, and construction activity would increase the existing noise level at residences along Victory Boulevard by approximately 0.2 dBA. In addition, construction activity associated with the brine line would audibly increase noise levels at the portions of Woodley Park closest to the construction zone. Therefore, the brine line would result in a significant impact related to construction noise. Implementation of Mitigation Measure NOI-A through NOI-I would reduce construction noise impacts associated with the brine line to less than significant.

Several ancillary facilities would also be required to support the AWPF and GWR operations at DCTWRP. Due to the electric power demand to operate the AWPF, a new substation would be constructed. A small pump station required to feed the MF process of the AWPF would also be constructed in the south-central part of DCTWRP on a currently vacant site, and several relatively small chemical system facilities necessary to support the AWPF processes would be located adjacent or near the primary AWPF facility. The existing Balboa Pump Station, located in the far southeast corner of the DCTWRP complex, would also be expanded by adding three additional pumps. These facilities would be at least 750 feet from the Japanese Garden with numerous intervening structures and buildings. The existing noise level in the northeast corner of the Japanese Garden is 56.3 dBA L_{eq}. When added to the existing noise level, and considering intervening structures, construction activity would raise the existing noise level by up to 1.0 dBA. However, construction activity associated with ancillary facilities would audibly increase noise levels at the portions of Woodley Park closest to the construction zone despite the presence of berms. Implementation of Mitigation Measure NOI-A through NOI-I would reduce construction noise impacts associated with the brine line to less than significant.

Offsite Components

Construction activity for the recycled water pipeline would use a trenching technique and would proceed northwest along Arleta Avenue from Branford Street, then continue on Devonshire Street into PSG. Nikkei Senior Gardens is located on the southwestern side of Arleta Avenue approximately 400 feet to the northwest of Branford Street, and Arleta First Assembly of God Church is located at the intersection of Arleta Avenue and Garber Street. Construction activity would occur within the Arleta Avenue right-of-way, approximately 50 feet from residences on either side of the street. Trenching activity would typically involve a backhoe and front end loader operating simultaneously. The construction-related noise level would be approximately 78 dBA L_{eq} at 50 feet. The existing ambient noise level along Arleta Avenue is approximately 65.9 dBA L_{eq}, and construction activity would increase the existing noise level at residences along Arleta Avenue by up to 9.6 dBA. This increased noise level would be temporary as trenching activity would move relatively rapidly along the alignment. Therefore, construction of the recycled water pipeline would result in a significant impact related to construction noise. Implementation of Mitigation Measures NOI-A through NOI-H would reduce construction noise impacts associated with the recycled water pipeline to less than significant.

Trenching activity would require lane closures on local roadways. The majority of vehicle noise generated on roadways is related to the generation of sound pressure waves as vehicles pass by the stationary receiver. Vehicles traveling at faster speeds generate larger sound pressure waves and more noise. Lane closures would reduce vehicle speeds and idling noise would not exceed the noise that would have been generated by vehicles traveling at regular speeds. Therefore, construction noise impacts related to vehicle noise would be less than significant.

The PSG property is surrounded by residences, with the closest residences located approximately 75 feet from the spreading grounds. In addition, Devonwood and Devonshire Arleta Parks are approximately 75 and 225 feet from the PSG property, respectively. It is anticipated that construction activity occurring within the PSG property would generate a noise level of 89 dBA L_{eq} at 50 feet. The existing noise levels around the PSG perimeter are between 56.2 and 68.1 dBA L_{eq}. Construction activity occurring at the perimeter of PSG would raise the existing noise level by up to 32.8 dBA. The majority of construction activity would occur away from the perimeter and central to the project site. Based on the size of PSG, construction activity would typically be located over 500 feet from the perimeter. At this distance, construction activity would generate a noise level of 64 dBA, which would raise the existing noise level by up to 8.5 dBA. Therefore, construction at PSG would result in a significant impact related to construction noise. Implementation of Mitigation Measure NOI-A through NOI-H would reduce construction noise impacts associated with PSG to less than significant.

The HSG property is surrounded by industrial and commercial land uses. The nearest sensitive receptor is a residence located approximately 1,175 feet to the south. In addition, the Serra Medical Clinic is located approximately 1,375 feet to the south. The construction-related noise level at the closest residence would be approximately 52 dBA, which would increase the 76.6 dBA L_{eq} existing noise level by less than 0.1 dBA. This increase would be less than the 3-dBA audibility threshold. The noise level increase would be less at the Serra Medical Clinic. There is no potential for construction activity at HSG to audibly increase noise levels at sensitive land uses.

In addition to on-site construction activities, noise would be generated off-site by construction-related trucks and construction worker vehicles. Construction trucks generate higher noise levels than construction worker-related traffic. For example, one heavy-duty truck, traveling 35 miles per hour, generates the equivalent noise of 31 passenger vehicles. It is acknowledged that project-related truck trips would increase the ambient noise levels along haul routes. The impact analysis is based on the potential for truck activity to result in prolonged noise exposure. A doubling of traffic volume is typically needed to audibly increase noise levels along a roadway segment. Table 3.12-6 presents traffic volumes along any sample of roadway segments affected by the Proposed Project. Daily traffic volumes based on the equivalent truck noise levels would not double along any roadway segment. It is commonly assumed that peak-hour traffic is ten percent of daily traffic. Based on this assumption, peak hour volumes would not double along a roadway segment. It is not anticipated that off-site vehicle activity would audibly change average daily noise levels. Therefore, construction noise impacts related to vehicle construction noise would be less than significant.

Table 3.12-6
Proposed Project Offsite Construction Noise Levels

Project Component	Roadway Segment	Vehicle Trips					
		Future No Project	Project-Related Employee Trips	Project-Related Truck Trips	Project-Related Truck Trips (Passenger Vehicle Equivalence)	Future With Project	Percent Change
DCTWRP and associated facilities	Victory Blvd. (Between Woodley Ave. and I-405)	59,469	68	34	1,054	60,591	2%
Recycled Water Pipeline	Arleta Ave. (Between Devonshire St. and Van Nuys Blvd.)	19,638	20	12	372	20,030	2%
PSG	Branford St. (Between Arleta Ave. and I-5)	22,008	27	6	186	22,221	1%
HSG	Branford St. (Between I-5 and San Fernando Rd.)	14,367	27	6	186	14,580	2%

Source**:** TAHA, 2016

Operation

Onsite Components

Each of the project components have been assessed for potential operational impacts. A new warehouse would be constructed in the northwest corner of the complex. This site is currently vacant and partially used for materials storage. This facility would accommodate all warehousing functions at DCTWRP to support both the recycled water treatment and advanced water purification processes. The majority of activity would be interior to the warehouse and would not generate audible noise levels. Vehicles may access the warehouse using the roads adjacent to the Japanese Garden. These roads are currently utilized by maintenance vehicles and trucks. Additional vehicle noise would be intermittent and limited to a few seconds of pass-by noise. It is not anticipated that warehouse-related vehicles would increase noise levels by more than 5 dBA. In addition, it is not anticipated that operational activity associated with the warehouse would be audible at Woodley Park due to distance (500 feet) and intervening facilities (berms and Japanese Garden walls). Therefore, operational noise impacts related to the warehouse would be less than significant.

By relocating and consolidating the warehousing functions to the northern part of DCTWRP, all maintenance functions (i.e., for both recycled water treatment and advanced water purification processes) would be located at the site of the existing maintenance/warehouse complex in the southwest corner of DCTWRP. However, some modification and/or expansion of the existing facilities would be required. These improvements would remain within the overall footprint of the existing maintenance/warehouse facilities site, including vehicle access and parking areas. The noise-generating activities at the modified facility would be identical to the existing activities, which are over 275 feet from the Japanese Garden and not audible. The line-of-sight between noise-generating activities at the modified facility and the gardens would be blocked by buildings and an approximately 8-foot wall. The modified facility would not generate any audible increases in noise at the Japanese Garden. Similarly, the modified facility would not generate any audible increases noise at Woodley Park. Therefore, operational noise impacts related to the modified maintenance facility would be less than significant impact.

The flow equalization tank is a passive operational activity and would not generate substantial noise. Therefore, operational noise impacts related to the flow equalization tank would be less than significant.

The AWPF would be approximately 1,050 feet from the Japanese Garden. To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the main AWPF facility. Numerous structures and buildings intervene and block the line-of-site between the garden and AWPF. It is not anticipated that the AWPF would audibly increase noise levels beyond the DCTWRP property, including at Woodley Park. There is no potential for noise associated with the AWPF to be audible at the Japanese Garden or Woodley Park based on distance attenuation, barriers, and berms. Therefore, operational noise impacts related to the AWPF would be less than significant.

The brine line would be subterranean, and would not generate audible noise. Therefore, operational noise impacts related to the brine line would be less than significant.

Several ancillary facilities would also be required to support the AWPF and GWR operations at DCTWRP. Due to the electric power demand to operate the AWPF, a new substation would be constructed. A small pump station would also be constructed in the south-central part of DCTWRP on a currently vacant site, and several relatively small chemical system facilities necessary to support the AWPF processes would be located adjacent or near the primary AWPF facility. The existing Balboa Pump Station, located in the far southeast corner of the DCTWRP complex, would also be expanded by adding three pumps. These facilities would be at least 750 feet from the Japanese Garden with numerous intervening structures and buildings. There is no potential for noise associated with the AWPF to be audible at the Japanese Garden based on distance attenuation and presence of barriers. Existing pump noise associated with the Balboa Pump Station is not audible beyond the DCTWRP property due to the existing berm. It is not anticipated that additional equipment would audibly increase noise levels beyond the DCTWRP property, including at Woodley Park. Therefore, operational noise impacts related to the ancillary facilities would be less than significant.

Offsite Components

Purified water would be conveyed to PSG via the proposed 42-inch pipeline that would branch off the existing 54-inch line at Branford Street and Arleta Avenue. The pipeline would be subterranean, and would not generate audible noise. Therefore, operational noise impacts related to the recycled water pipeline would be less than significant.

Two new outlet structures and a flow meter would be constructed in the center of the PSG property. Based on monitoring of an existing outlet structure, it is anticipated that these facilities would generate a noise level of approximately 60 dBA L_{eq} at five feet. At the closest point, an outlet structure would be approximately 475 feet from a sensitive receptor. The existing noise levels around the PSG perimeter are between 56.2 and 68.5 dBA L_{eq}. The maximum increase would be less than 0.1 dBA. This increase would be less than the 5-dBA threshold. There is no potential for operational activity at PSG to audibly increase noise levels at sensitive receptors. Therefore, operational noise impacts related to PSG would be less than significant.

A new outlet structure would be located on the southeast side of the HSG property. The outlet structure would increase noise levels at the nearest sensitive receptor by less than 0.1 dBA based on the 59 dBA L_{eq} at 5 feet reference noise level and the approximately 2,000-foot from the source to the receptor. This increase would be less than the 5-dBA threshold. There is no potential for operational activity at HSG to audibly increase noise levels at sensitive receptors. Therefore, operational noise impacts related to HSG would be less than significant.

A doubling of traffic volumes is needed for a person with normal hearing to perceive an increase in mobile noise levels. There is no potential for the increase in operational activity to double traffic volumes on the roadway system based on an additional 16 daily employees and 7 chemical deliveries per month. Therefore, operational mobile noise impacts related to the Proposed Project would be less than significant.

NOI-2: *Construction of the warehouse at DCTWRP, although temporary, would generate vibration levels that would expose persons to excessive groundborne vibration or groundborne noise levels and interfere with events at the Japanese Garden. With implementation of Mitigation Measure NOI-J, impacts would be less than significant.*

Construction

Construction activity can generate varying degrees of vibration, depending on the procedure and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, and to slight damage at the highest levels. In most cases, the primary concern regarding construction vibration relates to damage. However, land uses that are designed to be serene environments, such as the Japanese Garden, warrant added protection from vibration annoyance. Community parks are not typically considered sensitive to short-term vibration levels.

The FTA provides vibration levels for various types of construction equipment with an average source level reported in terms of velocity. Table 3.12-7 provides estimates of vibration levels for a wide range of soil conditions. The reference levels were used to estimate vibration levels at the sensitive receptors most likely to be impacted by equipment at each location of construction activity. Vibration levels are shown in Table 3.12-8 and discussed in detail for each construction component.

Onsite Components

Construction at DCTWRP would include a number of activities, each of which are assessed in Table 3.12-8. The Japanese Garden is particularly sensitive to increased vibration levels. Construction activity would utilize equipment that is best characterized in Table 3.12-7 by large bulldozers, such as an excavator. The nearest structure would be approximately 75 feet from equipment activity, and the vibration level would be 0.017 inches per second. This would be below the 0.12 inches per second significance threshold designed for buildings extremely susceptible to vibration damage.

Table 3.12-7
Vibration Velocities for Construction Equipment

Equipment	PPV at 25 feet Inches/Second)	Approximate L_v at 25 feet[a]
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

[a] RMS velocity in decibels (VdB) related to 1 micro-inch/second.
Source: Federal Transit Authority, *Transit Noise and Vibration Impact Assessment*, May 2006

Table 3-12.8
Estimated Vibration Levels

Component and Phase	Receptor	Distance (Feet)	Vibration Level	
			Inches/Second[a]	VdB[b]
Donald C. Tillman Water Reclamation Plant				
Warehouse	Japanese Garden	75	0.017	73
Maintenance Building	Japanese Garden	275	0.002	56
Flow Equalization Tank	Japanese Garden	675	0.001	44
AWPF	Japanese Garden	1,050	0.0003	38
Brine Line	Residences	200	0.002	52
Balboa Pump Station	Japanese Garden	750	0.001	43
Recycled Water Pipeline				
	Residences, Nikkei Senior Gardens, and Religious Facilities	50	0.012	70
Pacoima Spreading Grounds				
	Residences	75	0.017	73
Hansen Spreading Grounds				
	Residence	1,175	0.0003	37

[a] The applicable building damage impact criterion is 0.3 inches per second.
[b] The applicable annoyance impact criterion for residences experiencing frequent events (i.e., over 70 vibration events from the same source per day) is 72 VdB. Activity occurring at the property boundary of PSG was assessed as an occasional event (i.e., between 30 and 70 vibrations events from the same source per day). The applicable annoyance impact criterion is 75 VdB.
Source: TAHA, 2016

Regarding annoyance, the nearest walking path with the garden would be approximately 75 feet from construction activity. The typical vibration level generated by equipment would be 73 VdB. FTA has not established vibration impact criteria for sensitive outdoor spaces. It was determined that the most strict FTA impact criteria would be relevant to the Japanese Garden, which is 65 VdB for buildings where vibration would interfere with interior operations. Equipment activity would exceed 65 VdB at up to 140 feet from the source. This distance covers a small portion of the northwest corner of the Japanese Garden. In addition, the equipment associated with construction of the warehouse would be short-term and intermittent events. As shown in Table 3.12-8, no other phase of DCTWRP construction activity would exceed the 65 VdB significance threshold. Nonetheless, construction equipment would result in a significant construction vibration impact within a portion of the Japanese Garden. Implementation of Mitigation Measure NOI-J would reduce construction vibration impacts to less than significant.

DCTWRP construction activity includes the brine line. Construction activity would use a trenching technique, and would be located approximately 200 feet from residences on Victory Boulevard. Trenching activity would utilize equipment that is best characterized in Table 3.12-7 by jackhammers and small bulldozers. The typical vibration level generated by trenching and paving equipment would be 0.002 inches per second at the closest building, which would not exceed the 0.3 inches per second significance threshold for building damage. Construction vibration related to trenching (e.g., pavement breaking) would be a frequent event (more than 70 vibrations events from the same source per day). The typical vibration level generated by trenching equipment would be 52 VdB, which would not exceed the 72 VdB significance thresholds for residential annoyance. Therefore, construction vibration impacts related to the brine line trenching activity would be less than significant.

Offsite Components

Construction activity for the recycled water pipeline would use a trenching technique and would proceed northwest along Arleta Avenue from Branford Street, then continue on Devonshire Street into PSG. Nikkei Senior Gardens is located on southwestern side of Arleta Avenue approximately 400 feet to the northwest of Branford Street, and Arleta First Assembly of God Church is located at the intersection of Arleta Avenue and Garber Street. Construction activity would occur within the Arleta Avenue right-of-way, approximately 50 feet from residences on either side of the street. Trenching activity would utilize equipment that is best characterized in Table 3.12-7 by jackhammers and small bulldozers. The typical vibration level generated by trenching and paving equipment would be 0.017 inches per second at the nearest residential buildings and Nikkei Senior Gardens, which would not exceed the 0.3 inches per second significance threshold for building damage. Construction vibration related to trenching (e.g., pavement breaking) would be a frequent event (more than 70 vibrations events from the same source per day). The typical vibration level generated by trenching equipment would be 70 VdB, which would not exceed the 72 VdB significance threshold for residential annoyance. Therefore, construction vibration impacts related to recycled water pipeline trenching activity would be less than significant.

The PSG property is surrounded by residences, with the closest residences located approximately 75 feet from the spreading grounds. Construction activity would utilize equipment that is best characterized in Table 3.12-7 by large bulldozers, such as an excavator. The typical vibration level generated by equipment would be 0.017 inches per second at the nearest residential buildings, which would not exceed the 0.3 inches per second significance threshold for building damage. Construction vibration occurring directly along the 75-foot receptor distance at the property boundary would be an occasional event (between 30 and 70 vibrations events from the same source per day) as the majority of activity would be central to the construction area. The typical vibration level generated by equipment would be 73 VdB, which would not exceed the 75 VdB significance thresholds for annoyance. Therefore, construction vibration impacts related to the proposed improvements at PSG would be less than significant.

The HSG property is surrounded by industrial and commercial land uses. The nearest sensitive receptor is a residence located approximately 1,175 feet to the southwest. Construction-related vibration from damage and annoyance would not be perceptible at this residence due to distance attenuation. Therefore, construction vibration impacts related to HSG would be less than significant.

In addition to construction activities, construction trucks on the roadway network have the potential to expose vibration-sensitive land uses located near the Proposed Project access route. As shown in Table 3.12-7, loaded trucks generate vibration levels of 0.076 inches per second at a distance of 25 feet. Rubber-tired vehicles, including trucks, do not generate significant roadway vibrations that can cause building damage. It is possible that trucks would generate perceptible vibration at sensitive receptors adjacent to the roadway. However, these would be transient and instantaneous events typical to the roadway network. This level of activity is not considered substantial enough to generate a vibration annoyance. Therefore, construction vibration impacts related to truck activity would be less than significant.

Operation

The primary sources of vibration during operation of the Proposed Project would include vehicles traveling to the Project site for routine inspection and maintenance activities. Vehicular movements would generate similar vibration levels as existing traffic conditions. The Proposed Project would not introduce any significant stationary sources of vibration, including mechanical equipment that would be perceptible at sensitive receptors. Therefore, vibration impacts related to operation of the Proposed Project would be less than significant.

NOI-3: *Operation of the Proposed Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. The impact would be less than significant.*

As discussed above, permanent operational noise levels were considered for each Project component. Operational activity would not generate mechanical or mobile noise that would exceed the significance thresholds. Therefore, permanent noise impacts related to operation of the Proposed Project would be less than significant.

NOI-4: *Construction of the Proposed Project would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. With incorporation of Mitigation Measures NOI-A through NOI-H, impacts associated with the recycled water pipeline and PSG would be reduced to a less than significant level. With incorporation of Mitigation Measures NOI-A through NOI-I, impacts associated with DCTWRP, specifically the warehouse, would be reduced, but would result in a significant and unavoidable impact.*

As described above, sensitive receptors adjacent to the construction zones at DCTWRP (e.g. Japanese Garden), along the recycled water pipeline (e.g. Nikkei Senior Gardens and Devonshire Arleta Park), and at PSG (e.g. residences) would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but equipment noise levels would exceed 75 dBA at the nearest sensitive receptors. Implementation of Mitigation Measures NOI-A through NOI-H would reduce temporary and periodic construction noise levels at the recycled water pipeline and PSG to less than significant. Implementation of Mitigation Measures NOI-A through NOI-I would reduce temporary and periodic construction noise levels at the Japanese Garden but would result in a significant and unavoidable impact.

NOI-5: *The Proposed Project would not expose people working or residing in the Project area to excessive noise associated with an airport land use plan or within two miles of a public airport. The impact would be less than significant.*

Onsite Components

DCTWRP is not located within an airport land use plan, but is located within 2 miles of a public airport. The nearest airport to the Project site is the Van Nuys Airport located approximately 0.8-mile to the northwest. As the Project site currently functions as a water treatment facility, operation of the Proposed Project would be similar to existing conditions. Therefore, the Proposed Project would not expose people working or residing in the Project area to excessive noise within two miles of a public airport. The impact would be less than significant.

Offsite Components

The recycled water pipeline, PSG, and HSG are not located within an airport land use plan, but are located within 2 miles of a public airport. The Whiteman Airport is approximately 0.6-mile northwest of the HSG property, approximately 1.5 miles east of the PSG property, and ranges from approximately 1.8 to 2 miles northeast of the proposed recycled water pipeline. As PSG and HSG currently function as spreading ground facilities and the recycled water pipeline would exist below ground, operation of the offsite components would be similar to existing conditions. Therefore, the Proposed Project would not expose people working or residing in the Project area to excessive noise within two miles of a public airport. The impact would be less than significant.

NOI-6: *The Proposed Project would not expose people working or residing in the Project area to excessive noise associated with a private airstrip. No impact would occur.*

The Project site is not located near a private airstrip. Therefore, no noise impacts to people working or residing in the Project area would occur.

3.12.4 Mitigation Measures

NOI-A For construction activities lasting more than three months in one location and within 500 feet of a sensitive receptors, temporary barriers (e.g., noise blankets) shall be placed between the equipment and sensitive receptor.

NOI-B Construction equipment shall be properly maintained and equipped with mufflers.

NOI-C Rubber-tired equipment, rather than tracked equipment, shall be used when feasible.

NOI-D Equipment shall be turned off when not in use for an excess of five minutes, except for equipment that requires idling to maintain performance.

NOI-E A public liaison shall be appointed for Project construction who would be responsible for addressing public concerns about construction activities, including excessive noise. As needed, the liaison shall determine the cause of the concern (e.g., starting too early, bad muffler) and implement measures to address the concern.

NOI-F The public shall be notified in advance of the location and dates of construction hours and activities.

NOI-G Truck routes shall be limited to major arterial roads located within non-residential areas, when feasible.

NOI-H Construction activities shall be prohibited between the hours of 9:00 p.m. and 7:00 a.m. when located within 500 feet of occupied sleeping quarters or other land uses sensitive to increased nighttime noise levels.

NOI-I The site administrator for the Japanese Garden shall be consulted to discuss construction activities associated with the warehouse that may generate high noise levels (e.g., heavy-duty equipment activity near the warehouse). If construction-related noise interferes with an event at the Japanese Garden, the activity shall be stopped until the event is over, or another construction technique is used that eliminates the noise disturbance.

NOI-J The site administrator for the Japanese Garden shall be consulted to discuss construction activities associated with the warehouse that may generate perceptible vibration (e.g., heavy-duty equipment activity). If construction-related vibration interferes with an event at the Japanese Garden, the activity shall be stopped until the event is over, or another construction technique is used that eliminates perceptible vibration.

3.12.5 Significance After Mitigation

Mitigation Measures NOI-A through NOI-I are designed to reduce construction noise levels. When the line-of-sight would be blocked from the equipment to the receptor, the barriers associated with Mitigation Measure NOI-A would reduce construction noise levels by approximately 5 dBA. The equipment mufflers associated with Mitigation Measure NOI-B would reduce construction noise levels by approximately 3 dBA. Mitigation Measures NOI-C through NOI-H, although difficult to quantify, would also reduce and/or control construction noise levels. Mitigation Measure NOI-I would ensure that construction noise would not disrupt activities at the Japanese Garden. Temporary noise barriers were considered for placement along the recycled water pipeline and PSG. However, such barriers were determined to be infeasible along the recycled water pipeline for multiple reasons, including safety at intersections and cost effectiveness given the transient and short-term nature of the proposed construction activity in any one location. Other measures included the following:

- Electric Equipment - Electric equipment would generate less noise than diesel equipment but is not widely available and the horsepower associated with electric equipment would not meet project requirements.
- Relocation - Removing the affected land uses from the construction zone would eliminate the impact. This measure would not be feasible due to the number of affected land uses and associated cost of relocation.
- Window Retrofits - Retrofitting windows at affected land uses would reduce noise exposure. This measure would not be feasible due to the number of affected land uses and associated cost of retrofitting considering the temporary nature of the noise from construction.

Based on compliance with the LAMC, construction equipment noise would be mitigated. The implementation of Mitigation Measures NOI-A through NOI-H would reduce noise impacts associated with the recycled water pipeline and PSG to a less than significant level. However, the Japanese Garden relies on a serene noise setting and is particularly sensitive to increased noise, especially instantaneous noise spikes. Construction activity, especially associated with the warehouse, would generate audible noise at the Japanese Garden. This is considered a significant and unavoidable impact despite the implementation of mitigation measures.

Mitigation Measure NOI-J ensures that construction of the warehouse would not generate perceptible vibration that interferes with events at the Japanese Garden. In addition, the vibration impact would extend 140 feet from the source, which covers from the edge of the construction zone to a small portion of the northwest corner of the Japanese Garden. Much of the warehouse construction area is further than 140 feet from the Japanese Garden. The unmitigated vibration impact is not considered significant given the intermittent nature of construction vibration from heavy-duty equipment and that much of the construction zone is beyond 140 feet from the Japanese Garden, and that Mitigation Measure NOI-J would prevent vibration from interfering with events. Implementation of Mitigation Measure NOI-J would ensure construction vibration impacts would be less than significant.

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SECTION 3.13
POPULATION AND HOUSING

This analysis in this section uses population, employment, and household and housing information to determine the potential for the Proposed Project to cause substantial population growth or accelerate growth that exceeds projected or planned levels.

3.13.1 Environmental Setting

The environmental setting for this section presents the baseline population, employment, and housing conditions in the vicinity of the Project area, which includes those areas immediately surrounding DCTWRP, the proposed recycled water pipeline, PSG, and HSG. Baseline conditions also include a presentation of information related to Los Angeles County as a whole, which is used to contextualize the information presented for the area surrounding the Proposed Project. Because population and housing impacts can accrue to areas outside of a project's direct footprint, the community areas around the Proposed Project sites were used for this analysis. The project footprints are located within the City of Los Angeles. DCTWRP is located within the Encino-Tarzana Community Plan area. PSG spans the border between the Mission Hills-Panorama City-North Hills Community Plan area to the northwest and Arleta-Pacoima Community Plan area to the southeast. The proposed recycled water pipeline is also located within the Arleta-Pacoima Community Plan area. HSG is located within the Sun Valley-La Tuna Canyon Community Plan area. The environmental setting is based on these geographies, depending on the availability of data from SCAG and the City of Los Angeles Department of City Planning (LADCP).

Population

Table 3.13-1 illustrates the annual average population growth rates for the City of Los Angeles and Los Angeles County for the periods 2003 to 2008 and 2008 to 2035. The total population for the City in 2008, according to SCAG, was approximately 3,770,500 residents. According to SCAG projections, the City of Los Angeles will experience an average annual rate of growth of 0.5 percent from 2008 to 2035. This rate of growth is similar to the projected rate of growth for Los Angeles County as a whole (0.6 percent).

Table 3.13-1
Population Growth for the Study Area (2003-2035)

Location	Population					Average Annual Growth 2003-2008	Average Annual Growth 2008-2035
	2003	2005	2008	2020	2035		
City of Los Angeles	3,885,816	3,955,392	3,770,500	3,991,700	4,320,600	-0.6%	0.5%
County of Los Angeles	10,034,571	10,206,001	9,778,000	10,404,000	11,353,000	-0.5%	0.6%

Source: SCAG 2008, Adopted 2008 RTP Growth Forecast, by City; SCAG 2013, Adopted 2012 RTP Growth Forecast

Table 3.13-2 presents the estimated population for Community Plan areas that comprise the study area. The total population for those Community Plan areas within the study area in 2009, according to LADCP, was approximately 416,832 residents. Of that total, the smallest population, approximately 18.0 percent, or 75,221 residents, lived in the Encino-Tarzana Community Plan area. The Mission Hills-Panorama City-North Hills Community Plan area had the largest population of all study area Community Plan areas with 145,080 people, representing 34.8 percent of the total study area Community Plan area population.

Table 3.13-2
Population for the Study Area Community Plan Areas (2009)

Location	Population	
	2009	% of Study Area
Arleta-Pacoima	104,453	25.1%
Encino-Tarzana	75,221	18.0%
Mission Hills-Panorama City-North Hills	145,080	34.8%
Sun Valley-La Tuna Canyon	92,078	22.1%
Study Area Community Plan Area Total	416,832	100.0%
City of Los Angeles	4,003,500	N/A

Source: LACPD 2015

Employment

According to SCAG, in 2008, the City of Los Angeles had approximately 1,735,200 employed residents (see Table 3.13-3). The County of Los Angeles had approximately 4,340,000 employed residents in 2008. From 2003 to 2008, the annual average employment growth rate for both the City and County of Los Angeles was -0.1 percent, which was likely a result of the national recession that occurred between December 2007 and June 2009. Annual average employment growth projections from 2008 to 2035 for the City and County are at 0.4 percent. By 2035, it is projected that the City of Los Angeles will have 1.9 million employed residents and that the County will have 4.8 million employed residents.

Table 3.13-3
Employment Growth for the Study Area (2003-2035)

Location	Employed Residents					Average Annual Growth 2003-2008	Average Annual Growth 2008-2035
	2003	2005	2008	2020	2035		
City of Los Angeles	1,744,432	1,764,768	1,735,200	1,817,700	1,906,800	-0.1%	0.4%
County of Los Angeles	4,353,490	4,397,025	4,340,000	4,558,000	4,827,000	-0.1%	0.4%

Source: SCAG 2008, Adopted 2008 RTP Growth Forecast, by City; SCAG 2013, Adopted 2012 RTP Growth Forecast

As shown in Table 3.13-4, the leading employment sector within Los Angeles County in 2012 was office and administrative support occupations (16.1 percent), followed by sales and retail occupations (10.0 percent), and food preparation and serving related occupations (8.0 percent). The smallest proportion of Los Angeles County workers were employed within the farming, fishing, and forestry occupations at 0.1 percent. In 2012, estimated employment for construction and extraction occupations was 112,910 workers, while 118,010 workers were estimated with installation, maintenance, and repair occupations. An estimated 284,520 people were employed with transportation and material moving occupations, representing 6.6 percent of the regional total.

Table 3.13-4
Occupational Employment Projections for Los Angeles County (2012-2022)

Occupational Title	Los Angeles County				
	2012 Estimated Employment	Percent	2022 Projected Employment	Percent	Annual Average Growth 2012-2022
Management Occupations	255,450	5.9%	283,150	5.8%	1.1%
Business and Financial Operations Occupations	231,120	5.3%	264,780	5.4%	1.5%
Computer and Mathematical Occupations	97,830	2.3%	115,180	2.4%	1.8%
Architecture and Engineering Occupations	69,080	1.6%	72,660	1.5%	0.5%
Life, Physical, and Social Science Occupations	39,910	0.9%	46,370	1.0%	1.6%
Community and Social Service Occupations	70,000	1.6%	80,300	1.6%	1.5%
Legal Occupations	47,160	1.1%	52,540	1.1%	1.1%
Education, Training, and Library Occupations	254,100	5.9%	279,950	5.7%	1.0%
Art, Design, Entertainment, Sports, and Media Occupations	200,650	4.6%	217,470	4.5%	0.8%
Healthcare Practitioners and Technical Occupations	206,940	4.8%	242,480	5.0%	1.7%
Healthcare Support Occupations	96,650	2.2%	116,180	2.4%	2.0%
Protective Service Occupations	109,070	2.5%	121,950	2.5%	1.2%
Food Preparation and Serving Occupations	345,010	8.0%	413,330	8.5%	2.0%
Building and Grounds Cleaning and Maintenance Occupations	131,970	3.1%	148,130	3.0%	1.2%
Personal Care and Service Occupations	259,090	6.0%	363,970	7.5%	4.0%
Sales and Related Occupations	430,590	10.0%	473,920	9.7%	1.0%
Office and Administrative Support Occupations	695,620	16.1%	738,020	15.1%	0.6%
Farming, Fishing, and Forestry Occupations	5,320	0.1%	5,500	0.1%	0.3%
Construction and Extraction Occupations	112,910	2.6%	140,460	2.9%	2.4%
Installation, Maintenance, and Repair Occupations	118,010	2.7%	135,350	2.8%	1.5%
Production Occupations	262,020	6.1%	245,850	5.0%	-0.6%
Transportation and Material Moving Occupations	284,520	6.6%	318,960	6.5%	1.2%
Total, All Occupations	4,322,900	100.0%	4,876,600	100.0%	1.3%

Source: California Employment Development Department 2014

General trends in the projected number of workers for Los Angeles County in 2022 are similar to 2012 estimates, with the most number of workers in the office and administrative support occupations, sales and related occupations, and food preparation and serving occupations. However, the occupations associated with personal care and service are expected to see the highest rate of annual average growth from 2012 to 2022 (4.0 percent), followed by construction and extraction occupations (2.4 percent), healthcare support occupations (2.0 percent), and food preparation and serving occupations (2.0 percent). Production occupations are the only major industry projected to see negative average annual growth between 2012 and 2022 (-0.6

percent). Installation, maintenance, and repair occupations are projected to increase by an annual average rate of 1.5 percent from 2012 to 2022. Transportation and material moving occupations are projected to increase by an annual average rate of 1.2 percent during this same time span.

Households and Housing

Table 3.13-5 illustrates the annual average housing growth rate for the City of Los Angeles and Los Angeles County for the periods 2003 to 2008 and 2008 to 2035. In 2008 the number of households was 1,309,900 in the City of Los Angeles and over 3.5 million in Los Angeles County as a whole. During the 2003 to 2008 period, the City of Los Angeles experienced an annual average growth rate in the number of households of 0.3 percent, which is the same annual average growth rate seen in the County. From 2008 to 2035, the City of Los Angeles is expected to experience an annual average growth rate in the number of households of 0.9 percent, which is higher than the rate for Los Angeles County for that same time span (0.7 percent). By 2035, the number of households in the City and County of Los Angeles is projected to be 1,626,600 and 3,852,000, respectively.

Table 3.13-5
Household Growth for the Study Area (2003-2035)

Location	Employed Residents					Average Annual Growth 2003-2008	Average Annual Growth 2008-2035
	2003	2005	2008	2020	2035		
City of Los Angeles	1,290,422	1,306,079	1,309,900	1,455,700	1,626,600	0.3%	0.9%
County of Los Angeles	3,177,439	3,212,434	3,228,000	3,513,000	3,852,000	0.3%	0.7%

Source: SCAG 2008, Adopted 2008 RTP Growth Forecast, by City; SCAG 2013, Adopted 2012 RTP Growth Forecast

Table 3.13-6 presents the estimated number of housing units for those Community Plan areas that comprise the study area. The total number of housing units for those Community Plan areas within the study area in 2009, according to LADCP, was approximately 117,045. Of that total, approximately 26.8 percent, or 31,389 housing units, were located in the Encino-Tarzana Community Plan area. The Mission Hills-Panorama City-North Hills Community Plan area had the largest number of housing units of all study area Community Plan areas with 39,223 units, representing 33.5 percent of the total study area Community Plan area housing units.

Table 3.13-6
Housing Units for Study Area Community Plan Areas (2009)

Location	Housing Units	
	2009	% of Study Area
Arleta-Pacoima	22,520	19.2%
Encino-Tarzana	31,389	26.8%
Mission Hills-Panorama City-North Hills	39,223	33.5%
Sun Valley-La Tuna Canyon	23,913	20.4%
Study Area Community Plan Area Total	117,045	100.0%
City of Los Angeles	1,393,986	N/A

Source: LACPD 2015

As showing in Table 3.13-7, in 2013, the City of Los Angeles had over 1.4 million housing units, of which 92.9 percent were occupied. Of those occupied units, an estimated 37.6 percent were occupied by the owner. Los Angeles County had over 3.4 housing units, of which 93.6 percent were occupied. The rate of owner occupancy for the County was 46.9 percent.

Table 3.13-7
Estimated Housing Tenure (2009-2013)

Location	Total Housing Units	Occupied Housing Units	Percent Occupied	Owner Occupied	Renter Occupied	Percent Owner Occupied	Percent Renter Occupied
City of Los Angeles	1,422,368	1,320,960	92.9%	496,363	824,597	37.6%	62.4%
County of Los Angeles	3,452,901	3,230,383	93.6%	1,515,098	1,715,285	46.9%	53.1%

Source: U.S. Census Bureau 2014

3.13.2 Regulatory Setting

Local

City of Los Angeles General Plan, Housing Element

The City of Los Angeles General Plan is a comprehensive, long range declaration of the purposes, policies, and programs for the development of the City. With regard to population and housing, the most applicable goals, objectives, and policies are located within the Housing Element. The following policies from the Housing Element are applicable to the Proposed Project considering the proposed infrastructure improvements:

- Policy 2.2.3: Promote and facilitate a jobs/housing balance at a citywide level.
- Policy 2.4.1: Promote preservation of neighborhood character in balance with facilitating new development.

Arleta-Pacoima Community Plan

As part of the City of Los Angeles General Plan, each Community Plan has a specific Land Use Element that outlines goals, objectives, and policies. For the Arleta-Pacoima Community Plan area, the following policy is applicable to the Proposed Project:

- Industrial development should provide employment opportunities for community residents.

Encino-Tarzana Community Plan

For the Encino-Tarzana Community Plan area, the following policy is applicable to the Proposed Project:

- Policy 3-1.1: Designate lands for the continuation of existing industrial uses, research and development uses which provide employment opportunities.

Mission Hills-Panorama City-North Hills Community Plan

For the Mission Hills-Panorama City-North Hills Community Plan area, the following policy is applicable to the Proposed Project:

- Policy 3-1.1: Designate lands for the continuation of existing industry and development of new industrial parks, research and development uses, light manufacturing, and similar uses which provide employment opportunities.

Sun Valley-La Tuna Canyon Community Plan

For the Sun Valley-La Tuna Canyon Community Plan area, no policies are directly applicable to the Proposed Project with regard to population and housing.

3.13.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact in population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Methodology

The assessment of impacts concerning population and housing is based on data collected from SCAG, the U.S. Census Bureau, LADCP, and the California Economic Development Department.

Impact Analysis

POP-1: *The Proposed Project would not induce substantial population growth, either directly or indirectly. The impact would be less than significant.*

Construction

As discussed in Chapter 2, Description of the Proposed Project, construction begins in the fourth quarter of 2018 with an estimated 20 construction workers. The total number of estimated workers peaks in the third quarter of 2020 through the first quarter of 2021 with 88 before ultimately decreasing to 46 estimated workers during the last quarter of construction in the fourth quarter of 2022.

The number of construction personnel would vary from day to day, but an average of 68 personnel per day is estimated for the heaviest period of onsite component construction and 20 personnel per day is estimated for the heaviest period of offsite component construction. Given the temporary nature of construction industry jobs, the relatively large regional construction industry, and the relatively nominal total number of construction workers needed during any quarter, it is likely that the labor force from within the region would be sufficient to complete onsite and offsite component construction without a substantial influx of new workers and their families, and that relocation within the region would be minimal. Accordingly, new construction employment generated by the Proposed Project would not impact population in the region. Therefore, construction of the proposed onsite and offsite components would not directly induce substantial population growth, and the impact would be less than significant.

Operation

Operations of the onsite facilities would require approximately 16 staff beyond those currently employed at DCTWRP; offsite facilities would not require additional personnel. Given the relatively large regional industrial facilities management and repair industry and the nominal total number of operations workers needed, it is likely that the labor force from within the region would be sufficient to operate onsite and offsite components without a substantial influx of new workers and their families, and that relocation within the region would be minimal. Accordingly, employment generated by the operation of the Proposed Project would not impact population in the region. Therefore, operations of the proposed onsite and offsite components would not directly induce substantial population growth and the impact would be less than significant.

The fundamental purpose of the Proposed Project is to reduce the City's dependence on imported water sources by increasing the local groundwater supply available for potable use. With Project implementation, imported water supplies would be offset by up to 30,000 AFY of purified water through groundwater replenishment, thereby supplementing the City of Los Angeles' local potable water supply and increasing system reliability and sustainability. The Proposed Project is consistent with the Los Angeles Mayor's 2014 Executive Directive No. 5 (Emergency Drought Response), 2015 Sustainable City Plan, and 2012 Recycled Water Master Plan (RWMP). Because the Project is intended to replace existing imported supplies, it would not increase overall water supplies to the City in a manner that would induce substantial population growth. Therefore, the Proposed Project would not indirectly result in a significant growth-inducing impact. The impact would be less than significant.

POP-2: *The Proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impact would occur.*

Construction

The Proposed Project involves onsite construction of water treatment facilities at DCTWRP and a brine line to route a concentrated brine solution to the existing sewer system. Offsite construction of additional facilities includes new outlet structures at PSG and HSG as well as a recycled water pipeline within the existing road right-of-way along Arleta Avenue. No structures, including residential units, would be demolished or displaced to accommodate onsite or offsite components. Accordingly, the Proposed Project would not displace any existing housing and no replacement housing would be required. No direct impact to housing would occur.

Construction of the proposed onsite and offsite Project components would create a temporary and nominal rise in employment within the area due to the need for workers for the approximately 51 month duration of the active construction phase. However, the Project area has sufficient existing labor supply, and no substantial in-migration would be expected to occur.

Accordingly, the Proposed Project would not require the construction of housing. No indirect impact to housing would occur.

Operations

As stated above, no structures, including residential units, would be demolished or displaced to accommodate onsite or offsite components. Accordingly, the Proposed Project would not displace any existing housing and no replacement housing would be required. No direct impact to housing would occur.

Operations of the proposed onsite and offsite Project components would create a minor increase in employment within the area. However, the Project area has sufficient existing labor supply, and no substantial in-migration would be expected to occur. Accordingly, the Proposed Project would not require the construction of housing. No indirect impact to housing would occur.

3.13.4 Mitigation Measures

The proposed onsite and offsite components would not result in impacts to population or housing. Therefore, no mitigation measures are required.

3.13.5 Significance After Mitigation

The Proposed Project would not result in any significant impacts to population or housing.

SECTION 3.14
PUBLIC SERVICES AND RECREATION

This section describes the existing conditions and regulations applicable to public services and recreational resources in the Project vicinity and analyzes the Project's potential to create impacts to public services and recreation.

3.14.1 Environmental Setting

Fire Protection

The LAFD provides fire protection services in the Project area. LAFD provides Class-1 fire protection, rescue, and emergency medical services. A total of 1,018 uniformed firefighters (including 270 serving as firefighters/paramedics) are always on duty at LAFD facilities citywide, including at 106 Neighborhood Fire Stations located across the LAFD's 471 square-mile jurisdiction.[149] The fire stations listed in Table 3.14-1 are located in the Project vicinity.

Table 3.14-1
Existing Fire Stations within Project Vicinity

Fire Station #	Address	Equipment/Personnel
DCTWRP		
88	5101 N. Sepulveda Boulevard, Sherman Oaks, CA 91403	Task Force, Advances Life Support (ALS) Ambulance, Urban Search and Rescue, Division Chief, and Emergency Medical Services (EMS) Captain/16 fulltime firefighters
90	7921 Woodley Avenue, Van Nuys, CA 91406	Task Force and ALS Ambulance/11 firefighters
100	6751 Louise Avenue, Van Nuys, CA 91406	Engine and ALS Ambulance/6 firefighters
HSG		
77	9224 Sunland Boulevard, Sun Valley, CA 91352	Engine, ALS Ambulance, and EMS Captain
98	13035 Van Nuys Boulevard, Pacoima, CA 91331	Task Force, ALS Ambulance, Basic Life Support (BLS) Ambulance, and Chief
PSG		
7	14630 Plummer Street, Panorama City, CA 91402	
75	15345 San Fernando Mission Boulevard, Mission Hills, CA 91345	Light Force and ALS Ambulance
98	13035 Van Nuys Boulevard, Pacoima, CA 91331	Task Force, ALS Ambulance, BLS Ambulance, and Chief

Source: Los Angeles County GIS Data Portal, 2015[150]; City of Los Angeles Fire Department, 2014-2015[151],[152]

Police Protection

The City of Los Angeles Police Department (LAPD) provides police protection services in the Project area. The Project area is located in the LAPD Valley Bureau. The Proposed Project site

149 City of Los Angeles, Fire Department. About. Website http://lafd.org/about/lafd-overview, accessed August 2015.
150 County of Los Angeles GIS Portal, Website http://egis3.lacounty.gov/dataportal/, accessed August 2015.
151 Milick, Luke. 2014. Captain. City of Los Angeles Fire Department. June 9, 2014 – Email.
152 City of Los Angeles, Fire Department, Station List, Website http://lafd.org/fire_stations/find_your_station, accessed August 2015

at DCTWRP is served by the West Valley Community Police Station at 19020 Vanowen Street in Reseda. There are approximately 232 sworn officers and 30 civilian support staff deployed at West Valley Community Police Station.[153] In addition to the West Valley Community Station, there are several other Community Police Stations serving the vicinity of the Project facilities. These additional police stations are shown in Table 3.14-2.

Table 3.14-2
Existing Police Stations within Project Vicinity

Community Police Station	Address
Van Nuys	6240 Sylmar Avenue, Van Nuys, CA 91401
North Hollywood	11640 Burbank Boulevard, North Hollywood, CA 91601
Foothill	12760 Osborne, Pacoima, CA 91331
Mission	11121 Sepulveda Boulevard, Mission Hills, CA 92345

Schools

The LAUSD is the primary operator of public schools in the City. LAUSD covers an area totaling 720 square miles, including most of the City of Los Angeles, along with all or portions of 31 other cities and unincorporated areas of Los Angeles County. More than 640,000 students in kindergarten through 12th grade are enrolled at over 900 schools and 187 public charter schools. Table 3.14-3 lists the LAUSD elementary, middle, and high schools that are located within the Project vicinity. In addition to the LAUSD schools listed in Table 3.14-3, there are private schools, charter schools, early education programs (pre-school), and colleges and universities located within the Project vicinity.

Table 3.14-3
LAUSD Schools within One Mile of the Proposed Project

Name	Address	Community
Arleta High School	14200 Van Nuys Boulevard	Arleta
Bassett Street Elementary School	15756 Bassett Street	Van Nuys
Beachy Avenue Elementary School	9757 Beachy Avenue	Pacoima
Canterbury Avenue Elementary School	13670 Montague Street	Pacoima
Fernangeles Elementary School	12001 Art Street	Sun Valley
Haddon Avenue Elementary School	10115 Haddon Avenue	Pacoima
Lassen Elementary School	15017 Superior Street	Sepulveda
Mission High School	11015 Olmveny Avenue	San Fernando
Montague Charter Academy	13000 Montague Street	Pacoima
Pacoima Middle School	9919 Laurel Canyon Boulevard	Pacoima
Richard E. Byrd Middle School	8501 Arleta Avenue	Sun Valley
San Fernando High School	11133 O'Melveny Avenue	San Fernando
San Jose Street Elementary School	14928 Clymer Street	Mission Hills
Sharp Avenue Elementary School	13800 Pierce Street	Pacoima
Sun Valley High School	9171 Telfair Avenue	Sun Valley
Sylvan Park Elementary School	6238 Noble Avenue	Van Nuys
Telfair Avenue Elementary School	10975 Telfair Avenue	Pacoima
Vena Avenue Elementary School	9377 Vena Avenue	Arleta

Source: Los Angeles County GIS Data Portal, 2014[154]; Los Angeles Unified School District, 2014[155]; Google Earth, 2016[156]

[153] City of Los Angeles Police Department, About West Valley. Website http://lapdonline.org/west_valley_community_police_station/content_basic_view/1616, accessed August 2015

[154] County of Los Angeles GIS Portal, Website http://egis3.lacounty.gov/dataportal/, accessed March 2016.

Recreation and Parks

The City of Los Angeles Department of Recreation and Parks (LARAP) manages all municipally owned and operated recreation and park facilities within the City. LARAP operates and maintains over 420 parks on more than 16,000 acres of parkland, as well as 184 recreation centers, two state licensed child-care centers, and 27 senior centers.[157,158]

There are many recreation and park facilities in the vicinity of the Project site. The Japanese Garden (which is not owned or operated by LARAP) is located at the northwest corner of the DCTWRP property. It shares the address of DCTWRP (6100 Woodley Avenue) and has an entrance accessed from Woodley Avenue, adjacent to the southwest corner of DCTWRP.

DCTWRP is located within the Sepulveda Basin Recreation Area, which is a two-square-mile, regionally-significant open space area located between Victory Boulevard, I-405, and State Route 101. It includes the Balboa Sports Center, Hjelte Sports Center, Lake Balboa/Anthony C. Beilenson Park, Sepulveda Garden Center, Sherman Oaks Castle Park, Woodley Park, Encino Golf Course, Balboa Golf Course, and Woodley Lakes Golf Course.[159] This typically dry-land flood control basin also includes athletic fields, bike paths (Sepulveda Basin Bike Loops), a fishing lake, and a wildlife reserve (bird-watching area).[160] The Los Angeles River Corridor is located about 0.5 miles south of DCTWRP, passing through the Sepulveda Basin. The recreation and park facilities serving the Project vicinity are listed in Table 3.14-4.

Table 3.14-4
Existing Parks and Recreation Facilities within One Mile of the Proposed Project

Name	Address
Amistad Pocket Park	13116 Kagel Canyon St
Balboa 1/Encino 1 Course	16821 Burbank Blvd
Branford Park	13310 Branford St
Delano Recreation Center	15100 Erwin St
Devonshire Arleta Park	14215 Devonshire Ave
Devonwood Park	10230 Woodman Ave
Fernangeles Recreation Center	8851 Laurel Canyon Blvd
Fox and Laurel Canyon Park	14353 W. Fox Street
Hansen Dam Golf Course	10400 Glenoaks Blvd
Hjelte Sports Center	Burbank Blvd. across from Encino 1 Course
Lake Balboa/Anthony C. Beilenson Park	6300 Balboa Blvd
Ritchie Valens Park	10731 Laurel Canyon Blvd
Paxton Park	10700 - 10798 Laurel Canyon Blvd
Roger W. Jessup Park	12467 Osborne St
Sepulveda Basin Wildlife Reserve	6335 Woodley Avenue
Sheldon-Arleta Park	near Sheldon, Arleta and Hollywood Freeway
South East Valley Rollers & Skateboard Park	12477-12511 W. Sheldon St
Woodley Avenue Park	6350 Woodley Ave

155 Los Angeles Unified School District, Facilities Services Division. Written correspondence from Rena Perez, Director, Master Planning & Demographics. June 26, 2014.
156 Google Earth, accessed March 30, 2016.
157 City of Los Angeles Department of Recreation & Parks, Who We Are. Website http://www.laparks.org/dos/dept/who.htm, accessed August 2015
158 City of Los Angeles Department of Recreation & Parks. Website http://www.laparks.org/dos.htm, accessed August 2015
159 City of Los Angeles. Department of Recreation and Parks. Sepulveda Basin Recreation Area. Website http://www.laparks.org/dos/reccenter/facility/sepulvedaBasinRC.htm, accessed August 2015.
160 LA Mountains, Sepulveda Basin Recreation Area. Website http://www.lamountains.com/parks.asp?parkid=126, accessed August 2015.

Table 3.14-4
Existing Parks and Recreation Facilities within One Mile of the Proposed Project

Name	Address
Woodley Lakes 1 Course	6331 Woodley Ave

Source: Los Angeles County GIS Data Portal, 2014[161]; City of Los Angeles Open Data, 2015[162]; City of Los Angeles Department of Recreation and Parks, 2015[163]; Google Earth, 2016[164]

Libraries

The City of Los Angeles Public Library provides library services throughout the City with the Central Library, eight regional branch libraries, 59 community branches, and four bookmobiles. The libraries serving the Project area are listed in Table 3.14-5.

Table 3.14-5
Libraries Serving the Project Vicinity

Name	Address
Van Nuys Branch	6250 Sylmar Avenue, Van Nuys, CA 91401
Pacoima Branch	13605 Van Nuys Boulevard, Pacoima, CA 91331
Lake View Terrace Branch	12002 Osborne Street, Lake View Terrace, CA 91342

Source: Los Angeles Public Library, website: http://www.lapl.org, accessed August 2015

3.14.2 Regulatory Setting

Federal

Federal Lands (Sepulveda Basin Recreation Area)

The Sepulveda Basin Recreation Area is a federally owned flood control area that includes the largest recreation area in the San Fernando Valley. Since 1959, recreation amenities have been developed throughout the basin by the LARAP in accordance with the lease between the Corps and City. Recreation development policies are provided in the Corps of Engineer's Sepulveda Dam Basin Master Plan and Environmental Assessment.[165]

Local

City of Los Angeles Fire Protection and Prevention Plan

Fire prevention, fire protection, and emergency medical services in the City of Los Angeles are provided in accordance of the Fire Protection and Prevention Plan, an element of the City of Los Angeles General Plan, and the Fire Code section of the City of Los Angeles Municipal Code. The fire protection and prevention plan serves as a guide for the construction, maintenance, and

161 County of Los Angeles GIS Portal, Website http://egis3.lacounty.gov/dataportal/, accessed March 2016.
162 City of Los Angeles, Los Angeles Open Data, Website https://data.lacity.org/A-Livable-and-Sustainable-City/Department-of-Recreation-and-Parks-GIS-Map-of-Park/nuub-r4zx, accessed August 2015.
163 City of Los Angeles, Department of Recreation and Parks, Park Sites, Website http://www.laparks.org/dos/parks/parks.htm#h, accessed August 2015.
164 Google Earth, accessed March 2016.
165 U.S. Army Corps of Engineers. Sepulveda Dam Basin Master Plan and Environmental Assessment. September 2011. Website http://www.spl.usace.army.mil/Portals/17/docs/publicnotices/sepulveda_master10-1.pdf, accessed August 2015.

operation of fire protection facilities in the City.[166] The plan sets forth policies and standards for fire station distribution and location, fire suppression water-flow (or fire flow), fire hydrant standards and locations, firefighting equipment access, emergency ambulance services, and fire prevention activities. The LAFD also considers population, density, nature of onsite land uses, and traffic flow in evaluating the adequacy of fire protection services for a specific area or land use.

City of Los Angeles General Plan Framework Element

The City of Los Angeles General Plan Framework Element is a strategy for long-term growth that sets a citywide context to guide the update of the community plan and citywide elements. Chapter 9, Infrastructure and Public Services, of the Framework Element includes goals, objectives and policies addressing public services.

In addition, City of Los Angeles General Plan includes park- and recreation-related goals, objectives, and policies that are applicable to the Project area. The overall goal of the open space and conservation framework element of the general plan is to achieve "…an integrated citywide/regional public and private open space system that serves and is accessible by the City's population and is unthreatened by encroachment from other land uses."[167]

3.14.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on public services and recreation if it would:

Fire Protection

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives;

Police Protection

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives;

[166] City of Los Angeles. 1995. Los Angeles Citywide General Plan Framework EIR. Website http://cityplanning.lacity.org/housinginitiatives/housingelement/frameworkeir/FrameworkFEIR.pdf, accessed August 2015.

[167] City of Los Angeles. 1995. General Plan Framework, Chapter 6, Open Space and Conservation. Website http://cityplanning.lacity.org/cwd/framwk/chapters/06/06.htm, accessed August 2015.

Schools

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives;

Recreation and Parks

- Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, or the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives;

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment; or

Other Public Facilities

- Result in substantial adverse physical impacts associated with the provision of other public facilities, or the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

Methodology

This section evaluates the potential of the Proposed Project to adversely alter the existing operations of public services and recreation facilities provided by the City of Los Angeles. In order to establish an operational baseline and evaluate the impacts of the Proposed Project, the following agency websites were consulted for locations and general information: LAPD, LAFD, LAUSD, LARAP, LAPL, and City of Los Angeles Planning Department. The Los Angeles County GIS Data Portal and Los Angeles Open Data also provided information associated with public services and recreation. Planning documents were reviewed for relevant plans, goals, and policies. In addition, LAPD, LAFD, and LAUSD were contacted to obtain information about response times and service capacity.

Impact Analysis

PSR-1: *The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The impact would be less than significant.*

Construction

Construction workers are anticipated to mostly be drawn from the existing workforce throughout the Los Angeles region. As such, construction of the Proposed Project would not generate new permanent residents that would increase the demand for fire protection services.

Construction activities would increase the potential for accidental on-site fires from such sources as the operation of mechanical equipment and use of flammable construction materials. The implementation of appropriate BMPs, such as the appropriate storage of flammable materials, by the construction contractors and work crews would reduce these hazards to a less than significant level (See Section 2.6.5).

Construction activities for the brine line and recycled water pipeline would require temporary lane closures. This would require closure of up to two lanes of the roadway, including parking lanes, which could affect emergency vehicle response times. Portions of the construction zone may be covered with metal plates during periods of the day when construction is not ongoing to allow for continued passage of traffic. LADWP would consult with LAFD regarding construction schedules and worksite traffic control and detour plans. Construction activities are temporary in nature and would not be expected to affect firefighting and emergency services to the extent that there would be a need for new, expanded, consolidated, or relocated fire facilities. Therefore, construction-related impacts on fire protection services would be less than significant.

Operation

Onsite Components

The Project would require 16 additional full-time employees to operate and maintain the facilities at DCTWRP. This small number of additional staff would not create a need for additional fire protection services or facilities as workers are anticipated to reside throughout the Los Angeles metropolitan area. The design of the improvements on the DCTWRP site would include all fire suppression and alarm systems required by the latest version of the City of Los Angeles Building Code. Therefore, no impacts on fire protection services during operation of the onsite components would occur.

Offsite Components

Operation of the offsite components of the Proposed Project would not require any additional personnel. Existing LADWP staff would perform periodic maintenance of the recycled water pipeline similar to inspections of existing pipeline operations in the City. The spreading grounds would be operated and maintained by existing LACDPW staff, and would not require additional fire protection. Therefore, impacts on fire protection services during operation of the offsite components would be less than significant.

PSR-2: *The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The impact would be less than significant.*

Construction

Construction workers are anticipated to be drawn from the existing workforce throughout the Los Angeles metropolitan region. As such, construction of the Proposed Project would not generate new permanent residents that would increase the demand for police protection services.

Construction activities at DCTWRP, PSG, and HSG would occur within secured properties with limited access; thereby minimizing the need for police protection services. Although minor traffic delays may result from construction activities associated with the installation of the proposed brine line and recycled water pipeline, these impacts would be temporary in nature and would be coordinated with LAPD. Construction activities would not be expected to affect police services to the extent that there would be a need for new, expanded, consolidated, or relocated police facilities. Therefore, construction-related impacts on police protection services would be less than significant.

Operation

Onsite Components

The Project would require 16 additional full-time employees to operate and maintain the facilities at DCTWRP. This small number of additional staff would not create a need for additional police services or facilities as workers are anticipated reside throughout the Los Angeles metropolitan area. Therefore, no impacts on police protection services during operation of the onsite components would occur.

Offsite Components

Operation of the offsite components of the Proposed Project would not require any additional personnel. Existing LADWP staff would perform periodic maintenance of the recycled water pipeline similar to inspections of existing pipeline operations in the City. The spreading grounds would be operated and maintained by existing LACDPW staff, and would not require additional police services or facilities. Therefore, no impacts on police protection services during operation of the offsite components would occur.

PSR-3: *The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives. No impact would occur.*

The demand for new or expanded school facilities is generally associated with an increase in housing or population. The Proposed Project does not include a component that would generate an increase in housing or population (see Section 3.13, Population and Housing). Construction workers are anticipated to be drawn from the existing workforce throughout the Los Angeles metropolitan region. As such, construction of the Proposed Project would not generate new permanent residents that would increase the demand for schools. While 16 new employees would be required to operate and maintain the Project facilities at DCTWRP, this nominal amount would not substantially increase demand for schools. Because the Project is intended to replace existing imported supplies of water, it would not increase overall water supplies to the City in a manner that would induce population growth, thereby indirectly increasing the demand for schools. Therefore, neither construction nor operation of the Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities. No impact would occur.

PSR-4: *The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities. No impact would occur.*

The demand for parks and recreational services is generally associated with an increase in housing or population. Construction workers are anticipated to be drawn from the existing workforce throughout the Los Angeles metropolitan region. As such, construction of the Proposed Project would not generate new permanent residents that would increase the demand for parks and recreation facilities. While 16 new employees would be required to operate and maintain the Project facilities at DCTWRP, this nominal amount would not affect existing parks and recreational facilities to the extent that new or expanded facilities would be required. Therefore, the Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities. No impact would occur.

PSR-5: *The Proposed Project would not result in a substantial increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No impact would occur.*

Construction activities would not prevent access to nearby recreation facilities. Construction workers would be drawn from the workforce in the greater Los Angeles metropolitan area and would not substantially increase usage of recreational facilities. Therefore, construction would not result in a substantial increase in the use of existing parks or other recreational facilities.

Operation of the Project facilities would require an increase of 16 employees at DCTWRP. While employees may utilize recreational facilities during work breaks, this usage would be limited, and substantial increases in usage would not occur during non-work hours. Therefore, operation of the Project would not result in substantial increases in the use of existing neighborhood or regional parks or other recreational facilities. No impact would occur.

PSR-6: *The Proposed Project would not require the construction or expansion of parks and recreational facilities. No impact would occur.*

The Proposed Project is an infrastructure project which would construct an AWPF and associated structures, pipelines, and other elements to replenish groundwater. The Proposed Project would not include any parks or other recreational facilities. Operation of the AWPF would require 16 additional personnel. These personnel are anticipated to live within the greater Los Angeles metropolitan area and would utilize existing parks and recreational resources throughout the region. The Proposed Project does not include a component (i.e., residential development) that would generate increased population that would directly increase the demand for parks and recreational facilities. Because the Project is intended to replace existing imported supplies of water, it would not increase overall water supplies to the City in a manner that would induce population growth, thereby indirectly increasing the demand for parks. Therefore, no impacts related to the construction or expansion of recreational facilities would occur.

PSR-7: *The Proposed Project would not result in substantial adverse physical impacts associated with the provision of other public services, or the need for new or physically altered public facilities in order to maintain acceptable service ratios or other performance objectives. No impact would occur.*

Demand for other public facilities, such as libraries, is generally associated with increased housing or population. As previously discussed, the Proposed Project would not induce population growth. Construction would temporarily employ construction workers, but these workers would be already located in the Los Angeles metropolitan region and would not indirectly cause an increase in demand for public services. Because the Project is intended to replace existing imported supplies of water, it would not increase overall water supplies to the City in a manner that would induce population growth, thereby indirectly increasing the demand for services. Therefore, the Proposed Project would not result in increased demand for services such that new or expanded public facilities would be required. No impact would occur.

3.14.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to public services and recreation. No mitigation measures are required.

3.14.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to public services and recreation.

SECTION 3.15
TRANSPORTATION AND TRAFFIC

This section evaluates the transportation and traffic impacts associated with construction and operation of the Proposed Project. The following analysis is based on the traffic study for the Proposed Project prepared by KOA Corporation. The traffic study is included as Appendix H of this Draft EIR.

3.15.1 Environmental Setting

A comprehensive data collection effort was undertaken to assess roadways in the Project study area. This information was used to identify the following 15 study area intersections and 6 study area roadway segments analyzed under the Proposed Project.

Study Area Intersections

1. Woodley Avenue & Victory Boulevard
2. Densmore Avenue & Victory Boulevard
3. Haskell Avenue & Victory Boulevard
4. I-405 NB Ramps & Victory Boulevard
5. I-5 SB Ramps & Osborne Street
6. I-5 NB Ramps & Osborne Street
7. San Fernando Road & Osborne Street
8. Glenoaks Boulevard & Osborne Street
9. Glenoaks Boulevard & Sheldon Street
10. Glenoaks Boulevard & Penrose Street
11. Arleta Avenue & Devonshire Street
12. Arleta Avenue & Branford Street
13. Arleta Avenue & Van Nuys Boulevard
14. Arleta Avenue & Terra Bella Street
15. Arleta Avenue & Osborne Street

Study Area Roadway Segments

A. Haskell Avenue, between Victory Boulevard and Orange Line Busway
B. Victory Boulevard, between Woodley Avenue and I-405
C. Arleta Avenue, between Devonshire Street and Van Nuys Boulevard
D. Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street
E. Arleta Avenue, between Terra Bella Street and Osborne Street

F. Arleta Avenue, between Osborne Street and Branford Street

A detailed description of the characteristics of key roadway segments along the Project corridor (including number of lanes, median type, parking restrictions, adjacent land uses, speed limits, and curb to curb physical width) is included in Appendix H of this Draft EIR. The locations of the intersections and roadway segments within the study area are shown in Figure 3.15-1.

Existing Public Transit Service

The Project area is currently served by several bus lines operated by Metro. A description of the bus lines serving the Project site and surrounding areas is provided in Table 3.15-1.

Table 3.15-1
Transit Service Summary

Agency	Line	From	To	Via	Approximate Peak Frequency
Metro	237	Sylmar	Encino	Woodley Avenue, Victory Boulevard	45-70 Minutes
Metro	164	West Hills	Burbank	Victory Boulevard	10-30 Minutes
Metro	94	Sylmar	Downtown LA	San Fernando Road	15 – 20 Minutes
Metro	292	Sylmar	Burbank	Glenoaks Boulevard	10 – 30 Minutes
Metro	166/364	Sun Valley	Chatsworth Station	Nordoff Street, Osborne Street	8 – 20 Minutes
Metro	158	Sherman Oaks	Chatsworth	Arleta Avenue, Woodman Avenue, Devonshire Street	20 – 45 Minutes
Metro	230	Mission College	Studio City	Laurel Canyon Boulevard	12 – 20 Minutes

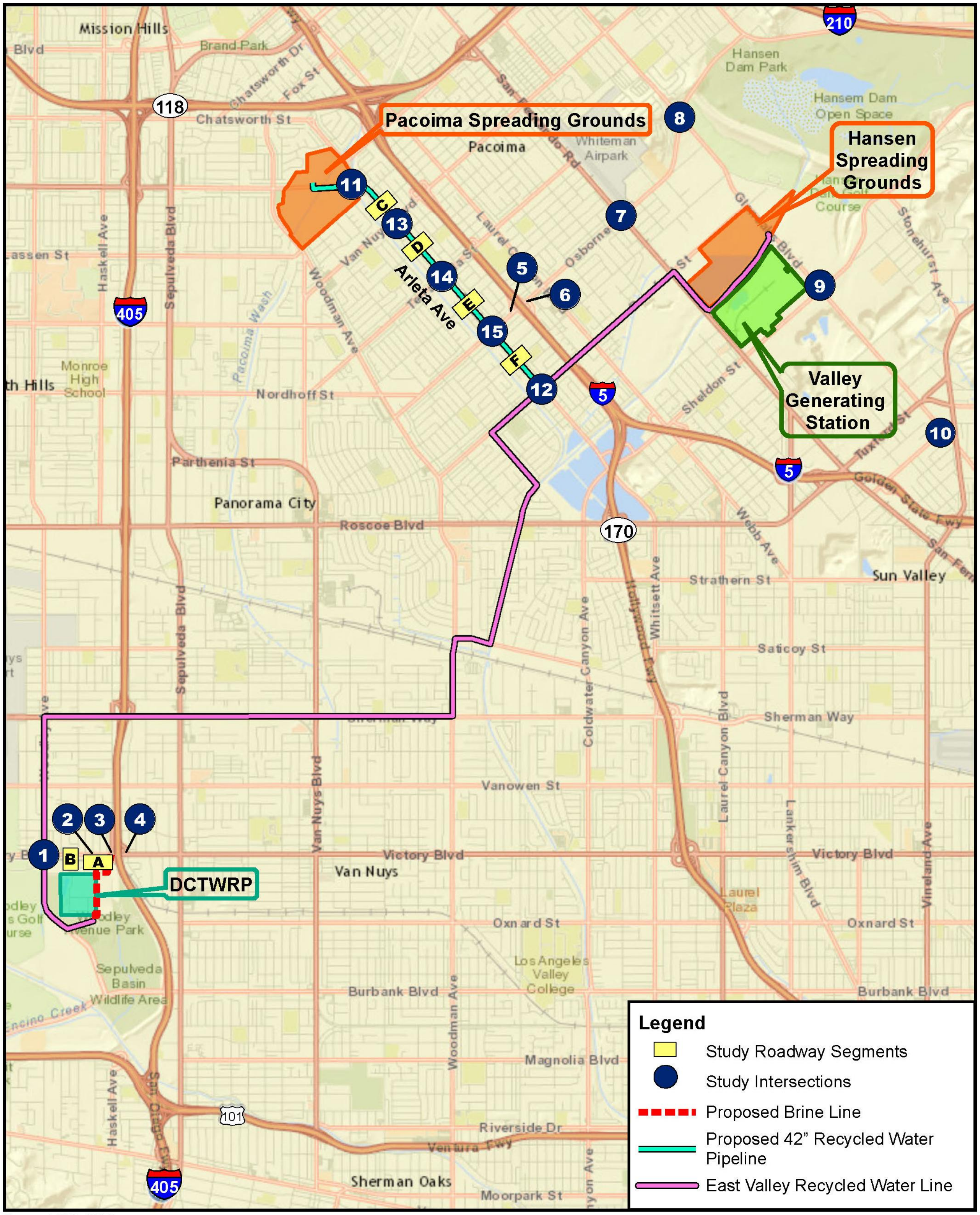
Source: KOA Corporation 2016

Bicycle and Pedestrian Facilities

Bicycle facilities in the vicinity of the Project site include the Orange Line Bike Path on the south side of Victory Boulevard, north of DCTWRP; a bike path along Devonshire Street west of Arleta Avenue; a bike lane along Van Nuys Boulevard between Foothill Boulevard and Woodman Avenue; a bike lane along Terra Bella Street between San Fernando Road and Van Nuys Boulevard; and a bike route along Osborne Street between San Fernando Road and Woodman Avenue. The Sepulveda Basin Recreation, located west of DCTWRP, also includes several bike paths.[168]

Pedestrian facilities serving the Project site include sidewalks and crosswalks adjacent to onsite and offsite Project components.

[168] Los Angeles Department of City Planning, *Mobility Plan 2035*, adopted January 20, 2016. Available online at: http://planning.lacity.org/documents/policy/mobilityplnmemo.pdf, accessed April 6, 2016.



Source: ESRI, 2015

0 0.75 1.5 Miles

Figure 3.15-1
Study Intersections and Roadway Segments

Level of Service Methodology

Measurements for traffic operations are based on a ratio of average daily volume on a roadway segment versus the volume that is calculated to be the design capacity. The efficiency of traffic operations at a location is measured in terms of LOS. LOS measures average operating conditions during an hour. It is based on a V/C ratio, or delay. LOS ranges from A to F, with A representing excellent (free-flow) traffic conditions and F representing extreme congestion. The delay on a street segment corresponds to a LOS value, which describes the traffic conditions. Roadway segments with vehicular volumes that are at or near capacity experience greater congestion and longer vehicle delays. Table 3.15-2 provides descriptions of general roadway operations for each LOS value for signalized intersections, as defined within the 2000 *Highway Capacity Manual* (published by the Transportation Research Board).

Table 3.15-2
Level of Service Definitions

LOS	V/C	Definition
A	0.000 – 0.600	Excellent. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 – 0.700	Very Good. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	Good. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	Fair. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	Poor. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than 1.000	Failure. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: 2000 Highway Capacity Manual

Existing Study Area Intersection LOS

Weekday turn movement counts were conducted at the 15 signalized study area intersections on Wednesday, May 27, 2015, and on Thursday, September 3, 2015. The counts were collected during peak periods (7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 6:00 p.m.). Table 3.15-3 provides the V/C and LOS values for existing conditions during the morning and evening peak periods at the study area intersections.

Table 3.15-3
Existing Peak Hour Intersection LOS

ID	Intersection	AM Peak		PM Peak	
		V/C	LOS	V/C	LOS
1	Woodley Avenue & Victory Boulevard	**1.107**	**F**	**0.985**	**E**
2	Densmore Avenue & Victory Boulevard	0.650	B	0.564	A
3	Haskell Avenue & Victory Boulevard	**1.071**	**F**	**1.044**	**F**
4	I-405 NB Ramps & Victory Boulevard	0.734	C	0.760	C
5	I-5 SB Ramps & Osborne Street	0.638	B	0.765	C
6	I-5 NB Ramps & Osborne Street	0.628	B	0.753	C
7	San Fernando Road & Osborne Street	0.649	B	0.709	C

Table 3.15-3
Existing Peak Hour Intersection LOS

ID	Intersection	AM Peak		PM Peak	
		V/C	LOS	V/C	LOS
8	Glenoaks Boulevard & Osborne Street	**0.999**	**E**	**0.956**	**E**
9	Glenoaks Boulevard & Sheldon Street	0.743	C	0.733	C
10	Glenoaks Boulevard & Penrose Street	0.434	A	0.421	A
11	Arleta Avenue & Devonshire Street	0.592	A	0.749	C
12	Arleta Avenue & Branford Street	0.853	D	0.862	D
13	Arleta Avenue & Van Nuys Boulevard	0.885	D	**0.905**	**E**
14	Arleta Avenue & Terra Bella Street	0.778	C	0.671	B
15	Arleta Avenue & Osborne Street	**0.908**	**E**	**0.939**	**E**

Notes: LOS – Level of Service, V/C = Volume-to-Capacity Ratio
Source: KOA Corporation 2016

As shown in Table 3.15-3, 10 of the 15 study intersections are currently operating at LOS D or better during the morning and evening peak hours. The following intersections are operating at a poor or failing LOS (E or F):

- Woodley Avenue/Victory Boulevard – Operating at LOS F in the morning peak hour and E in the evening peak hour.
- Haskell Avenue/Victory Boulevard – Operating at LOS F in the morning and evening peak hours.
- Glenoaks Boulevard/Osborne Street – Operating at LOS E in the morning and evening peak hours.
- Arleta Avenue/Van Nuys Boulevard – Operating at LOS E in the evening peak hour.
- Arleta Avenue/Osborne Street – Operating at LOS E in the morning and evening peak hours.

Existing Study Area Roadway Segment LOS

Daily roadway volume counts were collected at the study area roadway segments on the same day as the study intersection counts. Table 3.15-4 summarizes the existing levels of service at the study area roadway segments on a peak hour basis. All study area roadway segments currently operate at acceptable LOS, with the exception of Segment B (Victory Boulevard between Woodley Avenue and I-405), which currently operates at unacceptable LOS E under evening peak hour conditions.

Table 3.15-4
Existing Peak Hour Roadway Segment LOS

Segment		# of Lanes	Capacity	Peak Period	Existing Volumes		
					Existing		
					Volume	V/C	LOS
A	Haskell Avenue, between Victory Boulevard and Orange Line Busway	2	1,600	AM	445	0.278	A
				PM	275	0.172	A
B	Victory Boulevard, between Woodley Avenue and I-405	6	4,800	AM	4,279	0.891	D
				PM	4,381	**0.913**	**E**
C	Arleta Avenue, between Devonshire Street and Van Nuys Boulevard	4	2,800	AM	1,832	0.654	B
				PM	1,592	0.569	A
D	Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street	4	2,800	AM	1,647	0.588	A
				PM	1,395	0.498	A
E	Arleta Avenue, between Terra Bella Street and Osborne Street	4	2,800	AM	1,805	0.645	B
				PM	1,670	0.596	A
F	Arleta Avenue, between Osborne Street and Branford Street	4	2,800	AM	2,036	0.727	C
				PM	2,175	0.777	C

Source: KOA Corporation 2016

3.15.2 Regulatory Setting

State

California Department of Transportation (Caltrans)

Caltrans manages state highways in California and has the discretionary authority to issue special permits for the movement of vehicles/loads exceeding statutory limitations on the size, weight, and loading of vehicles contained in Division 15 of the California Vehicle Code, and to issue encroachment permits for the use of California State highways for purposes other than normal transportation.

Regional and Local

Los Angeles County Congestion Management Program (CMP)

The Los Angeles County Congestion Management Program (CMP) was created statewide as a result of Proposition 111 and has been implemented locally by Metro.[169] The Los Angeles County CMP requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system. The Los Angeles County CMP also has been developed to meet the federal requirements for a Congestion Management System initially enacted in the Intermodal Surface Transportation Efficiency Act of 1991, and continued in the Transportation Equity Act for the 21st Century in 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005.

169 County of Los Angeles Metropolitan Transportation Authority. 2010 Congestion Management Program. Available online at: http://media.metro.net/docs/cmp_final_2010.pdf, accessed August 26, 2015.

City of Los Angeles General Plan

The Mobility Element of the City of Los Angeles General Plan identifies issues, goals, objectives, policies, and programs associated with different modes of transportation. The element contains five overarching goals, including Safety First; World Class Infrastructure; Access for All Angelenos; Collaboration, Communication, and Informed Choices; and Clean Environment & Healthy Communities.[170]

City of Los Angeles 2010 Bike Plan

The City of Los Angeles 2010 Bike Plan, adopted March 1, 2011, proposes 200 miles of bikeways every five years over the next 35 years. The purpose of the 2010 Bike Plan is to increase, improve, and enhance bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation. It establishes the following three goals: increase the number and types of bicyclists who bicycle in the City; make every street a safe place to a ride a bicycle, and make the City a bicycle friendly community.[171] The 2010 Bike Plan proposes a bikeway along San Fernando Road adjacent to HSG.

3.15.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant effect on transportation and traffic if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Traffic impacts are identified if a proposed development will result in a significant change in traffic conditions at a study intersection or roadway segment. A significant impact is typically

[170] City of Los Angeles Department of City Planning. City of Los Angeles General Plan Mobility Element, adopted January 20, 2016. Available online at: http://planning.lacity.org/documents/policy/mobilityplnmemo.pdf, accessed April 5, 2016.

[171] Los Angeles Department of City Planning, *2010 Bicycle Plan*, adopted March 1, 2011. Available online at: http://cityplanning.lacity.org/cwd/gnlpln/transelt/NewBikePlan/Txt/LA%20CITY%20BICYCLE%20PLAN.pdf, accessed August 26, 2015.

identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency.

LADOT has established specific thresholds for increases in the V/C of signalized study intersections related to long-term traffic generated by projects. However, the Proposed Project would generate nominal post-construction operational traffic because it would require only 16 additional personnel at DCTWRP and approximately seven additional truck trips per month. Instead, the threshold of significance for traffic impacts for Project construction is the causing of an LOS E or F condition (i.e., at-capacity or over-capacity) at intersections or roadway segments or the worsening of conditions at intersections or roadway segments that already operate at LOS E or F conditions.

Methodology

The transportation and traffic impact analysis is based on the following approach:

- *Existing Conditions:* The analysis of existing traffic conditions provides a basis for the determination of impacts. The existing conditions analysis includes an assessment of streets, vehicle volumes, and operating conditions.
- *Existing Plus-Project Conditions*: Per the rulings on the *Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council* and *Neighbors for Smart Rail v. Exposition Metro Rail Construction Authority* court cases, an existing plus-project scenario analyzes project impacts under current baseline conditions.
- *Future Without Project Conditions:* Future traffic conditions are projected without the Proposed Project during the peak phase of construction (2022). The analysis of future baseline conditions included the addition of traffic growth, based on projections within the Metro 2010 Congestion Management Program. The highest Congestion Management Program traffic growth rates in the study area were multiplied by a factor of two to provide a conservative estimate of regional traffic growth plus trips expected to be generated by other development projects in the area. Based on the application of traffic growth rates, future baseline conditions for the study roadway segments were computed.
- *Future With Project Conditions:* This is an analysis of cumulative future traffic conditions with the Proposed Project traffic generated during the peak phase of construction (2022), added to the predicted future baseline traffic forecasts without the Project. Truck traffic and construction employee traffic at the DCTWRP, HSG, and PSG sites has been included in this analysis. However, the installation of pipelines within roadways is expected to create greater impacts than those generated by construction related-traffic (i.e., worker and truck trips). Temporary lane closures would be required along those portions of the proposed brine line and recycled water pipeline alignments within the public right of way. These closures would affect the LOS within the affected roadway segments because the capacity of the road to accommodate traffic would be reduced. Construction activity would occur Monday through Friday from 7:00 a.m. to approximately 3:30 p.m. Thus, the temporary lane closures would occur during the morning peak hour period (7:00 a.m. to 9:00 a.m.) but not during the evening peak hour period (4:00 p.m. to 6:00 p.m.).

Impact Analysis

TRA-1: *The Proposed Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. With incorporation of Mitigation Measure TRA-A, impacts from construction traffic would be reduced to a less than significant level, except along the recycled water pipeline alignment (Arleta Avenue), where impacts would be reduced, but would remain significant and unavoidable.*

Construction of the Proposed Project would commence in fourth quarter 2018 and is expected to last up to 4 years, ending in late 2022. Construction would be conducted in several phases, which may partially overlap, especially since construction would occur at several physically separated sites. Construction activities would typically occur from 7:00am to 3:30pm, but with construction on major city streets not beginning before 9:00am in accordance with the City of Los Angeles Mayor's Directive No. 2, which prohibits construction on selected roads between 6:00am and 9:00am and between 3:30pm and 7:00pm.

Construction at DCTWRP would include area clearing, grading, excavation, foundation construction and construction of a warehouse, maintenance building, AWPF and ancillary support facilities, flow equalization tank, and the installation of a brine line. Excluding the relatively small portion of the brine line located in public roads, all construction activities, including supplies laydown, soil excavation and stockpiling, equipment storage, and worker parking, would be confined to the DCTWRP property boundary. Only truck trips required to deliver equipment, materials, and supplies and to haul debris and excess material would occur outside the site. The general inbound truck route during construction would be I-405 to Victory Boulevard, west to Densmore Avenue, and Densmore Avenue south along the DCTWRP access road. The outbound route would be the DCTWRP access road to Densmore Avenue to Victory Boulevard to I-405. Trucks are estimated to travel approximately 20 miles to and from the DCTWRP property (a total 40-mile roundtrip).

The extension of the recycled water pipeline would occur approximately 5 miles northeast of DCTWRP, in Arleta Avenue from Branford Street, and then continue on Devonshire Street into PSG. It would commence in mid-2020 and take approximately 18 months to complete. The pipeline installation would use an open-trenching construction technique. The trench would be approximately 7.5 feet wide and 11 feet deep. Materials and equipment staging and construction worker parking would occur on City facilities and public parking lots located along or near the alignment. Pipeline construction would necessitate closure of up to two lanes of the roadway in the section under construction, including parking lanes. Portions of the construction zone may be covered with metal plates during periods of the day when construction is not ongoing to allow for continued passage of traffic.

Throughout the construction of the trench, asphalt, concrete, and excavated material would be hauled off by truck for disposal at a designated disposal site. As trucks are filled with spoils, they would leave the work areas and be replaced by empty trucks. Delivery trucks carrying materials and pipeline elements would arrive as-needed during construction, with a low average number of truck trips generated on an average day. As part of the final construction activities, roadway pavement would be restored.

Improvements at PSG, including outlets and a gate structure, would take approximately 9 months to complete, commencing after the completion of the recycled water pipeline along Arleta Avenue. Improvements at HSG, including outlets, gate structures, and a recycled water pipeline, would take approximately 3 months to complete, commencing after the completion of the PSG improvements.

Existing Plus-Project Conditions

This section focuses on the potential temporary impacts due to construction activities on the study area intersections and roadway segments associated with the Project during the existing conditions. Intersection capacity would not be reduced as construction operations would primarily occur on short segments along the study roadways, and potential pipe jacking under major intersections, with minimal impacts on intersection operations. In addition to the construction-period trip generation, the capacity of the roadway through lanes would be effectively reduce by 50 percent where work areas would be established for pipeline installation (i.e., along Haskell Avenue for the brine line and Arleta Avenue for the recycled water pipeline). Table 3.15-5 shows the future with Project morning and evening peak-hour volumes for the study intersections.

Table 3.15-5
Existing Plus Project Peak Hour Intersection LOS

ID	Intersection	AM Peak		PM Peak	
		V/C	LOS	V/C	LOS
1	Woodley Avenue & Victory Boulevard	**1.109**	**F**	**0.987**	**E**
2	Densmore Avenue & Victory Boulevard	0.655	B	0.597	A
3	Haskell Avenue & Victory Boulevard	**1.079**	**F**	**1.045**	**F**
4	I-405 NB Ramps & Victory Boulevard	0.739	C	0.768	C
5	I-5 SB Ramps & Osborne Street	0.641	B	0.767	C
6	I-5 NB Ramps & Osborne Street	0.630	B	0.756	C
7	San Fernando Road & Osborne Street	0.652	B	0.711	C
8	Glenoaks Boulevard & Osborne Street	**1.001**	**F**	**0.956**	**E**
9	Glenoaks Boulevard & Sheldon Street	0.744	C	0.733	C
10	Glenoaks Boulevard & Penrose Street	0.435	A	0.421	A
11	Arleta Avenue & Devonshire Street	0.598	A	0.758	C
12	Arleta Avenue & Branford Street	0.858	D	0.866	D
13	Arleta Avenue & Van Nuys Boulevard	0.888	D	**0.911**	**E**
14	Arleta Avenue & Terra Bella Street	0.780	C	0.674	B
15	Arleta Avenue & Osborne Street	**0.913**	**E**	**0.943**	**E**

Notes: LOS – Level of Service, V/C = Volume-to-Capacity Ratio
Source: KOA Corporation 2016

In the existing plus-Project scenario, construction activities associated with the Proposed Project would worsen operations to or within LOS E or F at the following study area intersections:

- Woodley Avenue & Victory Boulevard – Operations would worsen within LOS F during the morning peak hours and within LOS E during the evening peak hours.
- Haskell Avenue & Victory Boulevard – Operations would worsen within LOS F during the morning and evening peak hours.
- Glenoaks Boulevard/Osborne Street – Operations would worsen to LOS F during the morning peak hours.

- Arleta Avenue & Van Nuys Boulevard - Operations would worsen within LOS E during the evening peak hours.

- Arleta Avenue & Osborne Street- Operations would worsen within LOS E during the morning and evening peak hours.

As such, the construction traffic impact to the study area intersections would be significant.

Table 3.15-6 shows the average daily traffic volumes for future with Project conditions at the study are roadway segments.

Table 3.15-6
Existing Plus-Project Study Roadway Segments Daily Vehicle Volumes

Segment		# of Lanes	Capacity	Peak Period	Project Only	Existing Plus Project Volumes		
						Volume	V/C	LOS
A	Haskell Avenue, between Victory Boulevard and Orange Line Busway	1	800	AM	0	445	0.556	A
				PM	0	275	0.344	A
B	Victory Boulevard, between Woodley Avenue and I-405	6	4,800	AM	38	4,317	0.899	D
				PM	41	4,422	**0.921**	**E**
C	Arleta Avenue, between Devonshire Street and Van Nuys Boulevard	2	1,600	AM	11	1,843	**1.152**	**F**
				PM	14	1,606	**1.004**	**F**
D	Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street	2	1,200	AM	11	1,658	**1.382**	**F**
				PM	8	1,403	**1.169**	**F**
E	Arleta Avenue, between Terra Bella Street and Osborne Street	2	1,200	AM	11	1,816	**1.513**	**F**
				PM	8	1,678	**1.398**	**F**
F	Arleta Avenue, between Osborne Street and Branford Street	2	1,200	AM	19	2,055	**1.713**	**F**
				PM	19	2,194	**1.828**	**F**

Source: KOA Corporation 2016

As shown in Table 3.15-6, construction of the Proposed Project is anticipated to result in a significant impact along the following study roadway segments:

- Victory Boulevard, between Woodley Avenue and I-405 - operations would worsen within LOS E during the evening peak hours.
- Arleta Avenue, between Devonshire Street and Van Nuys Boulevard – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue, between Terra Bella Street and Osborne Street – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue, between Osborne Street and Branford Street – operations would worsen to LOS F during the morning and evening peak hours.

Mitigation Measure TRA-A, which would include the preparation of a Traffic Management Plan for construction activities, would be required. Implementation of Mitigation Measure TRA-A would reduce the construction traffic impacts to the study area intersections and roadway segments to a less than significant level, except along the recycled water pipeline alignment (Arleta Avenue), where impacts would be reduced, but would remain significant and unavoidable.

Future Without Project Conditions

Table 3.15-7 shows the future without Project morning and evening peak-hour volumes for the study intersections.

Table 3.15-7
Future Without Project Peak Hour Intersection LOS

ID	Intersection	AM Peak		PM Peak	
		V/C	LOS	V/C	LOS
1	Woodley Avenue & Victory Boulevard	**1.272**	**F**	**1.132**	**F**
2	Densmore Avenue & Victory Boulevard	0.747	C	0.648	B
3	Haskell Avenue & Victory Boulevard	**1.231**	**F**	**1.199**	**F**
4	I-405 NB Ramps & Victory Boulevard	0.843	D	0.873	D
5	I-5 SB Ramps & Osborne Street	0.733	C	0.879	D
6	I-5 NB Ramps & Osborne Street	0.722	C	0.866	D
7	San Fernando Road & Osborne Street	0.746	C	0.814	D
8	Glenoaks Boulevard & Osborne Street	**1.147**	**F**	**1.098**	**F**
9	Glenoaks Boulevard & Sheldon Street	0.854	D	0.842	D
10	Glenoaks Boulevard & Penrose Street	0.499	A	0.483	A
11	Arleta Avenue & Devonshire Street	0.680	B	0.861	D
12	Arleta Avenue & Branford Street	**0.980**	**E**	**0.990**	**E**
13	Arleta Avenue & Van Nuys Boulevard	**1.021**	**F**	**1.040**	**F**
14	Arleta Avenue & Terra Bella Street	0.894	D	0.771	C
15	Arleta Avenue & Osborne Street	**1.044**	**F**	**1.079**	**F**

Notes: LOS – Level of Service, V/C = Volume-to-Capacity Ratio
Source: KOA Corporation 2016

In the future without Project scenario, all of the study area intersections would continue to operate at LOS D or better during the weekday morning and evening peak hours, except for the following:

- Woodley Avenue/Victory Boulevard – operations would worsen within LOS F during morning peak hours and to LOS F during the evening peak hour.
- Haskell Avenue/Victory Boulevard – operations would worsen within LOS F during the morning and evening peak hours.
- Glenoaks Boulevard/Osborne Street – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue/Branford Street – operations would worsen to LOS E during the morning and evening peak hours.
- Arleta Avenue/Van Nuys Boulevard – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue/Osborne Street – operations would worsen to LOS F during the morning and evening peak hours.

Table 3.15-8 shows the average daily traffic volumes for future without Project conditions at the study are roadway segments, based on the application of ambient growth.

Table 3.15-8
Future Without Project Study Roadway Segments Daily Vehicle Volumes

Segment		# of Lanes	Capacity	Peak Period	Future W/O Project Volumes		
					Volume	V/C	LOS
A	Haskell Avenue, between Victory Boulevard and Orange Line Busway	2	1,600	AM	511	0.319	A
				PM	316	0.198	A
B	Victory Boulevard, between Woodley Avenue and I-405	6	4,800	AM	4,917	**1.024**	**F**
				PM	5,034	**1.049**	**F**
C	Arleta Avenue, between Devonshire Street & Van Nuys Boulevard	4	2,800	AM	2,105	0.752	C
				PM	1,829	0.653	B
D	Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street	4	2,800	AM	1,892	0.676	B
				PM	1,603	0.573	A
E	Arleta Avenue, between Terra Bella Street and Osborne Street	4	2,800	AM	2,074	0.741	C
				PM	1,919	0.685	B
F	Arleta Avenue, between Osborne Street and Branford Street	4	2,800	AM	2,339	0.835	D
				PM	2,499	0.893	D

Source: KOA Corporation 2016

The highest daily vehicle volume during the future without Project scenario would be at the roadway segment of Victory Boulevard between Woodley Avenue and I-405, similar to existing conditions. As shown in Table 3.15-8, all of the study area roadway segments would operate at LOS D or better under the future without Project conditions, except for Segment B, where operations would worsen to LOS F during the morning and evening peak hours.

Construction Trip Generation

Project trip generation calculations included construction employee vehicle trips and construction truck trip estimates. The trip generation totals were determined based on the most intense period of construction activity for the Proposed Project. Truck volumes were multiplied by a factor of 2.5 to estimate the number of passenger car equivalent trips, consistent with the SCAG *Heavy Duty Truck Model* analysis.

In calculating peak-hour trips for Project construction, it was estimated that the majority of the construction employees would arrive and depart the construction zones via personal vehicles. Because construction hours are anticipated to occur from 7:00 a.m. to 3:30 p.m., it was assumed that approximately 50 percent of the employees would arrive prior to the morning peak period analysis time frame (7:00 a.m. to 9:00 a.m.), with the remaining 50 percent of employees assumed to arrive at the construction sites during the morning peak period. The same would occur during the evening peak hour, with 50 percent of employees assumed to depart the site prior to the 4:00 p.m. peak period, with the remaining 50 percent leaving during the evening peak hour (4:00 p.m. to 6:00 p.m.). Therefore, the same reduction was taken for both the morning and evening peak periods. Daily truck haul and delivery activities would occur evenly over an 8-hour period commencing and ending during the previously defined morning and evening peak periods.

Construction activities would require various numbers of personnel at each construction site. A peak of 68 workers would be at DCTWRP, 20 at the recycled water pipeline along Arleta Avenue, 27 would be working at PSG, and 27 at HSG. As currently planned, work at DCTWRP and the other sites would overlap in schedule but would be physically separated. Work along

Arleta Avenue and at PSG and HSG would not overlap in schedule with each other. Table 3.15-9 indicates the average daily and the morning and evening peak hour one-way trips (with truck trips converted to passenger car equivalents) during the peak period of construction at each of the various Project sites (i.e., DCTWRP, Arleta Avenue, PSG, and HSG).

Future With Project Conditions

This section focuses on the potential temporary impacts due to construction activities on the study area intersections and roadway segments during the future with Project conditions. In addition to the construction-period trip generation, the capacity of the roadway through lanes would be effectively reduce by 50 percent where work areas would be established for pipeline installation (i.e., along Haskell Avenue for the brine line and Arleta Avenue for the recycled water pipeline). Table 3.15-10 shows the future with Project morning and evening peak-hour volumes for the study intersections.

In the future with Project scenario, construction activities associated with the Proposed Project would worsen operations to or within LOS E or F at the following study area intersections:

- Woodley Avenue/Victory Boulevard – operations would worsen to LOS F during the morning and evening peak hour.
- Haskell Avenue/Victory Boulevard – operations would worsen within LOS F during the morning and evening peak hours.
- Glenoaks Boulevard/Osborne Street – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue/Branford Street – operations would worsen within LOS E during the morning and evening peak hours.
- Arleta Avenue/Van Nuys Boulevard – operations would worsen within LOS F during the morning and evening peak hours.
- Arleta Avenue/Osborne Street – operations would worsen within LOS F in during the morning and evening peak hours.

As such, the construction traffic impact to the study area intersections would be significant.

Table 3.15-9
Project Construction Trip Generation

Trip Generation Source	Average Daily Trips			AM Peak Hour						PM Peak Hour					
	Trucks	Employee	Total	Truck Trips*		Employee Trips		Total Trips		Truck Trips*		Employee Trips		Total Trips	
				In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
DCT SE Trip Generation															
Field Personnel	0	136	136	0	0	34	0	34	0	0	0	0	34	0	34
Trucks	90	0	90	6	6	0	0	6	6	6	6	0	0	6	6
DCT Trips	90	136	226	6	6	34	0	40	6	6	6	0	34	6	40
Recycled Water Pipeline															
Field Personnel	0	40	40	0	0	10	0	10	0	0	0	0	10	0	10
Trucks	60	0	60	4	4	0	0	4	4	4	4	0	0	4	4
Pipeline Trips	60	40	100	4	4	10	0	14	4	4	4	0	10	4	14
PSG															
Field Personnel	0	54	54	0	0	14	0	14	0	0	0	0	14	0	14
Trucks	30	0	30	2	2	0	2	2	2	2	0	0	0	2	2
PSG Trips	30	54	84	2	2	14	0	16	2	2	2	0	14	2	16
HSG															
Field Personnel	0	54	54	0	0	14	0	14	0	0	0	0	14	0	14
Trucks	30	0	30	2	2	0	2	2	2	2	0	0	0	2	2
HSG Trips	30	54	84	2	2	14	0	16	2	2	2	0	14	2	16
Total Trips	***210***	***284***	***494***	***14***	***14***	***71***	***0***	***86***	***14***	***14***	***14***	***0***	***71***	***14***	***86***

Notes:
* Truck trips include a Passenger Car Equivalency (PCE) factor of 2.5.
Trucks - DCTWRP includes 90 daily trucks, pipeline includes 60 daily trucks, PSG includes 30 daily trucks, and HSG includes 30 daily trucks, all assumed to all take place on a peak day of construction activity. Assuming 8 hour work day.
Field Personnel – A maximum of 68 workers (DCTWRP), 20 workers (pipeline), 27 workers (PSG), and 27 workers (HSG) on an average day of construction. Assume 50% of field personnel arrive/depart during peak periods.
Source: KOA Corporation 2016

Table 3.15-10
Future With Project Peak Hour Intersection LOS

ID	Intersection	AM Peak		PM Peak	
		V/C	LOS	V/C	LOS
1	Woodley Avenue & Victory Boulevard	**1.274**	**F**	**1.133**	**F**
2	Densmore Avenue & Victory Boulevard	0.751	C	0.681	B
3	Haskell Avenue & Victory Boulevard	**1.238**	**F**	**1.200**	**F**
4	I-405 NB Ramps & Victory Boulevard	0.849	D	0.881	D
5	I-5 SB Ramps & Osborne Street	0.736	C	0.881	D
6	I-5 NB Ramps & Osborne Street	0.724	C	0.868	D
7	San Fernando Road & Osborne Street	0.748	C	0.817	D
8	Glenoaks Boulevard & Osborne Street	**1.150**	**F**	**1.099**	**F**
9	Glenoaks Boulevard & Sheldon Street	0.854	D	0.843	D
10	Glenoaks Boulevard & Penrose Street	0.499	A	0.484	A
11	Arleta Avenue & Devonshire Street	0.686	B	0.869	D
12	Arleta Avenue & Branford Street	**0.985**	**E**	**0.995**	**E**
13	Arleta Avenue & Van Nuys Boulevard	**1.024**	**F**	**1.045**	**F**
14	Arleta Avenue & Terra Bella Street	0.896	D	0.774	C
15	Arleta Avenue & Osborne Street	**1.048**	**F**	**1.083**	**F**

Notes: LOS – Level of Service, V/C = Volume-to-Capacity Ratio
Source: KOA Corporation 2016

Table 3.15-11 shows the average daily traffic volumes for future with Project conditions at the study are roadway segments.

Table 3.15-11
Future With Project Study Roadway Segments Daily Vehicle Volumes

Segment		# of Lanes	Capacity	Peak Period	Project Only	Future With Project Volumes		
						Volume	V/C	LOS
A	Haskell Avenue, between Victory Boulevard and Orange Line Busway	1	800	AM	0	511	0.639	B
				PM	0	316	0.395	A
B	Victory Boulevard, between Woodley Avenue and I-405	6	4,800	AM	38	4,955	**1.032**	**F**
				PM	41	5,075	**1.057**	**F**
C	Arleta Avenue, between Devonshire Street and Van Nuys Boulevard	2	1,600	AM	11	2,116	**1.323**	**F**
				PM	14	1,843	**1.152**	**F**
D	Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street	2	1,200	AM	11	1,903	**1.586**	**F**
				PM	8	1,611	**1.343**	**F**
E	Arleta Avenue, between Terra Bella Street and Osborne Street	2	1,200	AM	11	2,085	**1.738**	**F**
				PM	8	1,927	**1.606**	**F**
F	Arleta Avenue, between Osborne Street and Branford Street	2	1,200	AM	19	2,358	**1.965**	**F**
				PM	19	2,518	**2.098**	**F**

Source: KOA Corporation 2016

As shown in Table 3.15-11, construction of the Proposed Project is anticipated to result in a significant impact along the following study roadway segments:

- Victory Boulevard, between Woodley Avenue and I-405 - operations would worsen within LOS F during the morning and evening peak hours.
- Arleta Avenue, between Devonshire Street and Van Nuys Boulevard – operations would worsen to LOS F during the morning and evening peak hours.

- Arleta Avenue, between Van Nuys Boulevard and Terra Bella Street – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue, between Terra Bella Street and Osborne Street – operations would worsen to LOS F during the morning and evening peak hours.
- Arleta Avenue, between Osborne Street and Branford Street – operations would worsen to LOS F during the morning and evening peak hours.

Mitigation Measure TRA-A, which would include the preparation of a Traffic Management Plan for construction activities, would be required. Implementation of Mitigation Measure TRA-A would reduce the construction traffic impacts to the study area intersections and roadway segments to a less than significant level, except along the recycled water pipeline alignment (Arleta Avenue), where impacts would be reduced, but would remain significant and unavoidable.

TRA-2: *The Proposed Project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. The impact would be less than significant.*

Project-related traffic impacts would occur during Project construction activities only. No traffic impacts would occur during operation of the Proposed Project. The County of Los Angeles CMP LOS thresholds are not intended to be applied to construction activities. As such, no impact would occur during Project construction.

As stated above in TRA-1, operation of the proposed AWPF would commence in late 2022. Sixteen full-time staff would be required to each day operate and maintain the AWPF. It is estimated that there would be up to seven truck deliveries per month during operation of the proposed AWPF. Operation of the proposed brine line and recycled water pipeline would involve routine maintenance and inspection approximately once every 5 to 10 years. No additional personnel would be required for this activity. During peak operational activities, when the AWPF is undergoing routine maintenance, a maximum of 14 trips would occur to and from the AWPF on a monthly basis. The intersection of Victory Boulevard and Sepulveda Boulevard is the nearest CMP monitoring location, approximately 0.4-mile east of DCTWRP. The nearest CMP mainline freeway-monitoring locations to the Project site are on I-405, north of Roscoe Boulevard, approximately 2.7-miles north of DCTWRP. Based on the Project trip generation and distribution during Project operations, the Proposed Project would not exceed the CMP impact thresholds at the closest monitoring locations during either the morning or evening peak periods. The impact would be less than significant.

TRA-3: *The Proposed Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. No impact would occur.*

The Proposed Project would not result in a change in air traffic patterns. Construction and operation of the Proposed Project would not generate air traffic. Further, the Proposed Project would not include any high-rise structures that could act as a hazard to aircraft navigation. No impact would occur.

TRA-4: *The Proposed Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). No impact would occur.*

The Proposed Project would be constructed within existing roadways or within DCTWRP, PSG, or HSG. No permanent design changes to the existing roadways or use of roadways would occur. Therefore, no impact related to an increase in hazards due to a design feature or incompatible uses would occur.

TRA-5: *The Proposed Project would not result in inadequate emergency access. The impact would be less than significant.*

Installation of the proposed brine line and recycled water pipeline would require temporary lane closures during the construction period, which could have an effect on emergency access. Pipeline construction would necessitate closure of up to two lanes of the roadway, including parking lanes, in the section under construction. However, it is not anticipated that full roadway closures would be necessary and the operation of existing roadways would be preserved throughout construction. Vehicular access to intersecting streets would be limited during portions of the construction period. However, construction of the recycled water pipeline would occur in sections, and no portion of the roadway would remain closed during the entire construction period. After a sufficient length of trench was excavated and shored, an 18-foot-long ductile iron pipe section would be placed in the trench and joined to the preceding section of pipe. Once three to four sections of pipe were installed in the trench that portion of the trench would be backfilled and pipe installation work would continue in the forward areas of the trench. Portions of the construction zone may be covered with metal plates during periods of the day when construction is not ongoing to allow for continued passage of traffic. Furthermore, the City would consult with emergency service providers (e.g., LAFD, LAPD, etc.) regarding construction schedules and worksite traffic control and detour plans. Development of such plans and consultation with emergency service providers would ensure that impacts related to emergency response and access during construction would be less than significant.

During Project operation, all activity would take place within the proposed AWPF. There would be no road closures or other restrictions to roadways that would impair emergency access. No long-term operational impact would occur.

TRA-6: *During construction, the Proposed Project may conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. With the incorporation of Mitigation Measure TRA-A, impacts would be less than significant.*

Construction activities related to recycled water pipeline installation would require the closure of up to two lanes of the roadway, including parking lanes, which may result in turn restrictions. Construction activities are also anticipated to temporarily affect bicycle or pedestrian facilities.

Construction of the Proposed Project could potentially affect pedestrian travel on sidewalks and at crosswalk locations. Marked pedestrian crosswalks would be maintained throughout Project construction, especially in areas near schools or transit stops. Crosswalks would be temporarily replaced immediately beyond the construction work area, as feasible. Development of a worksite traffic control and detour plan (see Mitigation Measure TRA-A) would be required to reduce temporary significant impacts to pedestrian facilities during the construction period. In addition, coordination with the LAUSD would occur regarding pedestrian crosswalks near schools, as applicable.

The Orange Line Bike Path, north of DCTWRP, may be briefly impacted at the brine line connection to the VORS. Other bicycle facilities such as the bike path along Devonshire Street west of Arleta, the bike lane along Van Nuys Boulevard between Foothill Boulevard and Woodman Avenue, the bike lane along Terra Bella Street between San Fernando Road and Van Nuys Boulevard, and the bike route along Osborne Street between San Fernando Road and Woodman Avenue may also be impacted during installation of the recycled water pipeline within Arleta Avenue. In addition, the City of Los Angeles 2010 Bike Plan proposes a bikeway along San Fernando Road adjacent to HSG. However, construction of the proposed improvements at HSG would take place within the boundaries of the HSG property. However, if bikeways are provided prior to Project construction, the Proposed Project has the potential to impact the proposed route. As a result, construction activities could potentially create unsafe conditions for bicyclists. Therefore, the impact would be significant. To notify the public, detour signs would be posted at the next major intersections to the north and south of the construction area (see Mitigation Measure TRA-A). Final detour plans would be subject to LADOT approval. Once construction is completed, any impacted bicycle facilities would be returned to their original conditions. With implementation of Mitigation Measure TRA-A, the temporary construction impacts to existing and proposed bicycle routes and pedestrian facilities would be reduced to a less than significant level.

No long-term impacts to public transit, bicycle, or pedestrian facilities would occur during Project operation.

3.15.4 Mitigation Measures

TRA-A The City, prior to the start of construction, shall coordinate with LADOT to prepare a Traffic Management Plan (TMP). The TMP shall be prepared by a registered traffic or civil engineer, as appropriate, based on City of Los Angeles permit guidelines. The TMP shall consist of traffic control plans showing striping changes, and a traffic signal plan for any signalized intersections indicating modifications to existing traffic signals and associated controllers to be adjusted during the construction phase. Methods to inform the public regarding Project construction, and roadway, bike path, and pedestrian facility detours and closures shall be implemented as part of the TMP. Additional measures to be incorporated into the TMP to improve traffic flow shall include the following:

a. Directional capacity (generally southbound in the morning peak hour and northbound in the evening peak hour) shall be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lanes for the opposite direction of traffic flow, shall be used to alleviate any potential poor level of service conditions.

b. Provide continued through access via detours for vehicles and to provide for adequate pedestrian and bicycle circulation. Signed detour routes and other potential routes that drivers would utilize during the construction period would become alternate routes for a proportion of the vehicles that would otherwise travel along the corridor where construction would be taking place.

c. For the Project detour routes, wayfinding signs and other relevant traffic control devices shall be placed on all major roadways into the larger area around each construction closure locations, and shall be repositioned for each construction segment (as the construction zones progress along the recycled water pipeline alignment). Wayfinding signs shall be placed at major detour decision points to keep vehicles on-track through the detour route, and shall also be placed at the next major intersection location in advance of the first detour decision point.

d. Consult with Metro to minimize impacts to passenger loading areas and to minimize travel times on scheduled bus routes. All affected transit agencies shall be contacted to provide for any required modifications or temporary relocation of transit facilities.

3.15.5 Significance After Mitigation

Implementation of Mitigation Measure TRA-A would reduce construction-related impacts to the study area intersections and roadway segments, and public transit, bicycle, and pedestrian facilities. However, given the magnitude of the worsening of LOS on Arleta Avenue during construction of the recycled water pipeline, the impacts to traffic on Arleta would be significant and unavoidable even with the application of the mitigation measure. No long-term impacts would occur during Project operation.

SECTION 3.16
UTILITIES AND SERVICE SYSTEMS

This section describes the existing conditions and applicable regulations for utilities and service systems in the Proposed Project area and describes the impacts on utilities and service systems resulting from implementation of the Proposed Project. Discussion of the Project operational energy usage is included in Section 3.7, Greenhouse Gas Emissions and Energy.

3.16.1 Environmental Setting

Water

LADWP supplies water to the City of Los Angeles for residential and commercial purposes. LADWP distributes approximately 177 billion gallons of water annually to customers. Historically, City water supplies in normal precipitation years are derived from the following sources:

- Los Angeles Aqueduct (from Eastern Sierra Nevada) – 36 percent;
- Purchased water (from Metropolitan Water District) – 52 percent;
- Groundwater – 11 percent; and
- Recycled water – 1 percent[172]

The California Urban Water Management Planning Act requires every urban water supplier to prepare and adopt an UWMP every five years. LADWP updated its UWMP in April 2011, covering 2010 to 2015.[173] LADWP projects water demand within its service area to reach approximately 642,000 AF with passive and active water conservation by 2035, and approximately 690,000 AF by 2035, assuming dry weather.[174] Based on existing and potential water supplies and water purchased from MWD, LADWP expects to be able to provide approximately 710,800 AF of water in 2035.[175]

Wastewater

The Project components are located within the wastewater jurisdiction of LASAN. The City operates and maintains one of the largest wastewater collection systems in the world, serving over four million residential and businesses customers in the City Los Angeles and 29 contracting cities and agencies. The City's more than 6,500 miles of public sewers convey about

172 LADWP, Water, Facts & Figures, website: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-factandfigures?_afrLoop=406200440236563&_afrWindowMode=0&_afrWindowId=5j89vd567_1#%40%3F_afrWindowId%3D5j89vd567_1%26_afrLoop%3D406200440236563%26_afrWindowMode%3D0%26_adf.ctrl-state%3D5j89vd567_17, accessed August 11, 2015.

173 LADWP, 2010 Urban Water Management Plan (UWMP), website: http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Los%20Angeles%20Department%20of%20Water%20and%20Power/LADWP%20UWMP_2010_LowRes.pdf, accessed August 11, 2015.

174 LADWP, 2010 UWMP, p. 10.

175 LADWP, 2010 UWMP, p. 20.

550 million gallons per day (mgd) of flow from residences and businesses to the City's four wastewater and water reclamation plants.[176]

The Hyperion Treatment System (HTS) is owned and operated by LASAN and includes treatment plants, outfalls, and numerous sewer connections and major interceptors. Treatment plants within the HTS include Hyperion Treatment Plant (HTP), DCTWRP, and the Los Angeles-Glendale Water Reclamation Plant. Both DCTWRP and Los Angeles-Glendale Water Reclamation Plant are wastewater reclamation plants that treat to tertiary levels and discharge wastewater generated to the HTS, effectively removing or extracting flows and thereby reducing wastewater flows at HTP.[177] HTP has a daily average flow of 362 mgd with the capacity to accommodate 450 mgd.[178]

The existing sewer infrastructure in the vicinity of the Proposed Project includes the AVORS and the EVIS. The AVORS and EVIS carry wastewater to DCTWRP. Although the AVORS line traverses the DCTWRP property, it cannot be used to transport brine that would be produced by the Project because flows from the AVORS are collected downstream at the Los Angeles-Glendale Water Reclamation Plant for recycling. The nearby VORS, which runs eastward along Victory Boulevard and turns southward east of I-405, is connected to a diversion structure, which can transport brine directly to HTP.

Solid Waste

LASAN provides solid waste management services within the City. LASAN currently disposes of refuse at the privately-owned Sunshine Canyon Landfill, located at 14747 San Fernando Road in community of Sylmar in the City of Los Angeles.[179] LASAN owns and maintains five non-operational landfills that are in the process of being closed or have already undergone land restoration and are closed, as well as three operating green waste facilities.[180,181] LASAN also operates the Central Los Angeles Recycling & Transfer Station (CLARTS) that serves the City by temporarily storing refuse before a larger truck can transport it to nearest landfill. DCTWRP falls within the West Valley "wasteshed" collection district, and the offsite portions of the Project site fall within the East Valley "wasteshed".[182]

The Sunshine Canyon Landfill is located approximately 9.6 miles north of DCTWRP. It accepts different types of waste for recycling and disposal, and construction and demolition waste.[183] This facility has a permitted intake capacity of 12,100 tons per day and currently averages 8,900

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176 City of Los Angeles, Department of Public Works, About Wastewater, website: http://www.lacitysan.org/wastewater/index.htm, accessed August 19, 2015.

177 City of Los Angeles Department of Public Works Bureau of Sanitation (LASAN), Sewer System Management Plan, Hyperion Sanitary Sewer System, February 2015, website: http://www.lacitysan.org/lasewers/ssmp/pdfs/SSMP_Hyperion.pdf, accessed August 19, 2015.

178 LASAN, About Wastewater Facts & Figures, website: http://san.lacity.org/wastewater/factsfigures.htm, accessed August 19, 2015.

179 LASAN, About Solid Resources, Facts and Figures, website: http://www.lacitysan.org/solid_resources/factsfigures.htm, accessed August 19, 2015.

180 LASAN, Solid Resources Processing and Construction Division, website: http://lacitysan.org/srpcd/landfills.htm, accessed August 19, 2015.

181 LASAN, Solid Resources Processing and Construction Division, website: http://lacitysan.org/srpcd/mulch_compost.htm, accessed August 19, 2015.

182 LASAN, Solid Waste Collections Wastesheds, website: http://lacitysan.org/solid_resources/strategic_programs/alternative_tech/PDF/SolidWasteCollection.pdf, accessed August 19, 2015.

183 Sunshine Canyon Landfill, About Us, website: http://www.sunshinecanyonlandfill.com/home/2-5-Using_what.html, accessed August 19, 2015.

to 9,500 tons per day. The facility is scheduled to reach capacity in 2037; however, programs are being considered to extend the life of the landfill beyond 2037.[184]

CLARTS is located at 2201 East Washington Boulevard in the City of Los Angeles. The facility has a permitted intake capacity of 4,025 tons per day and currently averages 2,500 tons per day. CLARTS provides transfer services for the City of Los Angeles curbside collection operations and is also open to commercial waste haulers, independent operators, and the general public.[185]

LASAN also disposes waste at several other County landfills, such as the Antelope Valley, Calabasas, Chiquita Canyon, Lancaster Hills, Puente Hills, and Scholl Canyon landfills, as well as the Commerce Refuse-to Energy Facility and Southeast Resource Recovery Facility. A breakdown of waste disposal for the year 2013 can be found within the 2013 Annual Report of the Countywide Integrated Waste Management Plan.[186]

3.16.2 Regulatory Setting

Groundwater recharge using recycled water is governed primarily by state and local agencies. The primary agencies involved are the DDW and the local RWQCB. The federal government does not have direct jurisdiction over groundwater. However, it should be noted that because surface water quality may affect groundwater, and because the USEPA has a role in setting wastewater treatment requirements and standards for surface water discharges, some federal regulations may be applied indirectly to groundwater recharge projects.

State

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), 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.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Assembly Bill 939) was enacted to reduce, recycle, and reuse solid waste generated in the state to the maximum extent feasible. Specifically, this Act requires city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from land disposal by the year 2000 through source reduction, recycling, and composting activities, and requires the participation of the residential, commercial, industrial, and public sectors.

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[184] Sunshine Canyon Landfill, Future Plans, website: http://www.sunshinecanyonlandfill.com/home/Future.html, accessed August 19, 2015.

[185] LASAN, Solid Resources Processing and Construction Division, Facilities – Central Los Angeles Recycling & Transfer Station, website: http://lacitysan.org/srpcd/TS_clarts.htm, accessed August 19, 2015.

[186] Los Angeles County Department of Public Works, Environmental Programs Division, *Los Angeles County Countywide Integrated Waste Management Summary Plan 2013 Annual Report. May* 2015, website: https://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=3473&hp=yes&type=PDF, accessed August 19, 2015.

Local

Los Angeles Regional Water Quality Control Board

The Los Angeles RWQCB works in concert with the DDW in the review and approval of new groundwater recharge projects. As the Proposed Project includes off-stream conveyance followed by spreading for recharge, groundwater beneficial uses would apply, and the Los Angeles RWQCB would establish permit conditions to protect the uses and ensure that water quality objectives are met.

City of Los Angeles General Plan Framework Element, Chapter 9 Infrastructure and Public Services

Chapter 9 of the City of Los Angeles General Plan Framework Element describes 13 existing infrastructure and public service systems in the City that assist in supporting City operations. Specifically, the chapter includes goals, objectives, and policies related to wastewater, stormwater, water, and solid waste. The element contains a goal for wastewater, stormwater, water, and five goals for solid waste. The overarching goals are listed below. Refer to the Framework Element for the corresponding objectives and policies.[187]

- *Goal 9A.* Adequate wastewater collection and treatment capacity for the City and in basins tributary to City-owned wastewater treatment facilities.
- *Goal 9B.* A stormwater management program that minimizes flood hazards and protects water quality by employing watershed-based approaches that balance environmental, economic and engineering considerations.
- *Goal 9C.* Adequate water supply, storage facilities, and delivery system to serve the needs of existing and future residents and businesses.
- *Goal 9D.* An integrated solid waste management system that maximizes source reduction and materials recovery and minimizes the amount of waste requiring disposal.
- *Goal 9E.* Adequate Recycling Facility Development - expanded siting of facilities that enhance the City's reduction, recycling and composting efforts using methods and strategies that are economically, socially, and politically acceptable.
- *Goal 9F.* Adequate collection, transfer and disposal of mixed solid waste - the City shall seek to ensure that all mixed solid waste that cannot be reduced, recycled or composted is collected, transferred and disposed of in a manner that minimizes adverse environmental impacts.
- *Goal 9G.* An environmentally sound solid waste management system that protects public health, safety, and natural resources and minimizes adverse environmental impacts.

[187] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Framework Element, Chapter 9 Instructure and Public Services*, website: http://planning.lacity.org/cwd/framwk/chapters/09/09.htm, accessed August 19, 2015.

- *Goal 9H.* A cost-effective solid waste management system that emphasizes source reduction, recycling, reuse, and market development and is adequately financed to meet operational and maintenance needs.

City of Los Angeles Municipal Code

Under the LAMC, the City of Los Angeles Stormwater Ordinance prohibits the entry of illicit discharges into the municipal storm drain system and allows the City to enforce the NPDES municipal stormwater permit. Additionally, the City of Los Angeles Low Impact Development Ordinance requires development projects to mitigate runoff at its source using BMPs such as rain barrels, permeable pavement, infiltration swales, etc.[188]

LAMC also requires that all mixed construction and demolition waste generated within City limits be disposed of at a City certified construction and demolition waste processor under the Citywide Construction and Demolition Waste Recycling Ordinance.[189]

City of Los Angeles Sewer System Management Plan, Hyperion Sanitary Sewer System

The Sewer System Management Plan (SSMP) for the Hyperion System was prepared pursuant to the SWRCB Statewide General Waste Discharge Requirements (WDRs). The original SSMP was adopted in February 2009 and was updated in February 2015. The SSMP provides a plan and schedule to properly manage, operate, and maintain all parts of the Hyperion System. The goals of the plan include, but are not limited to, providing sufficient sewage capacity, maintaining an effective sanitary sewer overflow response plan, and improving operational reliability and flexibility.[190]

County of Los Angeles Countywide Integrated Waste Management Plan, 2013 Annual Report

Assembly Bill 939 requires that state and local governments share the responsibility for managing solid waste. The State of California has directed Los Angeles County to prepare and implement a local integrated waste management plan in accordance with Assembly Bill 939. The Los Angeles County Countywide Integrated Waste Management Summary Plan Executive Summary presents the goals, policies, and objectives for integrating strategies aimed toward reducing, reusing, recycling, diverting, and marketing solid waste generated within the County and the City.[191]

3.16.3 Environmental Impacts

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on utilities and service systems if it would:

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[188] City of Los Angeles Stormwater Program, Ordinance, website: http://www.lastormwater.org/about-us/ordinance/, accessed August 19, 2015.

[189] LASAN, Construction and Demolition Recycling, website: http://lacitysan.org/solid_resources/recycling/c&d.htm, accessed August 19, 2015.

[190] LASAN, Sewer System Management Plan, Hyperion Sanitary Sewer System, February 2015, website: http://www.lacitysan.org/lasewers/ssmp/pdfs/SSMP_Hyperion.pdf, accessed August 19, 2015.

[191] Los Angeles County. Department of Public Works, Environmental Programs Division, Los Angeles County Countywide Integrated Waste Management Summary Plan 2013 Annual Report. May 2015, website: https://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=3473&hp=yes&type=PDF, accessed August 19, 2015.

- Exceed wastewater treatment requirements of the applicable RWQCB;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have insufficient water supplies available to serve the Project from existing entitlements and resources, or would require new or expanded entitlements;
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs; or
- Not comply with federal, state, and local statutes and regulations related to solid waste.

Methodology

The assessment of impacts concerning utilities and service systems is based on operating standards established by the respective jurisdiction and the levels of water demand, wastewater generation, and solid waste generation anticipated based on Project construction and operation.

Impact Analysis

USS-1: *The Proposed Project would not exceed wastewater treatment requirements of the applicable RWQCB. The impact would be less than significant.*

As stated in Section 3.9, Hydrology, Water Quality, and Groundwater, the Proposed Project would be required to prepare a SWPPP outlining the BMPs to be implemented to avoid or minimize runoff discharges into the Los Angeles River and other watercourses. An erosion control plan would also be prepared and would specify appropriate BMPs to control runoff from the Proposed Project site during construction. Additionally, any wastewater discharged by the Proposed Project would comply with the NPDES permit requirements. Compliance with these existing regulations would result in a less than significant impact to wastewater treatment requirements.

USS-2: *The Proposed Project would not require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects. Additionally, the Proposed Project would not result in a determination by the wastewater treatment provider that serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. The impact would be less than significant.*

Construction

Construction of the onsite components would last over 4 years and is estimated to average about 68 construction personnel per day during the heaviest period of AWPF construction.

Construction of the offsite components of the Proposed Project would last approximately 2.5 years and is estimated to average approximately 20 construction personnel per day during construction of the recycled water pipeline, and the PSG and HSG improvements. During construction, water would be required for activities such as dust control. However, these activities are limited and temporary and would not consume large amounts of water requiring construction of new water treatment facilities. Wastewater at the Project site would be conveyed to the HTP and would primarily be generated by construction activities and construction workers. Due to the temporary nature of the construction activities and the relatively low number of construction workers, the amount of construction-related wastewater that would be generated is not expected to have a significant impact during construction of the onsite and offsite components. The impact would be less than significant.

Operation

Operation of the proposed AWPF would require an additional 16 staff at DCTWRP to operate and maintain the AWPF. Operation of the improvements at PSG and HSG would not require additional staff. Maintenance of the brine line and the recycled water pipeline would involve routine maintenance and inspection approximately once every 5 to 10 years. Large amounts of water demand and wastewater generation are typically associated with the operation of residential and office uses; however, the Proposed Project does not include a residential or office component. Operation of the Proposed Project is anticipated to result in a nominal increase in demand for water supply and the resulting additional amount of wastewater generated. Operation of the AWPF would remove dissolved solids from the recycled water and generate a brine solution. The brine would be routed to the VORS, which has capacity to accommodate the increased flows. The brine would be routed to HTP for further processing. The HTP has adequate capacity to accommodate the brine line flow (estimated at a maximum of about 9 mgd) as the treatment plant has a daily flow of 362 mgd with a capacity of 450 mgd.[192] Therefore, operation of the onsite and offsite components would not require or result in the construction of new water or wastewater treatment facilities. The impact would be less than significant.

USS-3: *The Proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The impact would be less than significant.*

As the construction of the AWPF could increase the rate of surface runoff, the Proposed Project would be subject to the Los Angeles County MS4 Permit requirement for hydromodification control. This regulation requires the Proposed Project to retain and treat storm water volume from the 95th percentile, 24-hour storm, or demonstrate that the post-development flow rate, volume, velocity, and duration would not exceed the pre-development condition for the 2-year, 24-hour rainfall event through the implementation of Low Impact Development measures and BMPs. The implementation of these measures in compliance with the MS4 Permit would manage the amount of runoff generated onsite to acceptable levels that would protect the downstream watercourse. Additionally, an appropriate combination of monitoring and resource impact avoidance would be employed during construction of the Proposed Project, including implementation of an erosion control plan and the SWPPP, which would outline construction BMPs as listed in Section 2.6.5, Environmental Commitments During Construction. Following

192 LASAN, About Wastewater Facts & Figures, website: http://san.lacity.org/wastewater/factsfigures.htm, accessed August 19, 2015.

construction, stormwater flows would be similar to the current condition as all drainage flows would be routed through existing infrastructure. Therefore, the Proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. The impact would be less than significant.

USS-4: *Sufficient water supplies would be available to serve the Proposed Project from existing entitlements and resources. The impact would be less than significant.*

Construction

As discussed above, the Proposed Project construction as a whole would last up to 4 years with construction of on- and off-site components overlapping and occurring simultaneously at times. During construction, water would be required for activities such as dust control. As the Proposed Project would occur in various stages over an approximately 4-year period, these activities would occur intermittently, would be short-term and temporary, and would not consume large amounts of water such that additional supplies would be required. Therefore, impacts on construction water supply would be less than significant.

Operation

Operation of the AWPF would require an additional 16 staff at DCTWRP. Operation of improvements at PSG and HSG would not require additional staff. Maintenance of the brine line and recycled water pipeline would involve routine maintenance and inspection approximately once every 5 to 10 years. Large amounts of water demand are typically associated with operation of residential and office uses; however, the Proposed Project does not include a residential or office component. Operation of the Proposed Project would require a nominal amount of potable water supply for employee use at the Project site. Thus, the demand for potable water supply could be accommodated by existing supplies.

Additionally, as stated in Section 2.1, Project Overview, the Proposed Project would allow LADWP to offset the current use of imported water with up to 30,000 AFY of purified water from DCTWRP for groundwater replenishment in the SFB, thus increasing local supplies of potable water. Therefore, the impact to operational water supply would be less than significant.

USS-5: *The Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs. The impact would be less than significant.*

Construction

During construction of the onsite components, excavation would generate approximately 48,000 CY of excavated material. Approximately 36,000 CY would be hauled off site for disposal. The remaining 12,000 CY of excavated material would be temporarily stockpiled on site and reused during Project construction. Construction of improvements at PSG and HSG and construction of the recycled water pipeline would generate relatively small quantities of excavated material. All excavated material associated with the construction of the offsite improvements would be hauled offsite for disposal.

Any non-recyclable construction waste would be disposed of at an area landfill approved to accept such waste. As previously discussed, several facilities are available to meet the waste management needs of the region. As discussed in Section 3.16.1 above, all of the facilities serving the Project area have remaining intake capacity. Specifically, the Sunshine Canyon Landfill accepts construction and demolition waste. This facility is permitted to intake up to 12,100 tons of solid waste per day and accepts an average of 8,900 to 9,500 tons per day, for a remaining daily intake capacity of approximately 3,200 to 2,600 tons. Thus, it is anticipated that the Sunshine Canyon Landfill would have sufficient capacity to accept the Project-related debris and export material and would be able to accommodate the Proposed Project's solid waste disposal needs during construction.

Additionally, construction of the Proposed Project would be required to incorporate source reduction techniques and recycling measures and maintain a recycling program to divert waste in accordance with the Citywide Construction and Demolition Waste Recycling Ordinance. These measures would minimize the amount of construction debris generated by the Proposed Project that would need to be disposed of in an area landfill. The Ordinance mandates that the waste be diverted to a City Certified Construction and Demolition Processing Facilities. The closest certified facility to the Proposed Project is the East Valley Diversion/USA Waste of California facility, located at 11616 Sheldon Street in the City of Sun Valley, approximately 6.8 miles northwest of DCTWRP and approximately 0.5-mile northeast of HSG.[193] Any non-recyclable construction waste generated would be disposed of at a landfill approved to accept such materials. Therefore, the short-term construction impact would be less than significant.

Operation

Limited quantities of solid waste would be generated during Project operation and would comply with state and local policies and ordinances to reduce solid waste. Additionally, all of the solid waste facilities serving the Project area have remaining intake capacity. Compliance with existing regulations would ensure that operation of the Proposed Project would result in a less than significant impact.

USS-6: *The Proposed Project would comply with federal, state, and local statutes and regulations related to solid waste. The impact would be less than significant.*

The Proposed Project would comply with federal, state, and local statutes and regulations related to solid waste. Construction debris would be recycled or disposed of according to local and regional standards. All materials would be handled and disposed of in accordance with existing local, state, and federal regulations. Limited quantities of solid waste would be generated during Project operation and would comply with state and local policies and ordinances to reduce solid waste. Therefore, compliance with existing regulations would ensure a less than significant impact.

3.16.4 Mitigation Measures

The Proposed Project would result in less than significant impacts to utilities and service systems through compliance with the regulations described above. No mitigation measures are required.

[193] LASAN, Solid Resources, Strategic Programs, List of Certified Processors for Calendar Year 2015, website: http://lacitysan.org/solid_resources/strategic_programs/ab939/compliance_fee.htm#WHP, accessed August 19, 2015.

3.16.5 Significance After Mitigation

The Proposed Project would result in less than significant impacts to utilities and service systems.

CHAPTER 4
IMPACT OVERVIEW

This chapter provides an overview of the environmental effects of the Proposed Project, including significant unavoidable adverse impacts, cumulative impacts, significant irreversible environmental changes, and growth-inducing impacts. Cross-references are made throughout this section to other sections of the EIR where more detailed discussions of the impacts of the Proposed Project can be found.

4.1 Significant Unavoidable Adverse Impacts

This section is prepared in accordance with Section 15126.2(b) of the CEQA Guidelines, which requires the discussion of any significant environmental effects that cannot be avoided if a project is implemented. These include impacts that can be mitigated but cannot be reduce to a less than significant level. An analysis of environmental impacts resulting from the Proposed Project has been conducted and is contained in Chapter 3 of this EIR. According to the environmental impact analysis presented in Chapter 3, the Proposed Project would result in a significant unavoidable adverse impacts related to noise and traffic.

As discussed in Section 3.12, Noise and Vibration, sensitive receptors adjacent to the construction zones at DCTWRP (e.g. Japanese Garden), along the recycled water pipeline (e.g. Nikkei Senior Gardens), and at PSG (e.g. residences) would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but equipment noise levels would exceed 75 dBA at the nearest sensitive receptors. Implementation of Mitigation Measures NOI-A through NOI-H would reduce temporary and periodic construction noise levels at the recycled water pipeline and PSG to less than significant. Implementation of Mitigation Measures NOI-A through NOI-I would reduce temporary and periodic construction noise levels at the Japanese Garden, but would remain a significant and unavoidable impact.

As discussed in Section 3.15, Transportation and Traffic, construction activities associated with the Proposed Project would worsen operations to or within LOS E or F at study area intersections and roadway segments. Implementation of Mitigation Measures TRA-A would reduce the construction traffic impacts to study area intersections and roadway segments to a less than significant level, except along the recycled water pipeline alignment (Arleta Avenue), where impacts would be reduced, but would remain significant and unavoidable.

4.2 Cumulative Impacts

The following subsections describe potential impacts from the buildout of the Proposed Project in combination with development of reasonably foreseeable projects in the area. According to Section 15355 of the CEQA Guidelines, cumulative impacts refer to:

> *"Two or more individual effects which, when considered together are considerable or which compound or increase other environmental effects. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and*

reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

Section 15130(a) of the CEQA Guidelines states that:

"An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable... When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR… An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact."

Pursuant to Section 15130(b)(1)(A) of the CEQA Guidelines, a list of past, present, and probable future projects producing related or cumulative impacts may be used as the basis of the cumulative impacts analysis. The "list" approach was used for the cumulative impacts discussion in this EIR. The scale or geographic scope of related projects varies for each impact category. For instance, cumulative geology and soils or aesthetics impacts are considered localized, while cumulative traffic and transportation and air quality impacts are considered regional. Table 4-1 includes a listing of approved or proposed development projects in an approximate 2-mile radius of the Proposed Project site. Figure 4-1 shows the locations of these projects in relation to the Proposed Project. The list of related projects is derived from lists provided by the City of Los Angeles Department of Public Works, Bureau of Engineering.

Of note are several water utility projects that are currently planned or are being considered in the vicinity of the Arleta Avenue recycled water pipeline alignment, either adjacent to or within Canterbury Avenue. These include the City Trunk Line North Replacement, Canterbury Avenue Power Line Easement Stormwater Project, and Pacoima Spreading Grounds Improvement Project. These related projects are currently planned to be constructed either before or after the Proposed Project recycled water pipeline, which is scheduled for construction from mid-2020 to the end of 2021. Therefore, it is not anticipated that these related water utility projects would directly interfere with the Proposed Project construction or magnify potential impacts related to its construction.

Table 4-1
Related Projects

Map #	Location	Land Use	Size
1	13535 Van Nuys Boulevard	Hotel	44 rooms
2	15136 Nordhoff Street	Charter School	600 students
3	9989 Laurel Canyon Boulevard	Charter School	400 students
4	8605 Colbath Avenue	School	175 students
5	8755 Woodman Avenue	Charter School	480 students
6	8401 Van Nuys Boulevard	Panorama Mall	-
7	12450 Branford Street	Industrial	-
8	9189 De Garmo Avenue	Industrial	-
9	9000 Sunland Boulevard	Mixed Use	-
10	11038 Peoria Street	TV/Commercial	-
11	13103 Victory Boulevard	Mixed Use	-
12	6301 Laurel Canyon Boulevard	Mixed Use	-
13	12425 Victory Boulevard	Mixed Use	-

Table 4-1
Related Projects

Map #	Location	Land Use	Size
14	6605 Lankershim Boulevard	Mixed Use	-
15	13007 Victory Boulevard	Mixed Use	-
16	7934 Lankershim Boulevard	Commercial	-
17	6601 Lankershim Boulevard	Commercial	-
18	7955 Laurel Canyon Boulevard	Commercial	-
19	12106 Burbank Boulevard	Retail	2,500 s.f.
20	6150 Laurel Canyon Boulevard	Mixed Use	-
21	4200 Radford Avenue	Studio	161,885 s.f.
22	12629 Riverside Drive	Condominiums	270 d.u.
23	11933 Magnolia Boulevard	Condominiums	107 d.u.
24	5401 Lankershim Boulevard	Mixed Use	-
25	11405 Chandler Boulevard	Mixed Use	-
26	11126 Chandler Boulevard	Mixed Use	-
27	4832 Tujunga Avenue	School	-
28	11120 Chandler Avenue	Mixed Use	-
29	5500 Klump Avenue	Apartments	84 d.u.
30	11331 Ventura Avenue	Condominiums	62 d.u.
31	4141 Whitsett Avenue	Senior Apartments	200 d.u.
32	11000 Ventura Boulevard	Pharmacy	12,079 s.f.
33	11617 Ventura Boulevard	Mixed Use	-
34	12548 Ventura Boulevard	Mixed Use	-
35	11036 Moorpark Street	Apartments	96 d.u.
36	6640 Sepulveda Boulevard	Apartments	72 d.u.
37	5700 Sepulveda Boulevard	Mixed Use	-
38	15225Vanowen Street	Medical Office	80,200 s.f.
39	7121 Woodley Avenue	Apartments	126 d.u.
40	17100 Victory Boulevard	Apartments	200 d.u.
41	14615 Oxnard Street	Fire station	18,533 s.f.
42	San Fernando Bike Bridge/Tujunga Wash-1309, Phase 3	Bicycle Bridge	-
43	DCT – Backup Power	Wastewater Treatment Plants	-
44	DCT – Electricity Usage Monitoring and Optimization	Wastewater Treatment Plants	-
45	DCT – Channel 1 Air Spargers Improvements	Wastewater Treatment Plants	-
46	DCT – Secondary Clarifiers Improvements	Wastewater Treatment Plants	-
47	DCT – Sodium Bi Sulfite Facility Improvements	Wastewater Treatment Plants	-
48	City Trunk Line North Replacement	Infrastructure	-
49	Canterbury Power Line Easement Stormwater Capture Project	Stormwater Capture	-
50	Pacoima Spreading Grounds Improvement Project	Spreading Grounds	-
51	Old Pacoima Wash Stormwater Capture Project	Stormwater Capture	-
52	Tujunga Spreading Grounds Enhancement Project	Spreading Grounds	-
53	Groundwater Remediation Project		-
54	Bull Creek Stormwater Capture Project	Stormwater Capture	-
55	Branford Spreading Basin Project	Spreading Grounds	-
56	Fernangeles Park Stormwater Capture Project	Stormwater Capture	-

Sources: KOA, 2015 (Map #s 1-40)
City of Los Angeles Engineering, website: http://eng.lacity.org/techdocs/emg/projects.htm (Map #41)
City of Los Angeles Department of Public Works, website:
http://boe.lacity.org/uprs/report/CouncilDistrictReport.cfm?a=2&c=6 (Map #42-47)
LADWP correspondence (Map #48-56)

Note: d.u. = dwelling units; s.f. = square feet

Aesthetics

There are 56 related projects located within the vicinity of the Proposed Project. These related projects would occur in an area that has already been impacted by urban development. As previously discussed, no new buildings constructed under the Proposed Project would be over two stories in height. Therefore, the new structures on the Proposed Project site would be aesthetically consistent with the visual character and quality of the existing facilities and the surrounding area. Therefore, the Proposed Project, in conjunction with the related projects, would not have a significant cumulative aesthetic impact.

Agriculture and Forestry Resources

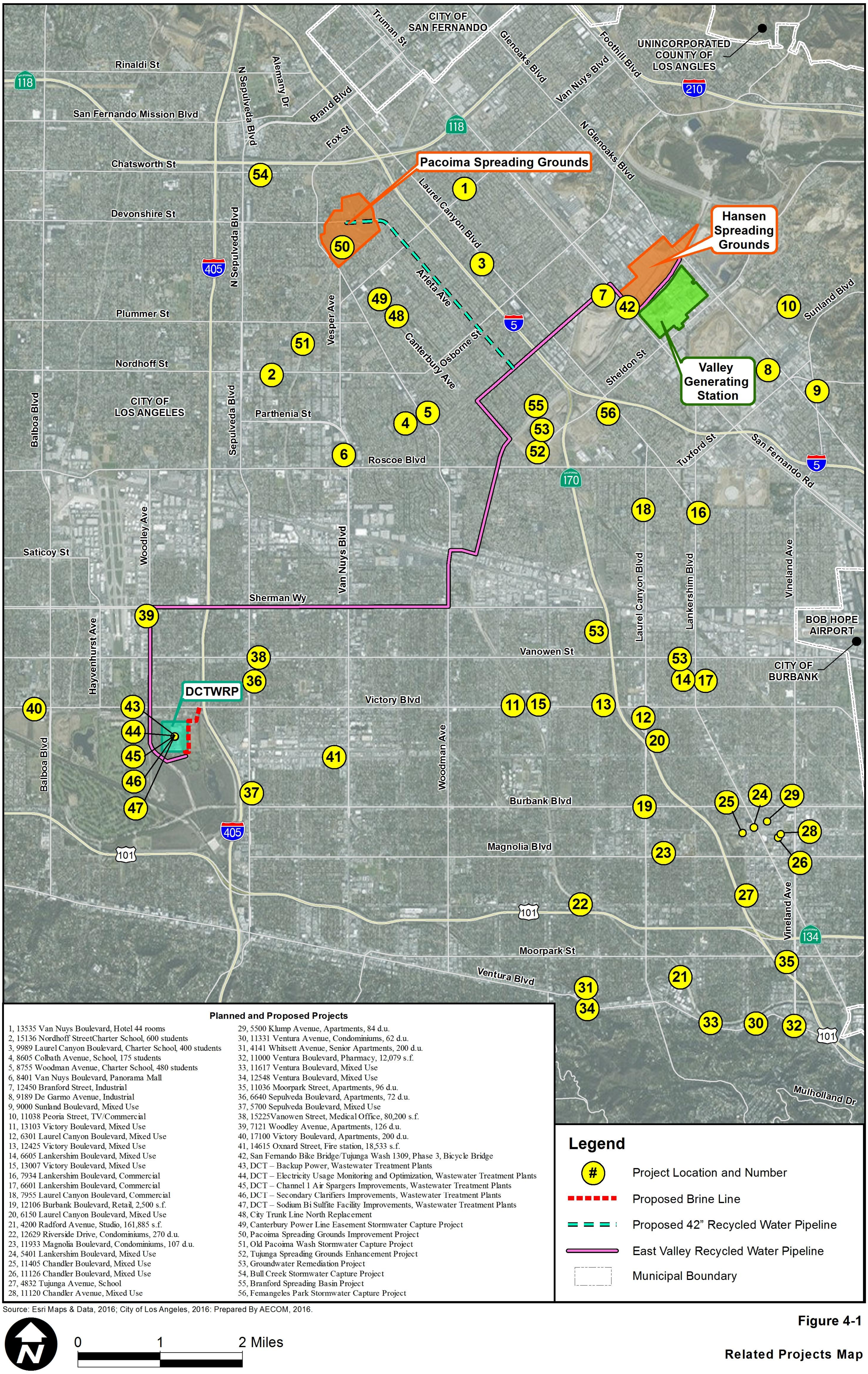
Any potentially significant impacts of the related projects associated with the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use would be assessed on a project-by-project basis. The Proposed Project would result in no impacts to agriculture or forestry resources; thus, the Proposed Project would not contribute to a cumulatively considerable effect to such resources. Therefore, the Proposed Project, in conjunction with the related projects, would not result in a significant cumulative impact to agriculture and forestry resources.

Air Quality

As discussed in Section 3.3, Air Quality, the SCAQMD cumulative analysis focuses on whether a specific project would result in a cumulatively considerable contribution of emissions to the region. The Proposed Project would exceed the SCAQMD regional significance thresholds for NO_x emissions and the localized significance threshold for PM_{10}, and would have a cumulatively considerable contribution to the region’s air quality. However, implementation of Mitigation Measure AQ-A would reduce the Project’s contribution to the cumulative impacts to a less than significant level.

Biological Resources

Any potentially significant impacts resulting from implementation of the Proposed Project to special-status species, riparian habitats, protected waters, migratory wildlife, and local protection of biological resources, particularly during the construction phase, would be mitigated to a less than significant level through implementation of the mitigation measures provided in Section 3.4.4. Like the Proposed Project, related projects are located in highly urban environments that likely do not include substantial habitats for biological resources. Additionally, as with the Proposed Project, all related projects in the vicinity would be required to comply with applicable state, federal, and local regulations concerning biological resources. Therefore, the Proposed Project, in conjunction with the related projects, would not contribute to significant cumulative biological resources impacts.



Planned and Proposed Projects

1, 13535 Van Nuys Boulevard, Hotel 44 rooms
2, 15136 Nordhoff StreetCharter School, 600 students
3, 9989 Laurel Canyon Boulevard, Charter School, 400 students
4, 8605 Colbath Avenue, School, 175 students
5, 8755 Woodman Avenue, Charter School, 480 students
6, 8401 Van Nuys Boulevard, Panorama Mall
7, 12450 Branford Street, Industrial
8, 9189 De Garmo Avenue, Industrial
9, 9000 Sunland Boulevard, Mixed Use
10, 11038 Peoria Street, TV/Commercial
11, 13103 Victory Boulevard, Mixed Use
12, 6301 Laurel Canyon Boulevard, Mixed Use
13, 12425 Victory Boulevard, Mixed Use
14, 6605 Lankershim Boulevard, Mixed Use
15, 13007 Victory Boulevard, Mixed Use
16, 7934 Lankershim Boulevard, Commercial
17, 6601 Lankershim Boulevard, Commercial
18, 7955 Laurel Canyon Boulevard, Commercial
19, 12106 Burbank Boulevard, Retail, 2,500 s.f.
20, 6150 Laurel Canyon Boulevard, Mixed Use
21, 4200 Radford Avenue, Studio, 161,885 s.f.
22, 12629 Riverside Drive, Condominiums, 270 d.u.
23, 11933 Magnolia Boulevard, Condominiums, 107 d.u.
24, 5401 Lankershim Boulevard, Mixed Use
25, 11405 Chandler Boulevard, Mixed Use
26, 11126 Chandler Boulevard, Mixed Use
27, 4832 Tujunga Avenue, School
28, 11120 Chandler Avenue, Mixed Use
29, 5500 Klump Avenue, Apartments, 84 d.u.
30, 11331 Ventura Avenue, Condominiums, 62 d.u.
31, 4141 Whitsett Avenue, Senior Apartments, 200 d.u.
32, 11000 Ventura Boulevard, Pharmacy, 12,079 s.f.
33, 11617 Ventura Boulevard, Mixed Use
34, 12548 Ventura Boulevard, Mixed Use
35, 11036 Moorpark Street, Apartments, 96 d.u.
36, 6640 Sepulveda Boulevard, Apartments, 72 d.u.
37, 5700 Sepulveda Boulevard, Mixed Use
38, 15225Vanowen Street, Medical Office, 80,200 s.f.
39, 7121 Woodley Avenue, Apartments, 126 d.u.
40, 17100 Victory Boulevard, Apartments, 200 d.u.
41, 14615 Oxnard Street, Fire station, 18,533 s.f.
42, San Fernando Bike Bridge/Tujunga Wash 1309, Phase 3, Bicycle Bridge
43, DCT – Backup Power, Wastewater Treatment Plants
44, DCT – Electricity Usage Monitoring and Optimization, Wastewater Treatment Plants
45, DCT – Channel 1 Air Spargers Improvements, Wastewater Treatment Plants
46, DCT – Secondary Clarifiers Improvements, Wastewater Treatment Plants
47, DCT – Sodium Bi Sulfite Facility Improvements, Wastewater Treatment Plants
48, City Trunk Line North Replacement
49, Canterbury Power Line Easement Stormwater Capture Project
50, Pacoima Spreading Grounds Improvement Project
51, Old Pacoima Wash Stormwater Capture Project
52, Tujunga Spreading Grounds Enhancement Project
53, Groundwater Remediation Project
54, Bull Creek Stormwater Capture Project
55, Branford Spreading Basin Project
56, Femangeles Park Stormwater Capture Project

Source: Esri Maps & Data, 2016; City of Los Angeles, 2016: Prepared By AECOM, 2016.

Figure 4-1

Related Projects Map

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Cultural Resources

The Proposed Project would not result in cumulative impacts to historic resources in the area as no historic resources would be impacted by the Proposed Project. As discussed in Section 3.5, the Proposed Project would result in a less than significant impact to archaeological and paleontological resources, including human remains, with the implementation of mitigation measures. These mitigation measures would ensure that the Proposed Project's impact would not be cumulatively considerable when considered alongside other projects in the vicinity, which would also be required to comply with applicable state, federal, and local regulations concerning cultural resources. Therefore, the Proposed Project, in conjunction with the related projects, would not result in a significant cumulative cultural resources impact.

Geology and Soils

Any potentially significant impacts of the related projects associated with geology and soils, including the rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, landslides, substantial soil erosion, or the loss of topsoil would be assessed on a project-by-project basis. The related projects in conjunction with the Proposed Project would not impact the geological resources within the City of Los Angeles, as each project would be required to comply with local and state standards. Therefore, the Proposed Project, in conjunction with the related projects, would not have a significant cumulative impact related to geology and soils.

Greenhouse Gas Emissions and Energy

Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. The analysis presented in Section 3.7 is also applicable to the cumulative analysis. The Proposed Project would not generate significant GHG emissions and would be consistent with applicable GHG reduction plans. Therefore, the Proposed Project would not contribute to a cumulatively considerable GHG impact.

Hazards and Hazardous Materials

Development of the Proposed Project in conjunction with the related projects has the potential to increase the use, storage, transport, and/or accidental release of hazardous materials during construction and operation. However, compliance with existing regulations would ensure that potential impacts associated with the Proposed Project would be less than significant. With respect to the related projects, each of the related projects would require evaluation for potential hazards. As hazardous materials and risk of upset conditions are largely site-specific, this would occur for each individual project effect, in conjunction with development proposals on these properties. Further, as with the Proposed Project, all related projects would be required to follow local, state, and federal laws regarding hazardous materials and other hazards. Therefore, the Proposed Project would not contribute to a significant cumulatively considerable impact to hazards and hazardous materials.

Hydrology, Water Quality, and Groundwater

Surface Water

Related projects identified in the study area include a variety of residential, commercial, institutional and mixed-use developments. New urban development and the associated increases in impervious area will typically increase stormwater runoff and dry weather flows to local drainages and receiving waters. However, new development in the City of Los Angeles and adjacent cities is subject to the new development requirements in the Los Angeles County MS4 Permit to control pollutants in stormwater runoff. This includes implementation of Standard Stormwater Mitigation Plans, per the municipal LID Ordinances as applicable for each project. This requires implementation of LID features to contain and treat the design storm volume (first 0.75 inches of rainfall), and may include infiltration of stormwater. In addition, related projects such as the Canterbury Power Line Easement Stormwater Capture Project, the Pacoima Spreading Grounds Improvements, and Tujunga Spreading Grounds Enhancements, would increase stormwater capture and reduce surface runoff in the City. All construction activities with land disturbance of one acre or more will be subject to compliance with the Construction General Permit and development and implementation of a Construction SWPPP to control construction site pollutants including sediment in stormwater discharges. As result, the Proposed Project together with the related projects will not result in cumulative water quality impacts to local drainages and the Los Angeles River.

Development of the related projects is not expected to substantially alter regional drainage patterns or create flood hazards. As with the Proposed Project, related projects are subject to hydrology and drainage design approvals from the City of Los Angeles Department of Building and Safety to ensure drainage is properly designed to prevent flooding on- and off-site. No hydrology-related cumulative impacts are anticipated.

Groundwater

The Proposed Project will provide beneficial recharge of the SFB. Implementation of related development projects will require implementation of LID standards that will also help increase recharge to the SFB. Cumulative impacts to groundwater would be less than significant.

Land Use and Planning

The Proposed Project would not result in significant land use impacts. Cumulative land use impacts could nonetheless occur if other related projects in the vicinity of the Project site would result in land use impacts in conjunction with the Proposed Project. However, each of the related projects would be required to either generally conform to the land use designations and zoning for their respective project sites or be subject to findings and conditions based on maintaining general conformance with the land use plans applicable to the area. As such, development of the Proposed Project and related projects is not anticipated to substantially conflict with the intent of the land use plans, policies, or regulations applicable to each site. Conformance with the applicable land use plans and regulations would ensure that related development would not result in the implementation of incompatible land uses. Therefore, the Proposed Project, in conjunction with the related projects, would not result in a significant cumulative land use impact.

Mineral Resources

Implementation of the Proposed Project would result in no impacts to mineral resources. Therefore, the Proposed Project would not contribute to a significant cumulatively considerable impact.

Noise

Although five of the related projects are located at DCTWRP, they would occur on the interior of the DCTWRP property and do not involve major construction that would generate significant increases in noise or vibration. Other related projects located near the Proposed Project's recycled water pipeline alignment (i.e. the City Trunk Line North Replacement and Canterbury Power Line Easement Stormwater Capture Project) would have staggered construction schedules to minimize the potential for the Proposed Project construction to combine with a related project to result in a cumulatively considerable increase in noise or vibration levels. It is anticipated that construction activity at HSG would occur during three months in 2022. It is unlikely that construction activity in this three-month window would overlap with construction of a proposed industrial project located at 12450 Branford Street. In addition, existing site conditions (e.g., intervening structures between HSG and the proposed industrial facility) would likely prevent overlapping construction activity from being audible by the same receptor. Therefore, no significant cumulative noise impacts would result from implementation of the Proposed Project.

Population and Housing

Development of the proposed onsite and offsite components in conjunction with the related projects has the potential to increase employment within the City of Los Angeles and within the larger region. Construction activities for the Proposed Project and for related projects may co-occur in some instances. However, given the temporary nature of construction industry jobs and the relatively large regional construction industry, it is likely that the labor force from within the region would be sufficient to complete the construction of the Proposed Project and related projects without a substantial influx of new workers and their families, and that relocation within the region would be minimal. Accordingly, new construction employment generated by the Proposed Project and the related projects would not impact population in the region, nor would it cause growth or require unplanned supporting infrastructure for new residents. As operational employment for the Project is considered nominal (16 personnel) and there is an ample labor force within the region, operational impacts associated with the Proposed Project would not be cumulatively considerable in the context of population and housing in the region. It is not known to what extent the related projects may displace existing housing; however, since the Proposed Project would not displace any housing, it would not create a cumulative effect for this issue.

Public Services and Recreation

The Proposed Project's contribution to cumulative impacts would not be cumulatively considerable because it would not result in an increase in the demand for public services or recreation. Therefore, the Proposed Project, in conjunction with the related projects, would not result in a significant cumulative public services and recreation impact.

Transportation and Traffic

As discussed in Section 3.15, the Proposed Project would create temporary significant impacts to the study area intersections and roadway segments during the construction phase. During the morning and evening peak hour, six of the 15 study intersections and 5 of the 6 study roadways segments would be temporarily but significantly impacted during Future (2022) With Project Construction traffic conditions. Because this analysis accounts for other related projects occurring in the vicinity of the Proposed Project as well as anticipated growth in ambient traffic that would occur over the intervening years until 2022, the construction of the Proposed Project when combined with the related projects would contribute to a cumulatively considerable increase in area roadway volumes. Implementation of Mitigation Measure TRA-A would reduce the Proposed Project's construction impacts to a less than significant level, except along the recycled water pipeline alignment (Arleta Avenue), where impacts would be reduced, but would remain significant and unavoidable. Because the Project would require only 16 new personnel and only about seven truck delivery trips per month during post-construction operations, it would not make a cumulative considerable contribution to long-term traffic within the context of the vicinity or region.

Utilities and Service Systems

Construction and operation of the Proposed Project would require minimal amounts of water and would generate minimal amounts of wastewater. The solid waste generated during construction and operation would be sent to one or more landfills in the area; however, the amount would not be enough to affect the permitted capacity of a landfill. In addition, materials would be reused and recycled to the extent possible. The impacts would be less than significant during construction and operation. Any impacts on utilities and service systems caused by the construction and operation of the related Projects would be addressed by the respective and responsible local agencies during each Project's environmental process. Therefore, construction and operation of the Proposed Project would not contribute to a significant cumulatively considerable impact to utilities and service systems.

4.3 Significant Irreversible Environmental Changes

Public Resources Code Section 21100(b)(2)(B) and Section 15126.2(c) of the CEQA Guidelines require that and EIR analyze the extent to which the Proposed Project's primary and secondary effects would create significant irreversible environmental changes and make irretrievable commitments of nonrenewable resources.

The construction of the Proposed Project would result in the use of nonrenewable resources, including fossil fuels, natural gas, water, and building materials, such as concrete. However, the Proposed Project does not represent an uncommon construction project that uses an extraordinary amount of raw material in comparison to other development projects of similar scope and magnitude. As discussed in Section 3.7, Greenhouse Gas Emissions and Energy, the California Energy Code (Title 24) provides energy conservation standards for all new and renovated residential and nonresidential buildings constructed in the state. The Proposed Project would be designed to incorporate energy and water efficiency features in accordance with Title 24 standards. As described in Section 3.7, although operation of the Proposed Project would consume energy, the production and use of recycled water is more energy efficient than imported potable water. The Proposed Project is not anticipated to consume substantial amounts of energy in a wasteful manner (see Section 3.7), and it would not result in significant impacts from consumption of water (see Section 3.16). No significant irreversible environmental changes would result from the Proposed Project.

4.4 Growth-Inducing Impacts

Section 15125.2(d) of the CEQA Guidelines requires a discussion of the ways in which a project could induce growth. This includes ways in which a project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place without the implementation of the Proposed Project. Typically, the growth-inducing potential of a project would be considered significant if it resulted in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potentials does not automatically lead to growth, whether it would be below or in exceedance of a projected level.

The environmental effects of induced growth are secondary or indirect impacts of the Proposed Project. Secondary effects of growth could result in significant, adverse environmental impacts, which could include increased demand on community public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses.

As discussed in Chapter 2, Project Description, the Proposed Project would construct and operate an AWPF and related facilities at DCTWRP; a recycled water pipeline connecting the existing 54-inch recycled water pipeline to PSG; and proposed new outlet structures and flow meters at PSG and HSG in order to offset the use of imported water supplies. The Proposed Project would not include the construction of any residential uses or other uses that would result in an increase in the population of the Project area. The Proposed Project would not stimulate significant employment, involve the development of new housing, or significantly affect the economy of the region (see Section 3.13). Therefore, the Proposed Project would not result in a direct significant growth-inducing impact in the Project area.

The fundamental purpose of the Proposed Project is to reduce the City's dependence on imported water sources by increasing the local groundwater supply available for potable use. With Project implementation, imported water supplies would be offset by up to 30,000 AFY of purified water through groundwater replenishment, thereby supplementing the City of Los Angeles' local potable water supply and increasing system reliability and sustainability. The Proposed Project is consistent with the Los Angeles Mayor's 2014 Executive Directive No. 5 (Emergency Drought Response), 2015 Sustainable City Plan, and 2012 Recycled Water Master Plan (RWMP). Because the Project is intended to replace existing imported supplies, it would not increase overall water supplies to the City in a manner that would induce population growth. Therefore, the Proposed Project would not indirectly result in a significant growth-inducing impact.

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CHAPTER 5
ALTERNATIVES TO THE PROPOSED PROJECT

5.1 Introduction

In accordance with the California Environmental Quality Act (CEQA) Guidelines, alternatives to the proposed Los Angeles Groundwater Replenishment (LAGWR) Project (Proposed Project or Project) have been considered to foster informed decision-making and public participation. According to CEQA Guidelines Section 15126.6(a), an Environmental Impact Report (EIR) “shall describe a range of reasonable alternatives to the proposed project, or to the location of the proposed project, which would feasibly attain most of the basic objectives of the proposed project, but would avoid or substantially lessen any of the significant effects of the proposed project, and evaluate the comparative merits of the alternatives.” The CEQA Guidelines state that an EIR need not consider every conceivable alternative or consider alternatives that are infeasible. The alternatives analysis must also include a comparative evaluation of a No Project Alternative. Through evaluation of alternatives, the advantages and disadvantages of each alternative, compared with the Proposed Project, can be determined.

As detailed in Chapter 3 of the Draft EIR, the Proposed Project would result in temporary significant impacts related to air quality, noise, and traffic during construction. Impacts would be less than significant for all other environmental factors during construction. There would be no significant impacts created during Project operations. A range of alternatives was evaluated to identify means by which environmental impacts related to Project implementation could be lessened to the extent practicable.

The Project objectives establish the basis for identifying potential alternatives. The primary objective and fundamental purpose of the Proposed Project is to supplement the City of Los Angeles’ potable water supply through local GWR with up to 30,000 AFY of purified water in order to reduce dependence on imported water and diversify the City’s water portfolio, thereby increasing system reliability and sustainability. Specific objectives related to the fundamental purpose of the Project include:

- Providing up to 30,000 acre-feet per year (AFY) of purified recycled water (purified water) for groundwater replenishment (GWR) in the San Fernando Groundwater Basin (SFB).
- Utilizing the available underused treatment capacity of DCTWRP to provide recycled water for the advanced water purification process.
- Utilizing the available spreading capacity of Hansen Spreading Grounds (HSG) and Pacoima Spreading Grounds (PSG) to replenish the SFB through the percolation of purified water.
- Utilizing existing infrastructure, to the extent feasible, to convey recycled water from DCTWRP to HSG and PSG.
- Maintaining the existing levels of recycled water supplies for non-potable reuse (NPR) customers and other beneficial uses.

- Maintaining the functional and logistical integrity of City of Los Angeles Department of Public Works, Bureau of Sanitation (LASAN) operations.
- Preserving future potential expansion capability for recycled water treatment and advanced water purification processes.

5.2 Alternatives Not Considered for Environmental Evaluation

5.2.1 Alternative Means to Offset Imported Water Supplies

As discussed in Chapter 2 of the Draft EIR (Project Description), the primary purpose of the Proposed Project is to supplement the City of Los Angeles' local potable water supply through the use of purified recycled water (purified water) for GWR in order to reduce dependence on imported water supplies and diversify the City's water portfolio. Faced with dwindling, unpredictable, and increasingly expensive imported water supplies, the City of Los Angeles, as a component of its Urban Water Management Plan (UWMP), has embarked upon an aggressive program to increase the reliability and sustainability of its local water sources. In addition to water recycling (of which the Proposed Project is a component), this program includes several other primary facets, including demand-side initiatives (i.e., water conservation) and supply-side initiatives, such as stormwater capture and groundwater remediation. If greater emphasis were placed on these other facets such that the Proposed Project could be reduced in scope or eliminated, the impacts associated with Project implementation may also be reduced or eliminated. However, as discussed below, each of these other UWMP program facets (conservation, stormwater capture, and groundwater remediation) provides opportunities, efficacy, and benefits that are independent of each other and of water recycling.

LADWP has established a water conservation goal in the UWMP of an additional 64,000 AFY by 2035 above and beyond mandatory water use restrictions related to emergency drought conditions. This goal is in addition to the substantial reduction in water use in the City that has already been realized over the past several decades, which have seen a population growth of over 1.1 million, or nearly 40 percent (from under 3 million in 1980 to over 4 million in 2010), yet a total annual water consumption that has remained basically the same throughout this period and has actually decreased during the most recent years. This additional 64,000 AFY of conservation would be achieved through a combination of educational and incentive programs, tiered rate structures, technical assistance to residents and businesses, fixture and equipment installation, and other strategies. The reduction in water use realized through the conservation program would offset the need for an equivalent amount of imported water. It would also represent a highly reliable and sustainable approach to reducing imported water supplies because it would not be dependent on the availability of replacement water sources.

The recently completed 2015 LADWP Stormwater Capture Master Plan has established a range of the potential for additional stormwater and other runoff capture within the City of Los Angeles based on conservative and aggressive assumptions related to the implementation of projects, programs, and policies over the next two decades. The potential to capture stormwater and runoff would include both large-scale centralized facilities (such as flood control spreading grounds), which would provide aquifer recharge sites for stormwater directed through new and improved conveyance systems, and smaller-scale distributed projects that would provide localized capture for on-site infiltration or reuse. By the year 2035, the projected additional stormwater capture beyond that which already occurs within the City (about 90,000 AFY) ranges from about 70,000 AFY (based on conservative assumptions) to about 115,000 AFY (based on aggressive assumptions). The additional captured stormwater would be employed for direct reuse at a site or for groundwater replenishment. In the latter case, the City's groundwater pumping entitlements would be increased on an annual basis or in terms of stored credits in an amount equal to the additional stormwater capture, thereby helping provide a stable long-term source of water.

LADWP is also accelerating the remediation program related to cleanup of the contamination of groundwater basins to which it holds pumping entitlements. Particularly in the eastern portions of the San Fernando Groundwater Basin (SFB), past improper handling and disposal of industrial compounds, primarily used as solvents in manufacturing processes, have created contamination plumes in the groundwater aquifer. In some areas, these plumes are widespread, and because they tend to migrate downstream in the aquifer, a number of LADWP's drinking water well fields have become contaminated. This has led to the inactivation of progressively more wells as the contamination plumes migrates, resulting in up to a 50-percent reduction in LADWP's total pumping capacity from the SFB (over 40,000 AFY based on the City's baseline adjudicated water rights of 87,000 AFY in the SFB). Proposed remediation projects are intended not only to facilitate the beneficial uses of the basin (including as a drinking water storage resource) but also to restore LADWP's capability to operate its existing well fields consistent with historic levels to help respond to short-term variability in water supply and demand. In so doing, the dependency on imported supplies during critical peak demand periods would be substantially reduced.

Combined with the UWMP goal of increasing recycled water use to a total of 59,000 AFY, these other facets of the program to increase the reliability and sustainability of local water sources would provide between about 215,000 AFY and 260,000 AFY of additional local supplies by 2035. Based on a demand forecast of 710,000 AFY by 2035, which accounts for increases in population growth in the City, the described program facets could provide for about one-third of total annual demand. This would be in addition to the approximately 15 percent of demand that is already met on average by existing local water sources, including groundwater pumping and recycled water use. Based on this aggressive effort to increase the long-term sustainability and short-term use of local water supplies, the various program facets discussed above (conservation, stormwater capture, and groundwater cleanup) are not alternatives to recycled water use as means to achieve water supply goals but are complementary and mutually inclusive as components of an integrated program. That is, increased conservation is an opportunity to decrease dependence on imported water supplies independent of increasing access to local supplies; increased stormwater capture provides for potential local water use from a different source than recycled wastewater; and increased groundwater cleanup is a necessary action to fully utilize the increased groundwater recharge realized through stormwater capture and GWR using purified water. Each of these various program facets would proceed independently whether or not the Proposed Project proceeded, and their implementation has already been accounted for in the assessment of the need for the Project. Therefore, they do not represent alternatives to the Project and were not considered for evaluation in the Draft EIR.

5.2.2 Alternative Uses of Recycled Water

As discussed in Chapter 2 of the Draft EIR, the Proposed Project is a component of the City of Los Angeles Recycled Water Master Plan (RWMP) intended to achieve a total use of recycled water of 59,000 AFY by 2035. As mentioned above in Section 5.2.1, this is one facet of the integrated program outlined in the UWMP to increase the reliability and sustainability of local water sources in order to reduce dependence on imported water supplies and diversify the City's water portfolio. Approximately 10,000 AFY of recycled water is currently used in the City for irrigation, industrial, and other NPR functions. LADWP is currently developing new infrastructure projects, including the extension of the recycled water pipeline network to reach new irrigation and industrial customers with approximately 9,350 AFY of additional recycled water. With these existing and planned projects, LADWP will be providing 19,350 AFY of recycled water for NPR. Future programs would therefore need to provide for the development and delivery of the additional 39,650 AFY of recycled water necessary to attain the goal of 59,000 AFY. Several options, each composed of a varying mix consisting of using recycled water for NPR and purified water for GWR, were considered in the RWMP to provide the additional 39,650 AFY. These options ranged from a high of 24,650 AFY for NPR and a low of 15,000 AFY for GWR to a low of 9,650 AFY for NPR and a high of 30,000 AFY for GWR (the latter option reflected in the Proposed Project). If greater emphasis were placed on NPR than GWR such that the scope of the Proposed Project could be reduced, those impacts specifically associated with the implementation of the Project at DCTWRP, HSG, and PSG may also be reduced.

With the continued proliferation of impervious surfaces in the San Fernando Valley, surface runoff has progressively increased and natural recharge to the SFB has progressively decreased over the last century. Consequently, the SFB has ample storage space available for GWR. Opportunities to replenish the aquifer with additional sources of water, including purified water, would help facilitate use of the SFB, including as a long-term potable water supply. As determined in the RWMP and discussed in Chapter 2 of the Draft EIR, the existing facilities at DCTWRP can produce sufficient recycled water to support the goal of producing about 30,000 AFY of purified water for GWR while continuing to meet existing and already planned NPR and other existing uses of recycled water. In addition to this existing recycled water treatment capacity at DCTWRP, the existing HSG and PSG, from which water percolates into the SFB, have the available capacity to accept a total of an additional 30,000 AFY for GWR, and the existing 10-mile long East Valley Recycled Water Line (EVRWL) has enough capacity to transport 30,000 AFY and already interconnects DCTWRP and HGS and passes within 2 miles of PSG.

In comparison, further expanding NPR requires the identification of additional relatively large-volume direct users for recycled water as well as the construction of an extensive pipeline system separate from the existing potable water system to deliver the recycled water to those users. Therefore, while NPR would remain an important aspect of the recycled water program, based on the analysis in the RWMP, it was determined that compared to GWR using purified water, placing greater emphasis on NPR as an alternative to the Proposed Project would create significant implementation challenges related to the identification of a sufficiently broad customer base, the construction of a necessarily extensive infrastructure network capable of serving a physically widespread customer base, and the substantially higher capital costs related to infrastructure construction and maintenance. Therefore, based on this conclusion from the approved RWMP, options that would dedicate a lesser volume of recycled water for GWR and a greater volume for NPR do not represent alternatives to the Project and were not considered for evaluation in the Draft EIR.

5.2.3 Alternative Sites for Advanced Water Purification Facility

As discussed in Chapter 2 of the Draft EIR, the City of Los Angeles Groundwater Replenishment Master Plan (GWRMP) was prepared to evaluate in detail factors related to the siting and development of an advanced water purification facility (AWPF), which would be the primary new facility under the LAGWR Project. The GWRMP initially considered approximately 60 sites for the AWPF throughout the region. Each of the sites was screened in accordance with a set of threshold criteria, including zoning compliance, adjacent land use compatibility, site acreage and configuration, and other various site-specific development constraints. If the AWPF were to be located at an alternative site, the site-specific impacts associated with Project implementation could be eliminated, although similar impacts may occur at alternative sites as well. However, most of the alternative sites considered in the GWRMP were eliminated as infeasible during this screening process.

Furthermore, as determined in the RWMP, based on utilizing available unused capacity in existing facilities and infrastructure (thereby avoiding substantial costs and effects related to major new construction), the use of recycled water produced at DTCWRP as the influent for the AWPF and the use of HSG and PSG as the sites for spreading purified water produced at the AWPF were identified as fundamental components of the GWR strategy. Therefore, sites that could not effectively utilize the existing treatment, conveyance, and replenishment facilities associated with DCTWRP, HSG, and PSG were also eliminated from consideration as alternatives for the GWR facilities.

Based on this screening analysis, five sites were selected for more detailed evaluation in the GWRMP. In addition to meeting the threshold screening criteria, each of these five sites was located in close proximity to either DCTWRP or HSG to most effectively utilize the existing treatment, conveyance, and replenishment facilities related to the LAGWR Project. The five sites included two located at DCTWRP within the area protected by the existing flood control berm, including the Proposed Project site at DCT SE; two located at DCTWRP outside the area protected by the existing flood control berm; and one located at the LADWP Valley Generating Station (VGS), adjacent to HSG. These alternative sites are further discussed below. However, based on the criteria and siting evaluation completed in the GWRMP, all other sites initially identified as candidates do not represent alternatives to the Project and were not considered for evaluation in the Draft EIR.

5.2.4 Elimination of Pacoima Spreading Grounds for GWR

As presented in Chapter 2 of the Draft EIR, purified water produced at the AWPF at DCTWRP would be conveyed to both HSG and PSG for GWR. The conveyance to HSG would be achieved by using the existing 54-inch-diameter EVRWL, which currently connects the Balboa Pump Station at DCTWRP to HSG. The conveyance to PSG would be achieved by the construction of a new 42-inch-diameter pipeline, which would branch off of the EVRWL at Branford Street and Arleta Avenue and proceed along Arleta to PSG. If PSG were eliminated as a spreading grounds site to be used for GWR, the impacts associated with construction of the Proposed Project 42-inch pipeline (primarily related to traffic) would also be eliminated. This would place reliance on HSG to achieve the entire GWR objective of the Project of up to 30,000 AFY using purified water.

However, as discussed in Chapter 2 of the Draft EIR, only up to 19,000 AFY of purified water can be spread at HSG based on the capacity of the spreading grounds, which can receive a maximum of 35,000 AFY from all sources. Spreading at HSG beyond the 35,000 AFY limit could contribute to increased groundwater levels, which can create potential impacts at nearby facilities. This would include flooding and slope failure in adjacent gravel quarries and groundwater mounding beneath the Bradley Landfill, which could lead to water intrusion into the landfill containment systems and the generation of leachates (groundwater contaminated by dissolved and suspended material derived from the landfill waste). Based on other projected sources of spreading at HSG (primarily stormwater), only 19,000 to 20,000 AFY could be contributed by the Proposed Project before the 35,000 AFY limit was exceeded.

Therefore, to achieve 30,000 AFY of GWR, it is necessary to spread the purified water produced by the Proposed Project at another site in addition to HSG. Within the vicinity of the EVRWL, this would include PSG (which is located about 2 miles northwest of the line) and Tujunga Spreading Grounds (which is located adjacent to the EVRWL). However, while connecting directly to Tujunga Spreading Grounds would avoid major in-road pipeline construction, it is not possible to use the spreading grounds for GWR using purified water. Based on the location of the Tujunga Spreading Grounds in relation to the LADWP Tujunga Well Field, which is located within the spreading grounds property, the required detention time within the SFB aquifer necessary to comply with State regulations relative to the use of recycled water for GWR would not be provided. Therefore, it was determined that in order to meet the Project's annual GWR objectives, it would be necessary to utilize PSG, and its elimination as a component of the Project was not considered for evaluation in the Draft EIR.

5.2.5 Alternative Recycled Water Pipeline Alignments

Pacoima Diversion Channel

The Pacoima Diversion Channel includes a segment running southeasterly between the southeast corner of PSG and Branford Street, thereby providing a potential alignment for the new 42-inch-diameter recycled water pipeline that would interconnect the existing 54-inch-diameter EVRWL with PSG. A pipeline within the channel would be slightly shorter than the Proposed Project Arleta Avenue alignment (about 10,000 versus 11,000 feet). However, an additional 500 feet of pipeline within PSG would be necessary when compared to the proposed Arleta Avenue alignment (about 2,000 versus 1,500 feet). Although the diversion channel in this segment is closely bounded by residential properties along most of its length and is crossed by several vehicular and/or pedestrian bridges, the temporary impacts to traffic related to the construction of the new pipeline within the proposed Arleta Avenue alignment may be avoided by placing the line in the channel.

However, for several reasons, the Pacoima Diversion Channel alignment has been determined to be infeasible. From a constructability point of view, limited points of access to the channel are available for construction vehicles and equipment, and the existing bridge abutments along the channel would not only limit vertical clearances for equipment but also potentially preclude the actual installation of the recycled water pipeline beneath the abutments without relatively extensive excavation and reinforcement of the bridges. In addition, maintaining the stability of the slope adjacent to the residential properties that adjoin the channel may be difficult.

However, the primary reason this alignment would be infeasible is because the purpose of Pacoima Diversion Channel as a flood control facility. As well as surface storm water runoff, the channel carries flows from Pacoima Wash, which receives releases Lopez Dam (located approximately 4 miles upstream), which in turn receives releases from Pacoima Dam (located approximately 2.5 additional miles upstream in the San Gabriel Mountains). The installation of the pipeline in the channel would require a construction and maintenance easement from both the Los Angeles County Flood Control District and the United States Army Corps of Engineers (Corps).

Because of the limited width available in the sidewalls of the channel, even where an access road is present at the upper edge of the embankment along most but not all the eastern side of the channel, it is likely that the cross section of the channel would need to be extensively modified to accommodate the pipeline. This could compromise the flood control capacities of the channel. Furthermore, the existence of a water pipeline within the sidewalls could destabilize the channel in the event of a leak or pipe failure, which would necessitate the construction of an even larger diameter concrete-encased pipe to provide added protection. While few utilities are present within the channel, several large storm drains that empty into the channel would need to be crossed, which may require extensive reconstruction of the drains. Because the channel needs to remain clear of activity and obstructions during times when it could be used for storm flows, no construction could occur during the rainy season, and the integrity of the channel would need to be restored prior to the rainy season. This would greatly hamper the construction of the pipeline, which is projected to take approximately 18 months to complete in an essentially uninterrupted scenario. Post-construction access for emergency maintenance purposes during the rainy season could also be hampered. Therefore, because of the critical function of the Pacoima Diversion Channel as a flood control facility and the potential short-term and long-term adverse consequences to this function from pipeline construction, this alternative alignment for the recycled water pipeline was not considered for evaluation in the Draft EIR.

Canterbury Avenue

Canterbury Avenue runs parallel to and is located about 0.5 miles southwest of Arleta Avenue, the Proposed Project alignment for the 42-inch recycled water pipeline connecting the existing 54-inch EVRWL and PSG. Canterbury provides a potential alternative alignment between the EVRWL, located in Branford Street, and PSG, located adjacent to Filmore Street. A pipeline in Canterbury between Branford and Filmore would be slightly shorter than the Proposed Project Arleta Avenue alignment (about 10,000 feet versus 11,000 feet). However, because this pipeline would intersect PSG along its southern boundary, it would need to continue within PSG around a portion of the perimeter of the property, extending northeasterly adjacent to Filmore, northerly adjacent to the Pacoima Diversion Channel, and westerly adjacent to Devonshire Street. The pipeline segment within PSG would be approximately 4,000 feet in length. Therefore, the Canterbury Avenue alternative alignment would involve about 14,000 feet of pipeline construction (10,000 feet in-road and 4,000 feet within PSG) versus about 12,500 feet of pipeline construction for the Proposed Project Arleta Avenue alignment (11,000 feet in-road and 1,500 feet within PSG).

The potential advantage of the Canterbury Avenue alternative alignment is that, unlike other streets in the vicinity, development on Canterbury occurs almost exclusively only on the west side of the road because the east side is fronted by an approximately 150-foot wide LADWP electrical transmission line corridor. Therefore, by installing the recycled water pipeline within the eastern half of the road, disturbance to residential, commercial, and institutional uses would be reduced. However, as discussed in Section 4.2, other water utility projects are planned or may occur in the future adjacent to or within Canterbury Avenue. These include the Canterbury Power Line Easement Stormwater Project, which would involve the construction of stormwater capture basins and pipelines located entirely within the LADWP transmission corridor along the east side of Canterbury. Construction of this project would take about 2 years and is planned to begin in mid-2018 and be completed prior to initiation of construction for the proposed LAGWR recycled water pipeline in mid-2020. The Canterbury Power Line Easement Stormwater Project must be located along Canterbury because it is dependent on utilizing the transmission line corridor for stormwater capture.

In addition to the Canterbury Power Line Easement Stormwater Project, the 72-inch-diameter Los Angeles City Trunk Line, which was installed in 1914 and is located within Canterbury Avenue between PSG and Roscoe Boulevard, will require a maintenance replacement in future years. Due to system hydraulics and interconnections to other pipelines, this replacement must occur within the Canterbury alignment (City Trunk Line North Replacement). The current concept under consideration for replacement is via “slip-lining,” in which a smaller diameter “carrier pipe” would be inserted into the existing 72-inch “host pipe.” A smaller diameter replacement pipe would be feasible because the water distribution network has greatly expanded since the City Trunk Line was installed, and, therefore, a 72-inch pipe is no longer necessary to effectively deliver water. The slip-lining method of replacement would avoid the requirement to excavate a trench along the entire length of Canterbury to remove the existing pipeline and install a new pipeline. It would therefore substantially reduce costs and construction-related impacts to the traffic, air quality, noise, and surrounding uses. Any replacement work for the City Trunk Line within Canterbury would occur after the completion of the Proposed Project recycled water pipeline.

The slip-lining method requires the excavation of “launching” pits and “receiving” pits at given separation distances within the roadway in order to install the carrier pipe sections. While the overall extent of surface disturbance and excavation would be substantially reduced compared to traditional open trench construction, the launching and receiving pits themselves would be wider than the required trench width to accommodate equipment and operations. However, if the proposed LAGWR Project 42-inch recycled water pipeline was installed in Canterbury, the excavation of the pits required for slip-lining would be precluded because of the relatively narrow width of the roadway. Therefore, because the City Trunk Line will require replacement and must be replaced within the Canterbury alignment, and because the slip-lining method would substantially reduce costs and impacts, the Canterbury Avenue alignment for the Proposed Project recycled water pipeline was not considered for evaluation in the Draft EIR.

5.3 Alternatives Considered but Dismissed from Detailed Evaluation

5.3.1 Alternative AWPF Sites at DCTWRP

DCT Southwest

Under the DCT Southwest (DCT SW) Alternative, the AWPF would be located in the southwest corner of the DCTWRP complex, as depicted in Figure 5-1. DCT SW was one of the alternative AWPF sites identified in the GWRMP. Similar to the Proposed Project AWPF (located at DCT SE), the AWPF under DCT SW would be located on property leased from the Corps in the Sepulveda Dam Flood Control Basin (Sepulveda Basin). Like the Proposed Project, it would be located within the area protected by the existing DCTWRP flood control berm. The DTC SW site is currently occupied by the DCTWRP maintenance/warehouse facilities, which would need to be entirely demolished to accommodate the AWPF. As under the Proposed Project, the AWPF would utilize purification processes and technologies that may include ozonation, biologically activated carbon (BAC), microfiltration (MF), reverse osmosis (RO), and/or advanced oxidation process (AOP) systems to produce purified water. Similar to the Proposed Project, the MF/RO functions would require a total of about 64,000 square feet. However, because of the limited size of the existing site (less than 2 acres), the MF/RO functions would be divided equally between two stories, with a building height of approximately 54 feet, also similar to the Proposed Project. Furthermore, because of the configuration of the site, the existing access road to the Japanese Garden as well as the parking lot that serves the garden may need to be modified, which may result in the loss of some parking spaces. Other AWPF functions would be housed in single story structures or under canopies.

In addition, similar to the Proposed Project, a portion of the existing disinfection contact tanks, which would not be required for either the recycled water treatment or the water purification process, would be converted for the ozonation and BAC processes. To support the AWPF

Figure 5-1
DCT SW Alternative

processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the AWPF.

Because the existing maintenance/warehouse facilities would be demolished under this alternative, both functions would be relocated to new but separate buildings in the northern portion of DCTWRP and enlarged to accommodate the AWPF in addition to the existing recycled water functions. In other respects, the DCT SW Alternative would be similar to the Proposed Project, with the construction of a flow equalization tank in the northeastern part of DCTWRP complex, a substation in the south-central part of the complex, and improvements to the existing Balboa Pump Station in the southeastern part of the complex. A brine line would also be constructed connecting the AWPF with the Valley Outfall Relief Sewer (VORS). Similar to the Proposed Project, the brine line would be routed northerly along the road located west of the Cricket Fields, easterly and then northeasterly along the DCTWRP access road, beneath the Orange Busway, and along Haskell Avenue to connect with the VORS in Victory Boulevard west of the I-405. However, the brine line would be longer than under the Proposed Project since the AWPF would be located in the southwest rather than southeast corner of DCTWRP, and the line would therefore need to extend within roads internal to the plant.

The construction of facilities outside DCTWRP under this alternative would be the same as under the Proposed Project, including a 42-inch-diameter recycled water pipeline routed along Arleta Avenue (connecting PSG to the existing EVRWL near the intersection of Branford Street and Arleta Avenue), as well as pipelines, gate structures, and outlet structures at PSG and HSG.

The DCT SW Alternative would be feasible and would meet most of the basic objectives of the Proposed Project. However, as discussed in Chapter 2 of the Draft EIR, the DCT SW site provides very limited capability to further expand the AWPF, if necessary in the future, because the site is physically constrained by adjacent uses. In that regard, the DCT SW Alternative would not fulfill the objective related to preserving future potential expansion capability for the advanced water purification processes.

In addition, because it involves the construction and operation of the same facilities in the same locations as the Proposed Project (with the exception of the AWPF, which is relocated but still within DCTWRP), the DCT SW Alternative would not reduce any of the potential environmental impacts of the Project. Furthermore, because of the relationship of the AWPF to the Japanese Garden and adjacent public parking area under the DCT SW Alternative, impacts related to both construction and operations may actually increase when compared to the Proposed Project, under which the AWPF is located more remotely from the garden.

Therefore, because it would not fulfill all the objectives of the Proposed Project and because it would not eliminate or reduce any environmental impacts related to the Proposed Project, and may in fact increase impacts, the DCT SW Alternative has been dismissed from further analysis in the Draft EIR.

Contractor Laydown Area

Under the Contractor Laydown Area Alternative, the AWPF would be located along the northeast side of DCTWRP, as depicted in Figure 5-2. The Contractor Laydown Area was also one of the alternative AWPF sites identified in the GWRMP. Similar to the Proposed Project

Figure 5-2

Contractor Laydown Area Alternative

AWPF (DCT SE), the AWPF under the Contractor Laydown Area Alternative would be located on property leased from the Corps in the Sepulveda Basin. However, unlike the Proposed Project, the AWPF would be located outside the area protected by the existing DCTWRP flood control berm. The site is currently vacant and is utilized as a staging area for construction activities at DCTWRP, but some grading and excavation would be required to accommodate to AWPF.

As under the Proposed Project, the AWPF would utilize purification processes and technologies that may include ozonation, BAC, MF, RO, and/or AOP systems to produce purified water. Similar to the Project, the MF/RO functions would require a total of about 64,000 square feet; however, because the Contractor Laydown Area is approximately 5.5 acres, these functions could be accommodated in a single story, unlike the Proposed Project AWPF. Other AWPF functions would also be housed in single story structures or under canopies. Ozonation and BAC facilities would also be constructed at the Contractor Laydown Area, adjacent to the AWPF (rather than utilizing a portion of the existing disinfection contact tanks, as in the Proposed Project). To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the AWPF.

In other respects, the Contractor Laydown Area Alternative would be similar to the Proposed Project, with the construction of a flow equalization tank in the northeastern part of DCTWRP complex, a new warehouse in the northern part of DCTWRP, modifications to the existing maintenance/warehouse building in the southwestern corner of the complex to accommodate expanded maintenance activities associated with the advanced water purification process, and improvements to the existing Balboa Pump Station in the southeastern part of the complex. A brine line would also be constructed connecting the AWPF with the VORS. Similar to the Proposed Project, the brine line would be routed northerly along the road located west of the Cricket Fields, easterly and then northeasterly along the DCTWRP access road, beneath the Orange Busway, and along Haskell Avenue to connect with the VORS in Victory Boulevard west of the I-405. However, the brine line would be shorter than under the Proposed Project since the AWPF would be located more northerly than the DCT SE site, thereby eliminating the need for a portion of the line as required under the Project. Because the Contractor Laydown Area is located more remotely from the DCTWRP recycled water discharge than is the DCT SE site, additional piping to transmit the recycled water to the AWPF would be required, when compared to the Proposed Project.

The construction of facilities outside DCTWRP under this alternative would be the same as under the Proposed Project, including a 42-inch-diameter recycled water pipeline routed along Arleta Avenue (connecting PSG to the existing EVRWL near the intersection of Branford Street and Arleta Avenue), as well as pipelines, gate structures, and outlet structures at PSG and HSG.

The Contractor Laydown Area Alternative would be feasible and would meet all of the basic objectives of the Proposed Project, including preserving future potential expansion capability for recycled water treatment and advanced water purification processes. However, because it involves the construction and operation of the same facilities in the same locations as the Proposed Project (with the exception of the AWPF, which is relocated but still within DCTWRP), the Contractor Laydown Area Alternative would not reduce any of the potential environmental impacts of the Project. Furthermore, because the Contractor Laydown Area is located outside the existing DCTWRP flood-protection berm and lies within the 100 year flood control elevation of the Sepulveda Basin, the site would either need to be raised in elevation and/or the existing protective berm would need to be extended around the perimeter of the site.

In addition, to compensate for the reduction in the capacity of the flood control basin that would result from locating the AWPF at the Contractor Laydown Area and protecting the site from floods, it would be necessary to excavate an equivalent flood water storage volume elsewhere within the Sepulveda Basin. This compensation excavation work would need to be completed prior to the initiation of construction at the Contractor Laydown Area to avoid potential conflicts with the primary flood control function of the Sepulveda Basin. The additional earthwork required to protect the Contractor Laydown Area and compensate for the loss of flood water detention capacity would create potentially significant impacts above and beyond those that would be created by the Proposed Project.

Therefore, because it would not eliminate or reduce any environmental impacts related to the Proposed Project, and would in fact increase impacts, the Contractor Laydown Area Alternative has been dismissed from further analysis in the Draft EIR.

Cricket Fields

Under the Cricket Fields Alternative, the AWPF would be located along the eastern side of DCTWRP, as depicted in Figure 5-3. The Cricket Fields was also one of the alternative AWPF sites identified in the GWRMP. Similar to the Proposed Project AWPF (DCT SE), the AWPF under the Cricket Fields Alternative would be located on property leased from the Corps in the Sepulveda Basin. However, unlike the Proposed Project, the AWPF would be located outside the area protected by the existing DCTWRP flood control berm. The site contains no permanent structures, but some grading and excavation would be required to accommodate to AWPF. As under the Proposed Project, the AWPF would utilize purification processes and technologies that may include ozonation, BAC, MF, RO, and/or AOP systems to produce purified water. Similar to the Project, the MF/RO functions would require a total of about 64,000 square feet; however, because the Cricket Fields site is approximately 6 acres, these functions could be accommodated in a single story, unlike the Proposed Project AWPF. Other AWPF functions would also be housed in single story structures or under canopies. Ozonation and BAC facilities would also be constructed at the Cricket Fields site, adjacent to the AWPF (rather than utilizing a portion of the existing disinfection contact tanks, as in the Proposed Project). To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the AWPF.

In other respects, the Cricket Fields Alternative would be similar to the Proposed Project, with the construction of a flow equalization tank in the northeastern part of DCTWRP complex, a new warehouse in the northern part of DCTWRP, modifications to the existing maintenance/ warehouse building in the southwest corner of the complex to accommodate expanded maintenance activities associated with the advanced water purification process, and improvements to the existing Balboa Pump Station in the southeast part of the complex. A brine line would also be constructed connecting the AWPF with the VORS. Similar to the Proposed Project, the brine line would be routed northerly along the road located west of the Cricket Fields, easterly and then northeasterly along the DCTWRP access road, beneath the Orange Busway, and along Haskell Avenue to connect with the VORS in Victory Boulevard west of the I-405. However, the brine line would be somewhat shorter than under the Proposed Project since the AWPF would be located more northerly than the DCT SE site, thereby eliminating the

Figure 5-3
Cricket Fields Alternative

need for a portion of the line as required under the Project. Because the Cricket Fields site is located more remotely from the DCTWRP recycled water discharge than is the DCT SE site, additional piping to transmit the recycled water to the AWPF would be required, when compared to the Proposed Project.

The construction of facilities outside DCTWRP under this alternative would be the same as under the Proposed Project, including a 42-inch-diameter recycled water pipeline routed along Arleta Avenue (connecting PSG to the existing EVRWL near the intersection of Branford Street and Arleta Avenue), as well as pipelines, gate structures, and outlet structures at PSG and HSG.

The Cricket Fields Alternative would be feasible and would meet all of the basic objectives of the Proposed Project, including preserving future potential expansion capability for recycled water treatment and advanced water purification processes. However, because it involves the construction and operation of the same facilities in the same locations as the Proposed Project (with the exception of the AWPF, which is relocated but still within DCTWRP), the Cricket Fields Alternative would not reduce any of the potential environmental impacts of the Project. It would also partially remove an existing recreation function operated by the City of Los Angeles Department of Recreation and Parks. Furthermore, because the Cricket Fields are located outside the existing DCTWRP flood-protection berm and lie within the 100 year flood control elevation of the Sepulveda Basin, the site would either need to be raised in elevation and/or the existing protective berm would need to be extended around the perimeter of the site.

In addition, to compensate for the reduction in the capacity of the flood control basin that would result from locating the AWPF at the Cricket Fields and protecting the site from floods, it would be necessary to excavate an equivalent flood water storage volume elsewhere within the Sepulveda Basin. This compensation excavation work would need to be completed prior to the initiation of construction at the Cricket Fields to avoid potential conflicts with the primary flood control function of the Sepulveda Basin. The additional earthwork required to protect the Cricket Fields and compensate for the loss of flood water detention capacity would create potentially significant impacts above and beyond those that would be created by the Proposed Project.

Therefore, because it would not eliminate or reduce any environmental impacts related to the Proposed Project, and would in fact increase impacts, the Cricket Fields Alternative has been dismissed from further analysis in the Draft EIR.

5.3.2 Alternative Recycled Water Pipeline Alignments

To avoid Arleta Avenue, and the associated impacts to traffic, other roadways that could provide a link between the EVRWL and PSG were considered. To prevent complete road closures or restricting traffic to a one-way flow during construction, sufficient roadway width and number of lanes are required to accommodate the continued flow of two-way traffic during pipeline installation. Arterial roads that have these characteristics and provide a potential alignment to connect the EVRWL to PSG include Van Nuys Boulevard and Woodman Avenue. Similar to Arleta, these roads are multi-lane (4+), and, therefore, it would be possible to maintain the flow of two-way traffic during pipeline construction, even though two lanes would be closed in the segment under construction.

The Woodman Avenue alignment would require that the new 42-inch recycled water pipeline connect to the EVRWL at Branford Street and Canterbury Avenue and proceed westerly on Branford Street and northerly on Woodman Avenue to reach the southwest corner of PSG at

Filmore Street. The Van Nuys Boulevard alignment also would require that the 42-inch line connect to the EVRWL at Branford Street and Canterbury Avenue and proceed westerly on Branford, northerly for a short distance on Woodman, westerly on Chase Street, northerly on Van Nuys Boulevard, and diverge onto Vesper Avenue to also reach the southwest corner of PSG at Filmore Street (See Figure 5-4).

Similar to Arleta Avenue, land uses along these potential alignments include single- and multi-family residential development and commercial development. However, both Woodman and Van Nuys contain more commercial development than Arleta, and traffic volumes are therefore anticipated to be somewhat higher than what is experienced along Arleta. The Woodman Avenue alignment would involve approximately 13,000 feet of in-road construction and an additional 5,000 feet of pipeline construction within PSG (a total of about 18,000 feet). The Van Nuys Boulevard alignment would involve approximately 17,500 feet of in-road construction and an additional 5,000 feet of pipeline construction within PSG (a total of about 22,500 feet). This compares to the Proposed Project Arleta Avenue alignment, which would involve approximately 11,000 feet of in-road construction and an additional 1,500 feet of pipeline construction within PSG (a total of about 12,500 feet). Based on the generally similar existing conditions within each of these potential alignments related to development and traffic, there is no advantage related to either the Woodman Avenue alignment or the Van Nuys Boulevard alignment when compared to the Arleta Avenue alignment because of the considerably greater distances involved. Therefore, because these alternative alignments would not eliminate or reduce any environmental impacts related to the Arleta alignment, and would likely increase impacts due to the expanded scope of construction, they have been dismissed from further analysis in the Draft EIR.

5.4 Alternatives Considered in the Draft EIR

5.4.1 Valley Generating Station AWPF

Summary of Alternative

Under the VGS Alternative, the AWPF and the associated support facilities would be located on a site within VGS, which is an active LADWP electrical generating station located adjacent to HSG and about 6 miles northeast of DCTWRP. VGS was also one of the alternative AWPF sites identified in the GWRMP. The VGS water purification facilities would function as an entirely independent operation, physically segregated from other VGS functions by fencing. Under the VGS Alternative, the expansion to the flow equalization tanks and the Balboa Pump Station would still occur at DCTWRP, on property leased from the Corps in the Sepulveda Basin, within the existing DCTWRP flood protection berm. The improvements at HSG and PSG would be essentially the same under the VGS Alternative as under the Proposed Project.

Since the AWPF would be located at VGS rather than DCTWRP, the primary operational difference between the VGS Alternative and the Proposed Project would be that the existing EVRWL, which would convey purified water from DCTWRP to HSG under the Proposed Project, would instead convey tertiary recycled water from DCTWRP to VGS, where it would undergo the advanced treatment required to produce purified water. Because the EVRWL would function as a tertiary recycled water line under the VGS Alternative, new conveyance pipelines to transfer purified water from VGS to HSG and PSG would be required; these new conveyance lines would be about twice the length as required under the Proposed Project (about 4 miles versus 2 miles), all located within public roadways. Similar to the Proposed Project, the

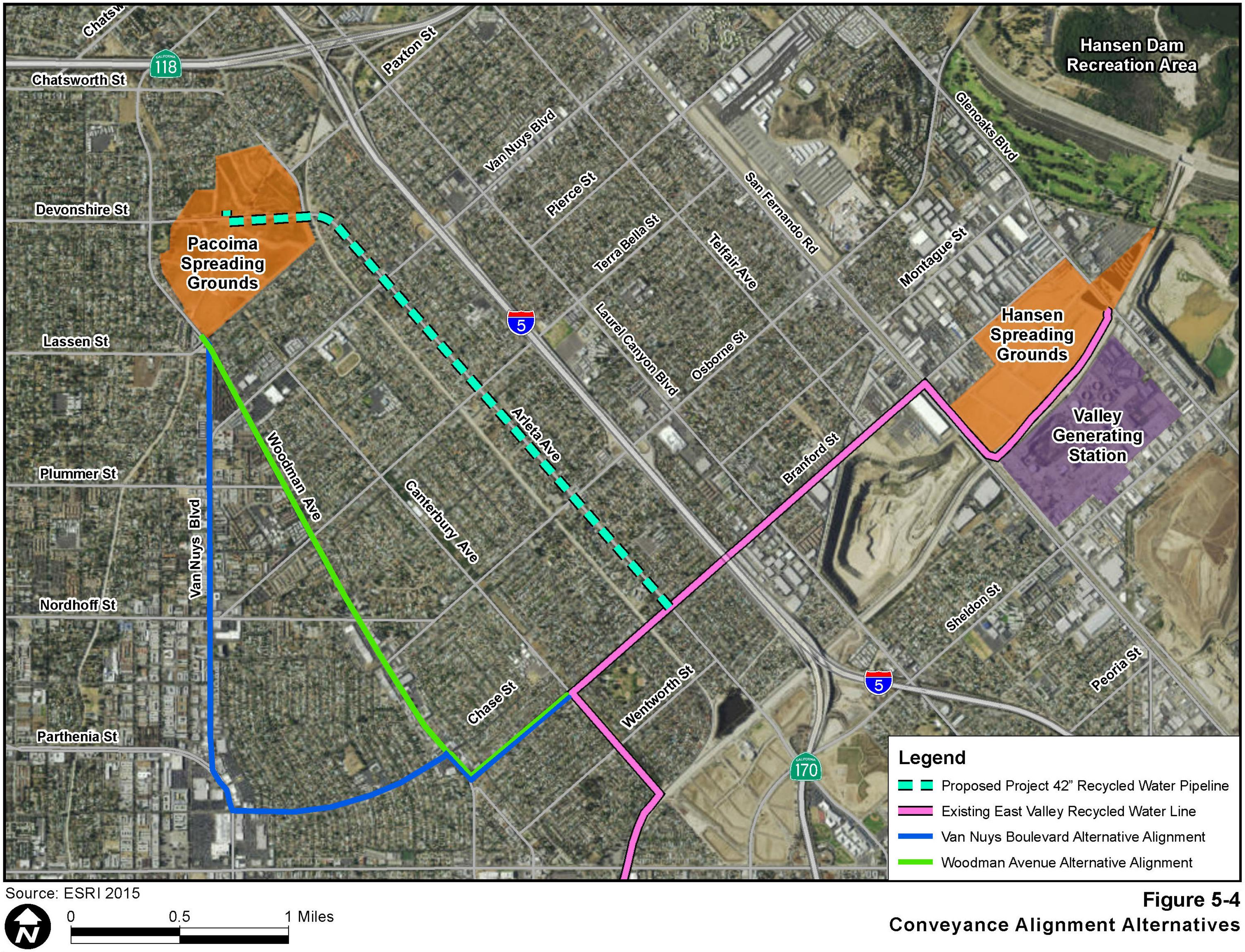


Figure 5-4
Conveyance Alignment Alternatives

backwash and brine solution generated as a byproduct of the MF and RO processes at the AWPF must be routed to the sewer system to be transmitted with other wastewater streams to the Hyperion Treatment Plant in Playa Del Rey for further processing. As with the Project, this would require a new brine line connection to the VORS. However, the brine line for the VGS Alternative would be approximately 7 miles in length, all within public roadways (this compares with a 3,000-foot brine line required for the Proposed Project, only approximately 300 feet of which would be located within public roadways).

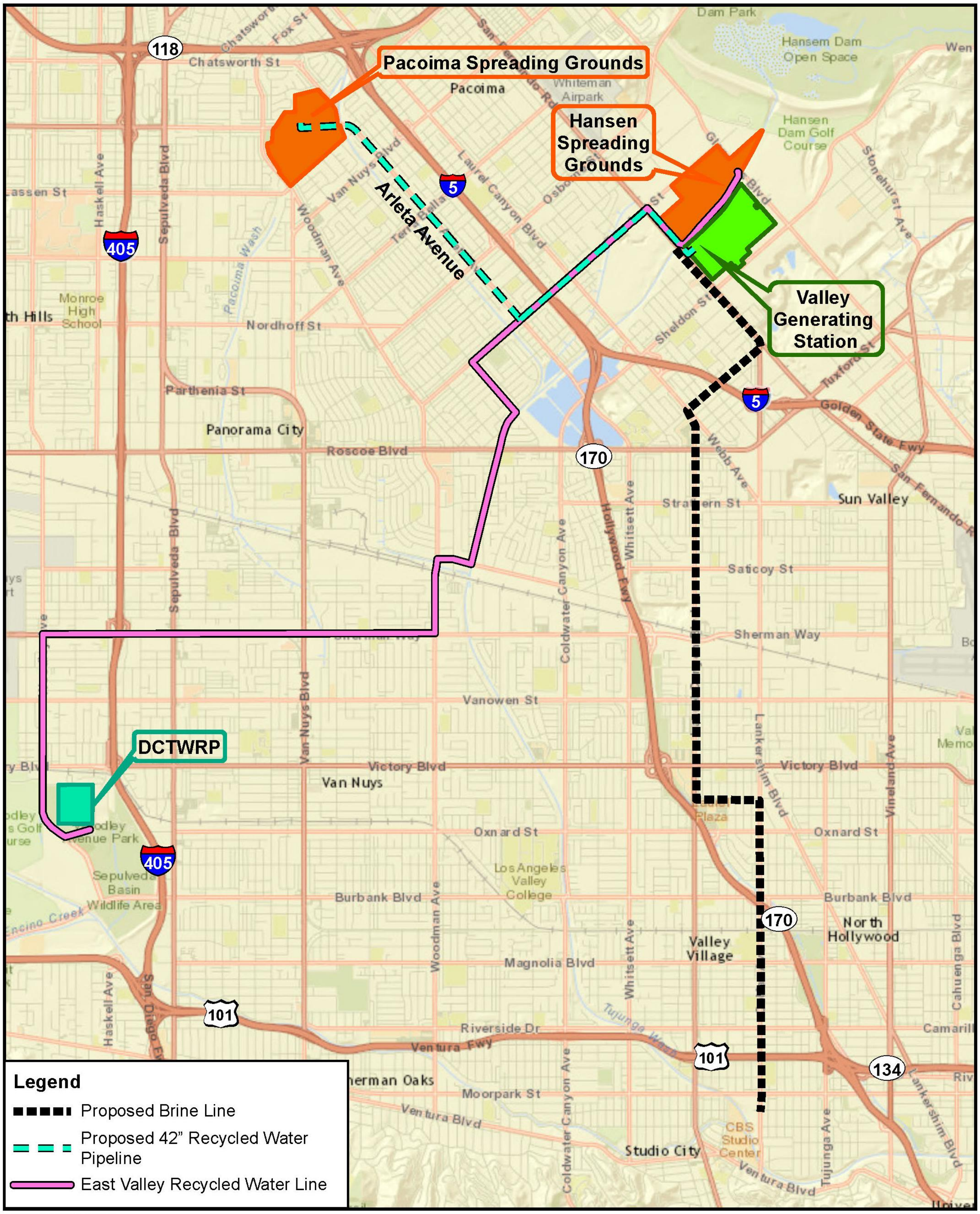
The VGS Alternative would be feasible and would meet most of the basic objectives of the Proposed Project. It would be capable of providing up to 30,000 AFY of purified water for GWR, which would be spread at HSG and PSG. It would utilize the available unused treatment capacity of DCTWRP to provide the recycled water for the advanced water purification process, and it would use the existing EVRWL to convey the tertiary recycled water from DCTWRP to VGS. Under the VGS Alternative, the existing levels of recycled water service for NPR customers and other beneficial uses would be maintained. Because many of the facilities that would be located at DCTWRP under the Proposed Project would instead be located at VGS, future potential expansion capability for recycled water treatment at DCTWRP would be preserved. In addition, because of the available developable area, future potential expansion capability for advanced water purification processes at VGS would also be preserved. However, while LASAN personnel would operate the AWPF at VGS, the operation would be physically removed from DCTWRP; therefore, the VGS Alternative does not maintain the functional and logistical integrity of LASAN operations to the same extent that the Proposed Project would.

Purpose of the Alternative

The purpose of the VGS Alternative would be to eliminate or reduce the potential noise impacts to the Japanese Garden and Woodley Park related to Project construction at DCTWRP. Unlike the other alternatives identified in the GWRMP, these impacts may be avoided under the VGS Alternative because the level of construction at DCTWRP would be greatly reduced and the proposed facilities would be located more remotely from the garden and park. Unlike the Proposed Project, the AWPF and support facilities at VGS would not be adjacent to any sensitive receptors in relation to noise generated during construction. Another consideration related to the VGS Alternative is that while some limited improvements would still be required at DCTWRP, the primary water purification facilities (i.e., the AWPF and necessary support functions) would be located on property entirely owned and controlled by the City of Los Angeles rather than on leased land owned by a non-City entity (the Corps).

VGS Property

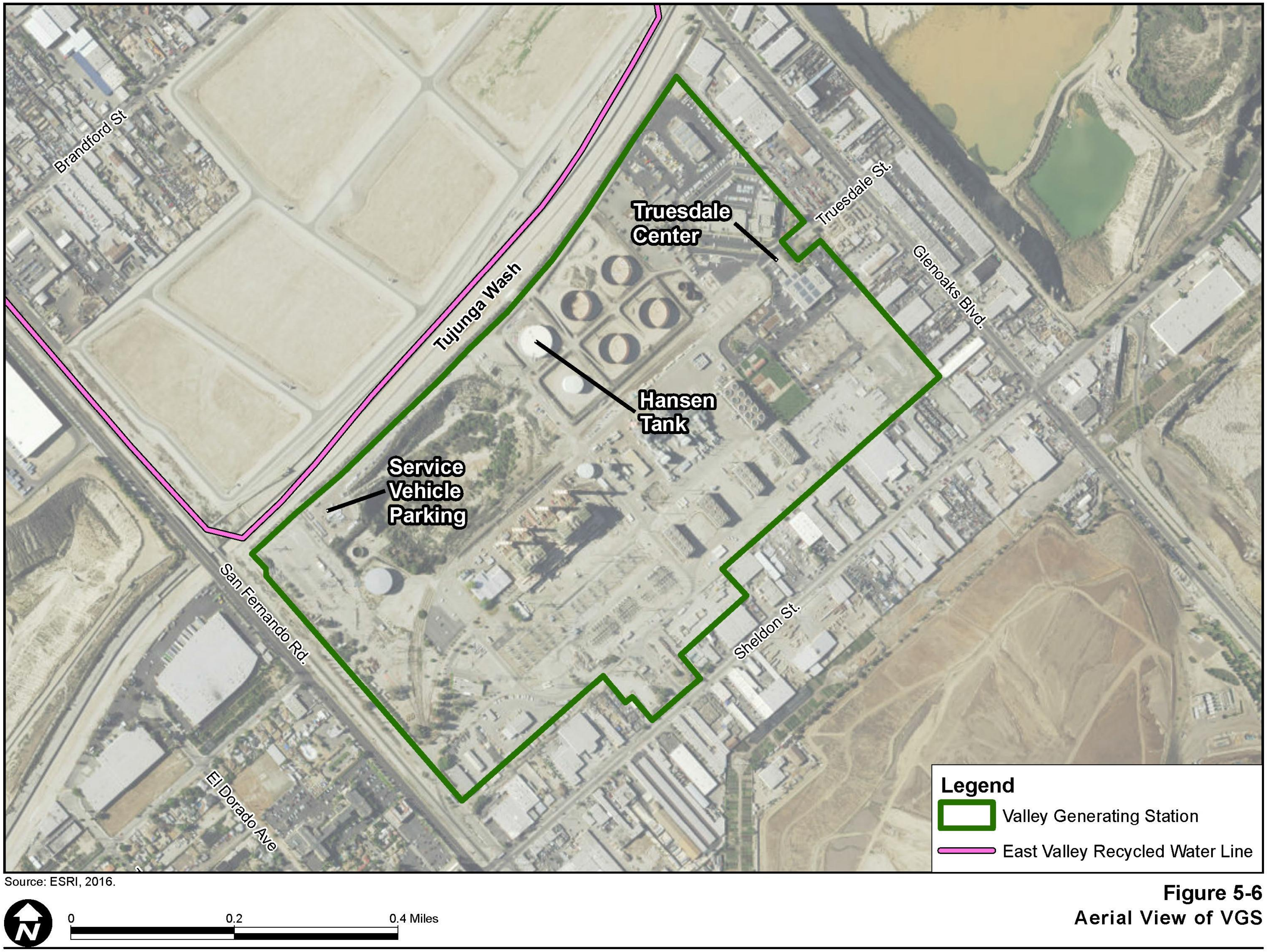
VGS is located at 11801 Sheldon Street in the Sun Valley community of the City of Los Angeles. VGS is a 150-acre electric power generating facility owned by LADWP. It is bordered by an active Union Pacific Railroad right-of-way and San Fernando Road along to the southwest; Tujunga Wash channel and HSG to the northwest; commercial and light industrial uses and Glenoaks Boulevard to the northeast; and commercial and light industrial uses and Sheldon Street to the southeast. Approximately 30 acres in the northeastern part of VGS is devoted to the Truesdale Center, which is the LADWP training facility for electrical distribution field personnel. An existing 7-million gallon (mg) recycled water storage tank (Hansen Tank) is located at VGS. It is currently used to store recycled water produced at DCTWRP for distribution to NPR customers. Figure 5-5 shows the location of VGS in relationship to DCTWRP, HSG, and PSG. Figure 5-6 shows an aerial view of existing VGS facilities.



Source: ESRI, 2016.

0 1 2 Miles

Figure 5-5
VGS Alternative Overview



Source: ESRI, 2016.

Figure 5-6
Aerial View of VGS

VGS is designated as Public Facilities in the City of Los Angeles General Plan. It is located within the Sun Valley-La Tuna Canyon Community Plan area. The zoning designation for VGS is [Q]PF-1XL (Public Facilities). Land uses surrounding VGS are primarily commercial and industrial. A hospital (Pacifica Hospital) is located on San Fernando Road across from VGS, although not across from the proposed VGS AWPF site. Although somewhat buffered from VGS by light industrial functions, the closest residence to the proposed site is about 375 feet away.

VGS Alternative Facilities

A number of facilities, both within and outside the VGS property, would be required to provide the treatment, conveyance, and replenishment functions for the VGS Alternative. Table 5-1 provides a summary of the VGS Alternative components.

Table 5-1
Summary of VGS Alternative Components

Project Component	Key Facts	Proposed Facilities
Treatment		
VGS	§ AWPF at VGS § About 4 mgd of recycled water directed to NPR users § Treat up to 40 mgd of recycled water to generate up to 31 mgd of purified water § 22 additional full time staff to operate	§ AWPF, including approximately 32,000 square feet for MF and 32,000 square feet for RO functions in separate single story buildings § New maintenance, warehouse, and administrative facilities § New electrical power substation § New security fence
DCTWRP	§ Flow equalization and pump facilities required at DCTWRP	§ Expansion of primary flow equalization tanks § Three new pumps added to Balboa Pump Station
Brine Line		
	§ Connection to VORS to dispose of RO brine	§ 7 miles of new 36-inch brine pipeline in public roadways
Conveyance		
	§ Use existing EVRWL from DCTWRP to VGS for recycled water	§ 4 miles of new 42-inch pipeline from VGS to PSG along San Fernando Road, Branford Street, and Arleta Avenue for purified water
Replenishment		
HSG	§ Up to 19,000 AFY of GWR from Project (up to 30,000 AFY when combined with GWR at PSG)	§ 1 new outlet structure § 200 linear feet of new pipeline within HSG
PSG	§ Up to 23,000 AFY of GWR from Project (up to 30,000 AFY when combined with GWR at HSG)	§ 2 new outlet structures § 1,500 linear feet of new pipeline within PSG

<u>*VGS*</u>

Advanced Water Purification Facilities

The AWPF and support facilities would be located in the northwest corner of the VGS property, as depicted in Figure 5-7. The site available for the VGS Alternative is approximately 6 acres. It currently contains of a number of mock-up high-voltage transmission towers used by LADWP

Figure 5-7
VGS Alternative: Site Location

for lineman training. These towers would be relocated to Truesdale Center in the northeastern part of VGS. The proposed site for the VGS Alternative also encompasses a portion of an existing parking area for LADWP service vehicles (pickup trucks, vans, utility trucks, etc.). This vehicle parking would be relocated to other LADWP facilities. As under the Proposed Project, the AWPF at VGS would utilize purification processes and technologies that may include ozonation, BAC, MF, RO, and/or AOP systems to produce purified water.

Similar to the Proposed Project, the MF/RO functions would require a total of about 64,000 square feet; however, because the VGS site is approximately 6 acres, these functions could be accommodated in a single story, unlike the Proposed Project AWPF. Other AWPF functions, including ozonation and BAC, would also be housed in single story structures or under canopies.

To support the AWPF processes, additional functions, such as pumps, filters, tanks, piping, chemical storage, alarm systems, security surveillance, and distributed control systems for remote monitoring and controls, would be required within or adjacent to the AWPF. Due to the electric power demand to operate the AWPF, a new substation would also need to be constructed adjacent to the AWPF.

Support Functions

Because VGS is remotely located from LASAN operations at DCTWRP, all necessary support functions, including warehousing, maintenance, and administrative facilities, must be constructed at VGS. These facilities would be located adjacent to the AWPF, within the designated 6-acre site in the northwestern corner of VGS. New security fencing, entry gate, and a parking lot for approximately 30 spaces would also be required. The entry to the facility would be from the south via an existing frontage road along San Fernando Road.

<u>DCTWRP</u>

Flow Equalization Tank

Although the AWPF would be located at VGS, the recycled water influent for the purification process would still be produced at DCTWRP. Similar to the Proposed Project, an expansion of the flow equalization tanks at DCTWRP would be required. The proposed equalization tank would provide about 7 mg of storage capacity. It would be located in the northeastern part of the DCTWRP complex, similar to the Proposed Project.

Balboa Pump Station

Similar to the Proposed Project, the existing Balboa Pump Station, located adjacent the berm in the far southeast corner of the DCTWRP complex, would also be expanded to support the pumping of the recycled water produced at DCTWRP via the existing EVRWL to VGS. The improvements at the pump station would involve adding three additional pumps at a previously constructed but unused connection to the existing recycled water line.

<u>Brine Line</u>

The backwash and brine solution generated as a byproduct of the MF and RO processes at the AWPF at VGS must be routed to the sewer system to be transmitted with other wastewater streams to the Hyperion Treatment Plant in Playa Del Rey for further processing. The sewer lines in the vicinity of VGS do not have the capacity to accommodate the additional flow from the AWPF processes. Therefore, a new 36-inch-diameter brine line must be constructed to connect VGS to the VORS. To reach the VORS, the line would be routed southeasterly along San Fernando Road, southwesterly along Peoria Street, southerly along Laurel Canyon Boulevard, easterly along Erwin Street, and southerly on Colfax Avenue to connect with the VORS at Woodbridge Street (see Figure 5-5). The length of the brine line would be approximately 7 miles.

Recycled Water Pipeline

As discussed above, under the VGS Alternative, recycled water would continue to be conveyed from the Balboa Pump Station at DCTWRP to VGS using the existing 54-inch-diameter EVRWL that currently conveys recycled water from DCTWRP to the Hansen Tank at VGS. Under the VGS Alternative, an average of 4 mgd of recycled water would still be directed to the 7-mg Hansen Tank, but to supply the AWPF, the flow in the EVRWL would increase substantially to about 44 mgd. The line has the capacity to accommodate this flow.

However, to deliver the purified water produced at the AWPF at VGS to HSG and PSG, new conveyance pipelines would be required. A new 42-inch recycled water pipeline would extend from the AWPF across the Tujunga Wash and connect to a branch of the EVRWL that would no longer be used to deliver recycled water to HSG because the water would be diverted to the AWPF downstream of the connection. Another 42-inch recycled water pipeline would extend north on San Fernando Road, west on Branford Street, and north on Arleta Avenue to PSG, a total distance of about 4 miles (Figure 5-5). A continuation of this pipeline would be located within PSG property to connect to proposed outlet structures adjacent to Devonshire Street, as further discussed below.

Pacoima Spreading Grounds

As mentioned above, purified water would be conveyed to PSG through a new 42-inch-diameter pipeline from VGS connecting to PSG near the intersection of Arleta Avenue and Devonshire Street. Similar to the Proposed Project, additional improvements would be required to deliver the purified water to the individual spreading basins within PSG. A gate structure would be installed within the PSG property at the end of the proposed 42-inch in-road recycled water pipeline. The recycled water pipeline would then continue from the gate structure within PSG adjacent to Devonshire Street. Similar to the Proposed Project, this pipeline within PSG would be approximately 1,500 feet in length. Outlet structures to discharge purified water to one or more of the basins would also be installed.

Hansen Spreading Grounds

As mentioned above, purified water would be conveyed to HSG through a new 42-inch line from VGS connecting to a branch of the EVRWL that would no longer be used to deliver recycled water to HSG. However, as under the Proposed Project, additional ancillary facilities would be constructed at HSG to allow for system flexibility, including directing purified water to various spreading basins individually or in combination. Similar to the Proposed Project, a new pipeline of approximately 200 linear feet and an outlet structure would be installed to a location in the southwest part of the basin. A gate valve would also be installed the northeast part of the basin. These facilities would provide the ability to control the flow of the purified water to different basins within HSG as necessary.

VGS Alternative Construction

Construction of the VGS Alternative would commence in fourth quarter of 2018 and is expected to last over 4 years, ending in late 2022. As indicated in Figure 5-8, construction would be conducted in several phases, which may partially overlap in schedule, especially since construction would occur at several physically separated sites (i.e., VGS, DCTWRP, HSG, PSG, and within City streets). Construction activities would typically occur from 7:00 a.m. to 3:30 p.m., but construction in major City streets would generally not begin before 9:00 a.m. in accordance with the City of Los Angeles Mayor's Executive Directive No. 2, which prohibits construction on selected roads between 6:00 a.m. and 9:00 a.m. and between 3:30 p.m. and 7:00 p.m.

VGS

Construction at VGS would include the following activities, in the general sequence described:

- Removal and relocation of the mock-up high-voltage transmission training towers.
- Clearing, grading, excavation, and foundation construction for the warehouse.
- Construction of the warehouse.
- Clearing, grading, excavation, and foundation construction for administration/ maintenance buildings.
- Construction of the administration/maintenance building.
- Clearing, grading, excavation, and foundation construction for the AWPF.
- Construction of the AWPF and ancillary support facilities, including the MF/RO buildings, the AOP and chemical storage areas, the ozonation/BAC facility, the MF feed pump station, chemical system facilities, and the substation.
- Equipment installation for MF, RO, AOP, ozonation, and BAC.
- Integration with utility, fire alarm, security, and distributed control systems.
- Installation of new security fencing around the AOP and chemical storage areas.
- Installation of fencing around the AWPF complex.

Warehouse

Construction of the warehouse is expected to take approximately 8 months, commencing in the fourth quarter of 2018. It would consist of several tasks, including clearing the site, grading and excavation, foundation construction, and building construction. The number of construction personnel on site would vary from day to day, but an average of 20 personnel per day is anticipated. Construction would require the operation of heavy equipment, including bulldozers, compactors, excavators, backhoes, forklifts, loaders, and truck-mounted cranes. An average of four pieces of equipment would operate per day during construction. There would be an average of approximately four daily truck trips during the majority of the construction period, with approximately ten trips per day during grading, excavation, and foundation work at the beginning of construction.

Year	*2018*				*2019*				*2020*				*2021*				*2022*			
Quarter	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*
VGS																				
Removal of Training Towers				1 mon																
Warehouse Building				8 months																
Admin & Maintenance Building							12 months													
AWPF											30 months									
DCT																				
Expansion of Flow Equalization											18 months									
Expansion of Balboa Pump Station																	12 months			
Offsite Construction																				
Purified Recycled Water Pipeline					36 months															
Pacoima Spreading Grounds																	9 months			
Hansen Spreading Grounds																				3 mon
Brine Line									36 months											

Figure 5-8

VGS Construction Phases and Schedule

Administration/Maintenance Building

Construction of the administration/maintenance building is expected to take approximately 12 months, commencing at the completion of the warehouse, in the third quarter of 2019. It would consist of several tasks, including clearing the site, grading and excavation, foundation construction, and building construction. The number of construction personnel on site would vary from day to day, but an average of 20 personnel per day is anticipated. Construction would require the operation of heavy equipment, including bulldozers, compactors, excavators, backhoes, forklifts, loaders, and truck-mounted cranes. An average of four pieces of equipment would operate per day during construction. There would be an average of approximately four daily truck trips during the majority of the construction period, with approximately ten trips per day during grading, excavation, and foundation work at the beginning of construction.

AWPF

Construction of the AWPF would take approximately 30 months to complete, commencing after the completion of the administrative/maintenance building, in the third quarter of 2020. Construction would consist of several tasks, including excavation and grading, foundation construction, building construction, equipment installation, equipment canopy construction, and ancillary support facility construction. The number of construction personnel on site would vary from day to day, but an average of 50 personnel per day is anticipated for the initial 18 months, tapering over the final year of construction to 20 per day by the last several months. Construction would require the operation of heavy equipment, including bulldozers, scrapers, excavators, backhoes, forklifts, loaders, compactors, and boom lifts. An average of eight pieces of equipment would operate per day during the initial 18 months, tapering over the final year of construction to about two per day by the last several months. There would be an average of approximately four daily truck trips during the majority of the construction period, with approximately ten trips per day during grading, excavation, and foundation work at the beginning of construction.

During construction at VGS, all construction activities, including supplies laydown, soil excavation and stockpiling, equipment storage, and worker parking, would be confined to the VGS property boundary. Only truck trips required to deliver equipment, materials, and supplies and to haul debris and excess material would occur outside the site. The general inbound truck route during construction would be via the I-5 Freeway. From the northbound freeway, trucks would exit at Penrose Street, turn right to Glenoaks Boulevard, turn left on Glenoaks to Sheldon Street, turn left on Sheldon to the frontage road at the southwest corner of VGS, and turn right to the construction site. From the southbound freeway, trucks would exit at Osbourne Street, turn left to Glenoaks Boulevard, turn right on Glenoaks to Sheldon Street, turn right on Sheldon to the frontage road at the southwest corner of VGS, and turn right to the construction site. Outbound trucks would follow the same routes to the north and south in reverse. These routes minimize crossings and avoid turning movements and short queuing lanes at the Union Pacific tracks along San Fernando Road, which are heavily used by Metrolink commuter trains. Trucks are estimated to travel approximately 20 miles to and from the VGS property (a total 40-mile roundtrip).

DCTWRP

Flow Equalization Tank

Construction of the primary flow equalization tank would be similar to the Proposed Project and would take approximately 18 months to complete commencing in the third quarter of 2020. It would consist of several tasks, including excavation for the tank, construction of concrete floor and walls, and the installation of piping and covers. The number of construction personnel on site would average about 18 personnel per day. Construction would require the operation of heavy equipment, including bulldozers, scrapers, excavators, backhoes, forklifts, loaders, compactors, and boom lifts. An average of four pieces of equipment would operate per day during construction. Approximately 48,000 cubic yards (CY) of material would be excavated and hauled off site for disposal. There would be an average of approximately 40 daily truck trips during the initial 4 months of construction, when most excavation work would occur. Truck trips would reduce to an average of about eight per day during the remainder of construction.

Balboa Pump Station

The upgrades to the Balboa Pump Station would be similar to those under the Proposed Project and would commence at the beginning of 2022 and take approximately 12 months to complete. Construction would consist of the installation of three pumps at existing connection points to the EVRWL. The number of construction personnel on site would vary from day to day, but a maximum of eight personnel per day is anticipated. Construction would require the operation of several pieces of heavy equipment, including a forklift, dump truck, and tractor, as well as hand-operated power tools, welding equipment, and a generator. An average of two pieces of heavy equipment would operate per day. The pump station upgrade would occur within the existing pump station footprint in the southeast corner of the DCTWRP property. No excavation or grading would be required. Minor deliveries of equipment and materials would be necessary, requiring an average of one truck trip per day.

During construction at DCTWRP, all construction activities, including supplies laydown, soil excavation and stockpiling, equipment storage, and worker parking, would be confined to the DCTWRP property boundary. Only truck trips required to deliver equipment, materials, and supplies and to haul debris and excess material would occur outside the site. The general inbound truck route during construction would be I-405 to Victory Boulevard, west to Densmore Avenue, and Densmore Avenue south along the DCTWRP access road. The outbound route would be the DCTWRP access road to Densmore Avenue to Victory Boulevard to I-405. Trucks are estimated to travel approximately 20 miles to and from the DCTWRP property (a total 40-mile roundtrip).

Recycled Water Pipeline

The extension of the recycled water pipeline would commence in late 2018 and take approximately 36 months to complete. The construction would generally use an open trench technique, but tunneling may be necessary at some major intersections, rail crossings, or large drainage structures or underground utilities. The pipeline would proceed north on San Fernando Road from VGS, west on Branford Street, and north on Arleta Avenue to Devonshire Street. The trench would be 7.5-foot-wide and approximately 12 to 15 feet deep. As the trench is excavated, the material would be loaded into dump trucks parked adjacent to the trench within the construction zone and hauled off site. After a sufficient length of trench was excavated and shored, an 18-foot-long ductile iron pipe section would be delivered to the site on a flatbed truck and off-loaded to be placed in the trench and joined to the preceding section of pipe. Once three to four sections of pipe were installed in the trench that portion of the trench would be backfilled to just below grade level with soil-cement slurry at the same time excavation and pipe installation work would continue in the forward areas of the trench. After the pipe had been installed and the trench backfilled, the construction zone barriers would be removed and the pavement would be returned to its existing condition.

Pipeline construction crews would consist of approximately 20 daily personnel and six pieces of equipment operating daily, including pavement cutter, backhoe, loader, compactor, and sweeper. The maximum daily truck trips would be approximately 12. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the alignment. Pipeline construction would necessitate restrictions of on-street parking and closure of up to two lanes of the roadway (including parking lanes) in the section under construction. Portions of the construction zone may be covered with metal plates during periods of the day when construction is not ongoing for safety and to allow for continued passage of traffic.

Brine Line

The brine line construction would take approximately 36 months to complete, commencing at the beginning of 2020. The installation of the line would generally consist of open trench construction, but tunneling may be necessary at some major intersections, rail crossings, or large drainage structures or underground utilities. A 6-foot wide trench, approximately 15 feet deep would be required for the pipeline installation. As the trench was excavated, the material would be loaded into dump trucks hauled off site. After a sufficient length of trench was excavated and shored, an 18-foot-long ductile iron pipe section would be delivered to the site on a flatbed truck and placed in the trench and joined to the preceding section of pipe. Once three to four sections of pipe were installed in the trench that portion of the trench would be backfilled to just below grade level with soil-cement slurry at the same time excavation and pipe installation work would continue in the forward areas of the trench. After the pipe had been installed and the trench backfilled, the construction zone barriers would be removed and the pavement would be returned to its existing condition.

Because the pipeline route connecting VGS to the VORS is about 7 miles in length, to minimize overall construction duration, the route would be divided into three segments, with construction occurring simultaneously within all the segments. In general, construction activity within the different segments along the route would be separated by about 2 miles. Pipeline construction in each segment would involve approximately ten daily personnel and six pieces of operating equipment, including a pavement cutter, backhoe, loader, compactor, and sweeper. The average daily truck trips generated within each segment would be approximately four, including both haul and delivery trucks. Pipeline construction would necessitate closure of up to two lanes when trenching would occur in public roadways. Portions of the construction zone may be covered with metal plates during periods of the day when construction was not ongoing for safety and to allow for continued passage of traffic.

Pacoima Spreading Grounds

The improvements at PSG would be similar to those under the Proposed Project and would take approximately 9 months to complete, commencing after the completion of the recycled water pipeline extension, at the end of 2021. The longer duration of construction at PSG compared to HSG (see below) is related to the extension of the pipeline within the spreading basin, south of

Devonshire Street. This pipeline, which would have a total length of about 1,500 feet, would be constructed within the PSG property to minimize traffic disruptions on Devonshire Street. For the pipeline, the construction crew would consist of an average of approximately 20 daily personnel and seven pieces of equipment operating intermittently (including an excavator, crane, and dump truck). For the outlet structure, the construction crew would consist of an average of approximately seven daily personnel and three pieces of equipment operating intermittently (including a backhoe, dump truck, and concrete pump). There would be an average of approximately six daily truck trips during the construction period for deliveries and hauling.

Hansen Spreading Grounds

The improvements at HSG would be similar to those under the Proposed Project and would take approximately 3 months to complete, commencing after the completion of the PSG improvements, in the fourth quarter of 2022. For the pipeline, the construction crew would consist of an average of approximately 20 daily personnel and seven pieces of equipment operating intermittently (including an excavator, crane, and dump truck). For the outlet structure, the construction crew would consist of an average of approximately seven daily personnel and three pieces of equipment operating intermittently (including a backhoe, dump truck, and concrete pump). There would be an average of approximately six daily truck trips during the construction period for deliveries and hauling.

VGS Alternative Operations

The GWR operations (including treatment, conveyance, and replenishment) that would occur under the VGS Alternative would be similar to what would occur under the Proposed Project. However, because the AWPF would not be located at DCTWRP, as under the Project, additional supervisory personnel would be required for operations VGS. Therefore, it would take about 22 personnel to operate the facilities at VGS (versus 16 personnel for the Project). As discussed above, the primary operational difference between the VGS Alternative and the Proposed Project is the use of the EVRWL. Under the Proposed Project (DCT SE) a portion (up to 44 mgd) of the recycled water produced at DCTWRP would be directed to the AWPF at DCTWRP, where it would undergo the advanced treatment to produce up to 35 mgd of purified water. Most of the purified water produced at the DCTWRP AWPF would then be conveyed to HSG via the existing 54-inch EVRWL and to PSG via the EVRWL and a new 42-inch recycled water line extension for GWR. However, a portion of the purified water (an average of about 4 mgd) would also be distributed for NPR functions (leaving about 31 mgd for GWR).

Under the VGS Alternative, a portion (up to 44 mgd) of the recycled water produced at DCTWRP would be conveyed to VGS via the EVRWL. A portion of the recycled water delivered to VGS (an average of about 4 mgd) would be distributed for NPR functions, and the balance (about 40 mgd) would be directed to the AWPF at VGS, where it would undergo the advanced treatment to produce about 31 mgd of purified water, which would be distributed via new 42-inch recycled water lines to HSG and PSG for GWR.

In either case (i.e., under the VGS Alternative or the Proposed Project), accounting for AWPF offline days and days on which HSG and/or PSG would be unavailable for GWR due to stormwater capture, approximately 30,000 AFY of purified water would be provided for GWR.

VGS Alternative Impact Analysis

Aesthetics

The VGS Alternative would construct the proposed AWPF within VGS, an active LADWP electrical generation station. This would place the AWPF and associated facilities on a site currently occupied by high-voltage transmission towers (which would be relocated within VGS) and adjacent to a Union Pacific Railroad right-of-way and San Fernando Road. While the facilities, which would be single story, would be visible from the road and nearby uses, they would be compatible in appearance and profile with the surrounding area, which consists primarily of industrial and commercial functions. Therefore, the proposed facilities would not substantially degrade the visual character of the site or surroundings. The facilities would not interfere with any scenic vistas and would not be located in the viewshed of any scenic highways. Similar to the Proposed Project, the VGS Alternative would not include any new major sources of glare, such as lighting, that do not currently exist on the VGS site. All new lighting would be aimed downward to prevent effects to the nearby areas. Due to the distance and intervening uses between the proposed AWPF and surrounding residential uses, no effect from lighting is anticipated.

Offsite facilities under the VGS alternative (i.e., at DCTWRP, PSG, HSG, and in City streets) would be underground or low profile and would, therefore, not be visually discernable from outside the site boundaries. There would be no new sources of light associated with these facilities.

Therefore, the VGS Alternative would result in a less than significant aesthetic impact, similar to the Proposed Project.

Agriculture and Forestry Resources

The VGS Alternative site is located in the City of Los Angeles south of and adjacent to HSG. The site is zoned for Public Facilities and is currently developed with a power generating facility. No other portion of the VGS Alternative is zoned for agriculture use and no portion is zoned or designated as forest land or timberland. The VGS Alternative would not result in the loss or conversion of farmland, forest land, or timberland, and would not conflict with existing zoning for such uses. Similar to the Proposed Project, no impacts to agriculture and forestry resources would occur under the VGS Alternative.

Air Quality

Similar to the Proposed Project, the VGS Alternative would comply with State and local strategies designed to control air pollution, such as Rule 403 for the control of fugitive dust during construction. By complying with South Coast Air Quality Management District (SCAQMD) rules and regulations, construction activities would be consistent with the goals and objectives of the AQMP to improve air quality in the Basin and with growth assumptions included in the AQMP. Therefore, VGS Alternative impacts related to consistency with the AQMP would be less than significant, the same as the Proposed Project.

Regional daily construction emissions were estimated using the same methodology as for the Proposed Project. Table 5-2 shows the unmitigated maximum daily regional emissions by year for the VGS Alternative. Unmitigated maximum daily emissions would considerably exceed the SCAQMD significance thresholds for nitrogen oxide (NO_X) in 2020 and 2021. Therefore, without mitigation, the Proposed Project would result in a significant impact related to regional construction emissions. Mitigation Measure AQ-A would reduce maximum regional NO_X emissions to 159 pounds per day through the implementation of Tier III emissions standards. This would still exceed the SCAQMD significance thresholds of 100 pounds per day. Therefore, the VGS Alternative would result in a significant and unavoidable impact related to construction related regional NO_X emissions. Conversely, the Proposed Project, without mitigation, would result in a slight exceedance of thresholds for NO_X during construction, and, with the implementation of Mitigation Measure AQ-A, construction NO_X emissions for the Project would be reduced substantially below the threshold (to 74 pounds per day).

Table 5-2
Regional Construction Emissions (Unmitigated) – VGS Alternative

Construction Phase and Annual Maximum Emissions	**Pounds Per Day**					
	VOC	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
2018[a]	3	34	17	<1	1	2
2019[b]	2	30	16	<1	1	2
2020[c]	14	199	141	<1	8	16
2021[d]	11	125	126	<1	6	10
2022[e]	9	93	107	<1	4	8
Regional Significance Threshold	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	**Yes**	No	No	No	No

a 2018 maximum emissions would occur during recycled water pipeline construction.
b 2019 maximum emissions would occur during recycled water pipeline construction.
c 2020 maximum emissions would when the following phases overlap: flow equalizer tank, advanced water purification facility, brine line, and recycled water pipeline construction.
d 2021 maximum emissions would when the following phases overlap: flow equalizer tank, advanced water purification facility, brine line, and Pacoima spreading grounds.
e 2022 maximum emissions would when the following phases overlap: advanced water purification facility, Balboa Pump Station Expansion, brine line, Pacoima spreading grounds.
Source: TAHA, 2016

The difference between the Project and the VGS Alternative in relation to NO_X emissions is attributable to the substantially increased pipeline construction activity required under the VGS Alternative compared to the Project. This includes approximately 4 miles of recycled water pipeline for the VGS Alternative versus 2 miles for the Project and 7 miles of brine line for VGS versus 0.6 miles for the Project. This increased pipeline construction would result in a greater intensity of construction on a daily basis as well as an extended duration for pipeline installation, which in turn would lead to a greater overlap between various phases of construction under the VGS Alternative than under the Project. Although construction for the VGS Alternative is more widely dispersed than under the Project (i.e., at VGS, DCTWRP, PSG, HSG, and in various public roadways), NO_X emissions are considered on a regional, not localized, basis. Therefore, impacts related to regional construction emissions would be substantially greater under the VGS Alternative than the Proposed Project.

An analysis for the VGS Alternative was completed to assess local exposure to construction emissions. Localized emissions include equipment exhaust and fugitive dust. Pipeline and DCTWRP components were assessed using a one-acre project site and a 25-meter receptor distance. This is the most conservative localized significance threshold (LST) in the SCAQMD guidance. PSG and HSG construction activity would require up to 7 pieces of earth moving equipment, which would disturb approximately 3.5 acres per day. Construction of the AWPF would require up to 4 pieces of earth moving equipment, which would disturb approximately 2.0 acres per day. Table 5-3 includes maximum localized emissions associated with the VGS

Alternative. Localized emissions would not exceed the SCAQMD LSTs, except for emissions associated with the flow equalization tank at DCTWRP. Because these emissions would exceed the LST for PM_{10} (particulate matter 10 microns in diameter or smaller), a detailed localized concentration analysis was completed using AERMOD. The 24-hour PM_{10} concentrations would be 5.26 $\mu g/m^3$ at the recreational receptors east of construction activity. This concentration would be less than the SCAQMD significance threshold of 10.4 $\mu g/m^3$. Therefore, the VGS Alternative would result in a less than significant impact related to localized PM_{10} concentrations, similar to the Proposed Project.

Table 5-3
Localized Significance Threshold Analysis – VGS Alternative

Project Component	Pounds Per Day			
	NO_X	CO	$PM_{2.5}$	PM_{10}
Recycled Water Pipeline	25	14	1	2
Localized Significance Threshold[a]	**80**	**426**	**3**	**4**
Exceed Threshold?	No	No	No	No
Pacoima Spreading Ground	28	29	1	2
Localized Significance Threshold[b]	**114**	**786**	**4**	**7**
Exceed Threshold?	No	No	No	No
Hansen Spreading Ground	24	29	1	2
Localized Significance Threshold[c]	**144**	**2,786**	**21**	**62**
Exceed Threshold?	No	No	No	No
AWPF	34	27	2	4
Localized Significance Threshold[d]	**121**	**1,594**	**21**	**34**
Exceed Threshold?	No	No	No	No
DCTWRP	26	21	2	5
Localized Significance Threshold[a]	**80**	**426**	**3**	**4**
Exceed Threshold?	No	No	No	Yes

[a] The localized significance thresholds are based on a one-acre project site and a 25-meter receptor distance.
[b] The localized significance thresholds are based on a 2-acre project site and a 25-meter receptor distance.
[c] The localized significance thresholds are based on a 2-acre project site and a 200-meter receptor distance.
[d] The localized significance thresholds are based on a 2-acre project site and a 100-meter receptor distance.
Source: TAHA, 2016

The VGS Alternative would generate regional emissions from worker vehicle trips and delivery trucks during operations. Regarding mobile emissions, vehicle trips associated with 22 full-time staff and 7 chemical truck deliveries per month would generate less than one pound per day of each criteria pollutant. In addition, the VGS Alternative would not include other sources of potentially significant emissions, such as landscape maintenance activity or natural gas combustion. Operational emissions would not exceed the SCAQMD regional significance thresholds. Therefore, the VGS Alternative would result in a less than significant impact related to operational emissions, similar to the Proposed Project.

Because the Basin is designated as State and/or federal nonattainment for ozone (O_3), $PM_{2.5}$ (particulate matter 2.5 microns in diameter or smaller), PM_{10}, nitrogen dioxide, and lead, there is an ongoing regional cumulative impact associated with these pollutants. Mitigated construction emissions for the VGS Alternative would result in the exceedance of SCAQMD's regional threshold for NO_X. NO_X contributes to the formation of O_3, for which the Basin is nonattainment area under the California Ambient Air Quality Standards and National Ambient Air Quality Standards. Therefore, VGS Alternative construction emissions would result in a significant and unavoidable impact related to a cumulatively considerable net increase in O_3. This impact would be greater than the Proposed Project since, with mitigation, NO_X emissions under the Project would be less than significant and would, therefore, not contribute to a cumulatively considerable net increase in O_3.

Similar to the Proposed Project, construction of the VGS Alternative would generate diesel particulate matter and other toxic air contaminant (TAC) emissions. However, construction activity would not occur with enough intensity and duration to significantly increase health risk. In addition, similar to the Proposed Project, the VGS Alternative would be subject to the regulations and laws relating to toxic air pollutants at the regional, State, and federal level that would protect sensitive receptors from substantial concentrations. Pipeline installation would affect traffic whenever a mixed-flow traffic lane is closed for construction activities. Reduced speeds through construction zones would result in additional localized concentrations of emissions. Traffic congestion would lessen as some automobile travelers would reroute to parallel streets when lane closures would occur. In addition, construction activities would be limited to short segments of public roads at one time, minimizing long-term traffic disruption. Therefore, similar to the Proposed Project, the VGS Alternative would result in a less than significant impact related to construction TAC emissions.

The SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[194] The VGS Alternative would not include a new source of significant operational TAC emissions. New truck trips would be minimal (seven chemical deliveries per month) and would not warrant a long-term exposure health risk assessment that is typically reserved for distribution facilities. Therefore, similar to the Proposed Project, the VGS would result in a less than significant impact related to operational TAC emissions.

The VGS Alternative would include the same sources of odors as discussed for the Proposed Project. Similar to the Proposed Project, the VGS Alternative would result in a less than significant impact related to odors.

Biological Resources

Construction of the VGS Alternative is proposed within the northwest portion of the VGS property, which consists of a large flat area of paved and gravel surfaces. This area contains mock-up electrical transmission towers for lineman training, a few small buildings, and areas where LADWP vehicles, equipment, and electrical-related materials are parked/stored. Vegetation is primarily present along perimeter fencing and includes eucalyptus (*Eucalyptus* sp.) trees, magnolia (*Magnolia* sp.) trees, thick-leaved yerba santa (*Eriodictyon crassifolium*), and laurel sumac (*Malosma laurina*). Other plant species identified onsite include Washington fan palm (*Washingtonia filifera*), tree tobacco (*Nicotiana glauca*), tree-of-heaven (*Ailanthus altissima*), and black mustard (*Brassica nigra*). A thin strip, approximately 40 to 50 feet wide, of disturbed vegetated habitat occurs outside the northern perimeter fence, between the fence line of VGS and the concrete-encased channel of Tujunga Wash. This sparsely vegetated community consists primarily of California buckwheat (*Eriogonum fasciculatum*) and ruderal herbaceous species. No special status plant or wildlife species were detected during the field survey of VGS, and habitat potentially suitable for special status species is absent in the biological survey area (BSA) of VGS. As discussed in Section 3.4.1, a historical record from 1928 of Davidson's bushmallow (*Malacothamnus davidsonii*) is documented in the CNDDB along Tujunga Wash, which runs along the west-northwest perimeter of VGS, and coincides with the BSA of VGS. However, habitat potentially suitable for this species is absent from the BSA.

[194] SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions, December 2002.

As a fenced-in, urban developed site, VGS does not serve as a wildlife movement corridor. Tujunga Wash occurs within the BSA of VGS, and as discussed in Section 3.4.1, the wash is of local importance for wildlife movement. The Tujunga Valley/Hansen Dam SEA, portions of which lie a few hundred feet north-northeast of the VGS in the form of HSG, provides natural open space habitat for wildlife in the northeastern portion of the San Fernando Valley and provides connections to undisturbed habitats further east into the Angeles National Forest. However, undisturbed habitats associated with this SEA lie behind Hansen Dam, approximately 1.5 miles north of the VGS site. Additionally, as previously described, the Verdugo Mountains SEA occurs approximately two miles east of VGS and serves as a wildlife corridor between what remains of a link between populations found in the Santa Monica Mountains to the west and San Gabriel Mountains to the east.

No federal or state protected waters occur within VGS; however, as previously described, Tujunga Wash occurs within the survey buffer of VGS. Construction of the VGS alternative would not coincide with Tujunga Wash, and no direct or indirect impacts to the wash would occur.

The BSAs of the VGS brine line and recycled water pipeline alignments coincide with urban developed habitat, with plant and wildlife species similar to those documented for onsite and offsite components of the Proposed Project. Habitat for special status species is absent from the BSAs and none are expected to occur. The VGS brine line alignment intersects the Central Branch of Tujunga Wash at the intersection of Colfax Avenue and Burbank Boulevard; however, the wash occurs underground at this intersection, and impacts to this federal and state-protected water would likely not occur during installation of the brine line in the roadway.

Similar to the Proposed Project, with the implementation of Mitigation Measures BIO-A, related to construction site demarcation and procedures, and BIO-B, related to migratory bird species, impacts of the VGS Alternative on biological resources would be less than significant.

Cultural Resources

Construction of the VGS Alternative is proposed within the northwest portion of the VGS, which is entirely graded and disturbed. During the field survey, one resource was identified within the VGS Alternative site, the Valley Generating Station Transmission School. The survey identified the existing structures onsite: a one-story building identified as Building 1, six metal transmission towers and 11 wooden poles, a railroad spur, a weather-station tower, and two water towers. Of these existing structures, Building 1, the weather-station tower, and the railroad spur were evaluated within the Phase I Archaeological Assessment to determine their potential significance as historical resources. The evaluation found that the three structures are not eligible for listing in the CRHR, either individually or as parts of a whole. Therefore, similar to the Proposed Project, impacts to historic resources would be less than significant under the VGS Alternative.

Similar to the Proposed Project, the previously recorded resource, P-19-188770 San Fernando Road, is located adjacent to the VGS Alternative site. Construction of the VGS recycled water pipeline and brine line would occur within San Fernando Roadway. However, construction would not cause a substantial adverse change in the significance of an archaeological resource, and the impact would be less than significant.

The archaeological windshield survey conducted for the VGS Alternative included a survey of the recycled water and brine line alignments. In addition, the historic architectural pedestrian survey included the VGS. Similar to the Proposed Project, no archaeological resources were encountered. However, although no archaeological resources were identified within the VGS site footprint during the course of the background research and cultural resources field survey, potentially eligible archaeological resources may exist in the area of impact for this alternative. Based on the results of the records search and the Native American contact program, the VGS Alternative site may be culturally sensitive for prehistoric and/or historic archaeological resources. Additionally, the VGS Alternative is located in the general area of Mission San Fernando, and prehistoric villages have long been rumored to be, or are documented as having been, located in the vicinity of the Mission. The VGS Alternative's location relative to the nearby water sources would have provided access to important resources during all periods of prehistory. In addition, archaeological deposits can be buried with no surface indications of their existence, particularly in developed areas or in areas of alluvial deposits. Therefore, implementation of Mitigation Measures CR-A through CR-C would be required. Similar to the Proposed Project, with implementation of these measures, impacts of the VGS Alternative on archaeological resources and paleontological resources, including human remains, would be mitigated to less than significant.

Geology and Soils

Under the VGS Alternative, construction activities would be similar to the Proposed Project. The geological conditions and soils at the VGS Alternative project site would be similar to those described in Section 3.6.1. Although no active faults or fault systems are known to traverse the VGS site, seismic activity typical of the region may result in ground shaking at the Project site. Similar to the Proposed Project, the VGS Site is located within a City-designated Fault Rupture Study Area, but not an Alquist-Priolo Zone, and an area subject to liquefaction. A small portion of the recycled water pipeline near the VGS Site is also within this City-designated Fault Rupture Study Area. Although the VGS site, HSG, and a portion of the recycled water pipeline are within the Verdugo fault zone, this fault is not considered to be active. A small portion of the VGS site is designated as an earthquake-induced landslide zone by the City of Los Angeles. Additionally, the southern half of the VGS Alternative brine line would pass through an area subject to liquefaction, and portions of HSG and PSG are within a liquefaction zone.[195,196] Similar to the Proposed Project, the VGS Alternative would be designed and constructed in conformance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes. Compliance with existing regulations would ensure that impacts from seismic ground shaking and liquefaction would be less than significant. These impacts would be similar to the Proposed Project.

Under the VGS Alternative, the AWPF would be constructed on a site that has already been developed with utility-related uses, similar to the Proposed Project. Additionally, the VGS Alternative would consist of components similar to the Proposed Project, including an AWPF and administration, maintenance, and warehouse buildings, as well as a parking lot. The AWPF and associated facilities would slightly increase the amount of new impervious surfaces. Similar to the Proposed Project, the VGS Alternative would be required to obtain a construction general permit and prepare a SWPPP, as outlined in the BMPs, to prevent erosion during construction activities. Additionally, this alternative would require preparation of a Standard Urban

[195] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Exhibit A – Alquist-Priolo Special Study Zones & Fault Rupture Study Areas*. 1996. Available online at: http://planning.lacity.org/cwd/gnlpln/SaftyElt.pdf, accessed August 18, 2015.

[196] City of Los Angeles Department of City Planning. *City of Los Angeles General Plan Safety Element Exhibit B – Areas Subject to Liquefaction.* 1996. Available online at http://planning.lacity.org/cwd/gnlpln/SaftyElt.pdf, accessed August 18, 2015.

Stormwater Mitigation Plan and/or Site Specific Mitigation Plan as mandated by the City of Los Angeles, Department of Public Works. Compliance with existing regulations would ensure that impacts associated with erosion and loss of topsoil would be less than significant under the VGS Alternative. The impacts to geology and soils under this alternative would be similar to the Proposed Project.

Greenhouse Gas Emissions and Energy

The VGS Alternative would generate GHG emissions from energy use during operations and from construction activity. It is anticipated that other sources, including vehicle trips associated with 22 staff members and 7 truck deliveries per month during operations, would result in negligible GHG emissions in metric tons. Similar to the Proposed Project, the VGS Alternative would consume about 52.8 million kilowatt hours (kWh) to purify and convey 30,000 AFY.

Based on this energy use, the VGS Alternative would generate about 17,293 metric tons per year of CO_2e emissions. This includes construction emissions (11,789 total metric tons) amortized over a 30-year span per SCAQMD methodology. However, water conveyance in California requires substantial amounts of energy. The California Energy Commission (CEC) estimates that approximately 9,727 kWh/mg are consumed for water that is conveyed to Southern California.[197] Based on the importation of 30,000 AFY, or 9,777 mg/year, about 95.1 million kWh would be consumed annually. Therefore, the importation of 30,000 AFY generates about 31,233 metric tons per year CO_2e emissions. As shown in Table 5-4, the VGS Alternative would result in a net reduction of 13,510 metric tons per year of CO_2e emissions by offsetting the requirement to import 30,000 AFY of water to Southern California. Therefore, similar to the Proposed Project, the VGS Alternative would result in a less than significant impact related to GHG emissions.

Table 5-4
Greenhouse Gas Emissions – VGS Alternative

Source	Carbon Dioxide Equivalent (Metric Tons Per Year)
Conveyance of Imported Water (Existing Condition)	**31,233**
VGS Alternative	
Treatment	11,036
Pumping	6,924
Construction (amortized over 30 years)	393
Total VGS Alternative Emissions	**17,723**
Net reduction in GHG emissions	**(13,510)**
Significance Threshold	**10,000**
Exceed Threshold?	**No**

Source: TAHA, 2016

Similar to the Proposed Project, the VGS Alternative would be consistent with the goals and policies of the all relevant GHG reduction plans, policies, and regulations (e.g., GREEN LA Plan) to conserve water. The VGS Alternative would not conflict with the Scoping Plan update or any other plans, policies, or regulations for the purpose of reducing GHG emissions. Therefore, similar to the Proposed Project, the VGS Alternative would result in a less than significant impact related to GHG reduction plans.

[197] CEC, Refining Estimates of Water-Related Energy Use in California (CEC-500-2006-118), 2006.

As discussed in Section 3.7, the production and use of recycled water is more energy efficient than imported potable water. Based on the improvements to energy efficiency and energy savings associated with the VGS Alternative, energy consumption associated with operations would not be expected to be wasteful or inefficient. Therefore, similar to the Proposed Project, the VGS Alternative would result in a less than significant impact related to energy use.

Hazards and Hazardous Materials

Under the VGS Alternative, construction of the proposed AWPF would involve the limited transportation, storage, usage and disposal of the same hazardous materials as described for the Proposed Project. These types of materials are not acutely hazardous, and all construction activities involving the materials would be subject to federal, state, and local health and safety requirements. The VGS Alternative would require the construction of a lengthier underground pipeline to convey purified water from the VGS to PSG. The length of the recycled water pipeline would be approximately 4 miles. The alternative would also require the construction of a lengthier brine line to connect the AWPF to the VORS south of US-101. The proposed brine line would extend approximately 7 miles within City streets.

There are several hazardous waste sites located on or near the VGS site and along or near the recycled water pipeline and brine line alignments; therefore, it is possible that construction of the pipelines could encounter hazardous materials sites (see Appendix F). The number of hazardous waste sites on or near the VGS Alternative components is much greater than those on or near the Proposed Project components due to the lengthier recycled water pipeline and brine line alignments. According to the EnviroStor database, the VGS Alternative brine line would be located within 0.5-mile of a NPL site located northeast of the intersection of Colfax Avenue and Erwin Street. The cleanup of NPL sites is managed by the EPA and involves long-term cleanup processes. The site is known as San Fernando Valley Area 1 North Hollywood Operable Unit and covers 5,254 acres. Its primary contaminants of concern are VOCs, trichloroethylene, and tetrachloroethylene associated contamination of groundwater. The site is listed as active as of May 15, 1996.

Similar to the Proposed Project, construction of the recycled water pipeline and brine line for this alternative would use a trenching construction technique, in which a trench would be excavated and shored to allow installation of the pipeline. Excavated material (e.g., soil, slurry, and groundwater) along the proposed pipeline alignment under this alternative would be monitored and tested prior to disposal. Excavated material that is deemed hazardous would be subject to strict federal, state, and local regulations for its handling, transport and disposal. These activities would occur under the oversight of the appropriate agencies, including DTSC, SWRCB, and LAFD. Adherence to federal, state, and local standards would minimize the risk to the public or the environment.

Additionally, the trenching method that would be used to install the recycled water pipeline and brine line under the VGS Alternative would entail short-term changes to traffic patterns, which could impact emergency response time. Similar to the Proposed Project, a traffic management plan would be prepared under this alternative to minimize effects of construction. No schools are located within 0.25-mile of the VGS site; however, several schools are located adjacent to and within 0.25-mile of the alternative recycled water pipeline and brine line alignments. The handling of minor amounts of non-acutely hazardous materials during construction would be in compliance with applicable regulations. Similar to the Proposed Project, this alternative would result in less than significant construction impacts.

The VGS Alternative would operate the same facilities as those described under the Proposed Project. Similar to the Proposed Project, operation of this alternative would routinely require transport, use, or disposal of hazardous materials that neutralize and treat wastes. Operation of the AWPF would require the daily use of a number of chemicals that would be considered hazardous and would require up to seven chemical deliveries per month. The AWPF under the VGS Alternative would be designed and operated in compliance with all applicable regulations. The VGS site is not designated by the County of Los Angeles as being located within a Fire Hazard Severity Zone.

The Whiteman Airport, located at 12653 Osborne Street, is approximately 1 mile northwest of the VGS. However, the VGS Alternative would not create a safety hazard from proximity to a public airport as the use of the site would be similar to existing conditions. Additionally, according to the Los Angeles County Airport Land Use Plan, VGS is not located within the Whiteman Airport Influence Area or corresponding safety zone.[198] VGS is not located in the vicinity of a private airstrip. Therefore, similar to the Proposed Project, operational impacts to hazards and hazardous materials under this alternative would be less than significant.

Hydrology, Water Quality, and Groundwater

Regional drainage in the VGS area is provided by the Tujunga Wash which is a tributary to the Los Angeles River. The proposed site for the AWPF at the VGS site contains approximately 50 percent impervious surface area. Construction of the proposed AWPF facilities, administration building, maintenance building, warehouse, guard shack, and parking would likely increase impervious surface area. An overall minor increase in stormwater runoff would occur, which would discharge to the Tujunga Wash.

Construction of the proposed facilities at VGS would require compliance with the Construction General Permit and Standard Stormwater Mitigation Plan requirements, similar to the Proposed Project at the DCTWRP site. The VGS industrial SWPPP would need to be updated to include the proposed AWPF facilities as needed under the Industrial General Permit. Compliance with the Construction General Permit, Standard Stormwater Mitigation Plans, and Industrial General Permit would ensure water quality impacts to downstream receiving waters, including the Tujunga Wash and Los Angeles River are less than significant during short-term construction and long-term operation.

Construction at the VGS would not alter regional drainage patterns in the area nor result in flooding on or off-site. The VGS is not located within a 100-year flood zone. A hydrology study would be prepared for approval by the City of Los Angeles Department of Building and Safety during the grading plan check process to ensure on-site drainage is properly designed to prevent localized flooding on- and off-site.

As under the Proposed Project, purified water would be spread at HSG and PSG under the VGS Alternative for the GWR of the SFB. Therefore, the VGS Alternative would not deplete groundwater supplies of interfere with groundwater recharge. Impacts to hydrology, water quality, and groundwater under the VGS Alternative would be less than significant, similar to the Proposed Project.

[198] Los Angeles County Department of Regional Planning. *Los Angeles County Airport Land Use Plan*, website: http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf, accessed July 15, 2015.

Land Use and Planning

Under the VGS Alternative the AWPF and ancillary facilities would be located on the VGS site, which is located in the City of Los Angeles, south of and adjacent to HSG. The site is zoned for and designated Public Facilities and is currently developed with a power generating facility. The AWPF and ancillary facilities would be consistent with the existing General Plan land use designation and zoning, as well as existing development at the VGS site. Similar to the Proposed Project, the brine line and recycled water pipeline for this alternative would be located entirely underground within existing roadways and would not conflict with the existing zoning or General Plan Land Use designations of adjacent parcels. The improvements at PSG and HSG would not conflict with existing zoning or General Plan land use designations at these sites. Development of this alternative would not physically divide an established community. Therefore, similar to the Proposed Project, impacts to land use and planning under the VGS Alternative would be less than significant.

Mineral Resources

The VGS site is located within a MRZ-2 area as designated within the City of Los Angeles General Plan.[199] According to the City of Los Angeles Sun Valley – La Tuna Canyon Community Plan, a portion of the VGS is located within an area identified as an existing rock and gravel district. Additionally, the VGS is designated as containing a surface mining facility.[200] However, as discussed above, VSG is currently developed as a power generating facility, and no mining activities currently occur at VGS. Therefore, similar to the Proposed Project, the VGS Alternative would not result in the loss of a known mineral resource that would be of value to the region or state, or a locally important mineral resource recovery site.

Noise

Under the VGS Alternative, construction activity associated with the AWPF would be located approximately 375 feet from the nearest sensitive receptor, which is a residence located to the southwest of the Project site. Additional sensitive receptors near the AWPF Project site include the Pink Motel filming location (450 feet), Pacifica Hospital (800 feet), Emerson Inn (950 feet), and Serra Medical Clinic (1,375 feet). The existing noise level along San Fernando Road was monitored at 76.6 dBA L_{eq}. It is anticipated that the construction noise level for the VGS Alternative at 375 feet would be 71.5 dBA L_{eq}, which would increase the existing noise level at the nearest sensitive receptor by up to 1.2 dBA. This increase would be less than the 3-dBA audibility threshold. There is no potential for construction activity associated with the AWPF to audibly increase noise levels at sensitive land uses. The location of the flow equalization tanks and the pump station at DCTWRP would be the same under the VGS Alternative as the Proposed Project. Similar to the Proposed Project, construction activity at these sites would not create a significant impact related to noise. However, because the warehouse would not be constructed at DCTWRP (as it would under the Proposed Project), the temporary but significant and unavoidable noise impact to the Japanese Garden created during construction would be avoided under the VGS Alternative. Thus, this impact would be less than the Proposed Project.

[199] City of Los Angeles Department of City Planning. Environmental and Public Facilities Maps. Areas Containing Significant Mineral Deposits. September 1, 1996.

[200] City of Los Angeles Department of City Planning. Sun Valley – La Tuna Canyon Community Plan. General Plan Land Use Map as of June 13, 2012. *Available online at: http://planning.lacity.org/complan/valley/PDF/svyplanmap.pdf. Accessed July 13, 2015.*

Construction of the brine line, recycled water pipeline, and improvements at PSG would occur in close proximity to sensitive receptors, including residences, Nikkei Senior Gardens, and religious facilities. The increase in existing noise levels would be noticeable, although increased noise levels would occur for a brief time at each location as trenching activity would move relatively rapidly along the alignment. Similar to the Proposed Project, implementation of Mitigation Measures NOI-A through NOI-H would reduce these noise impacts to a less than significant level. However, while the noise-related impacts from pipeline construction would be no greater at individual receptors under the VGS Alternative than the Proposed Project, the overall area of potential impact would be more widespread under the VGS Alternative based on the substantial increase in pipeline length (approximately 4 miles of recycled water line for the VGS Alternative versus 2 miles for the Project and 7 miles of brine line for VGS versus 0.6 miles for the Project).

The operation of the AWPF and associated facilities proposed under the VGS Alternative would include the same noise characteristics as the Proposed Project. Treatment activity is generally a passive process. It would not utilize mechanical equipment that would generate substantial noise. Noise that would be generated at the AWPF would not be perceptible at the property line. Therefore, operation of the AWPF under this alternative would result in a less than significant impact related to operational noise. The brine line and recycled water pipeline would be subterranean, and would not generate substantial audible noise. Operational activity at PSG and HSG would be the same as under the Proposed Project, and would not create a significant impact. Therefore, there is no potential for operational activity to audibly increase noise levels at sensitive receptors.

As with the Proposed Project, construction vibration was estimated using Federal Transit Administration (FTA) reference levels and impact criteria. Construction-related vibration would not exceed the significance thresholds. The primary differences related to potential vibration impacts between the VGS Alternative and the Proposed Project are associated with the brine line and the extension of the recycled water pipeline. In the absence of detailed engineering drawings, it was assumed that receptors along the brine line and recycled water pipeline would typically be approximately 50 feet from equipment activity. Similar to the Proposed Project, construction equipment would not result in a significant vibration impact. In addition, the VGS Alternative would not require mitigation measure NOI-J, associated with the Proposed Project and potential vibration impacts to the Japanese Garden. Thus, this impact would be less than the Proposed Project.

In addition to actual construction activities, construction trucks on the roadway network have the potential to expose vibration-sensitive land uses located near the access route. Rubber-tired vehicles, including trucks, do not generate significant roadway vibrations that can cause building damage. It is possible that trucks would generate perceptible vibration at sensitive receptors adjacent to the roadway. However, these would be transient and instantaneous events typical to the roadway network. Similar to the Proposed Project, construction truck activity associated with the VGS Alternative would result in a less than significant impact related to vibration.

Population and Housing

The number of construction personnel associated with the AWPF under the VGS Alternative would be similar to what is anticipated for the Proposed Project. Given the same considerations as the Proposed Project regarding the temporary nature of construction jobs and the existing large regional construction employment pool, it is anticipated that the impacts to population and housing under the VGS Alternative would be less than significant, similar to the Proposed

Project. In addition, similar to the Project, the proposed facilities (including the recycled water pipeline and brine line) would be constructed on vacant property not zoned for residential development or within existing road rights-of-way and would not result in any housing displacements. Because of the small number of personnel required during operations, impacts under the VGS Alternative would be less than significant, the same as under the Proposed Project.

Similar to the Proposed Project, implementation of the VGS Alternative would offset imported water supplies with up to 30,000 AFY of purified water through groundwater replenishment, thereby supplementing the City of Los Angeles' local potable water supply and increasing system reliability and sustainability. This is consistent with the Los Angeles Mayor's 2014 Executive Directive No. 5 (Emergency Drought Response), 2015 Sustainable City Plan, and 2012 RWMP. Similar to the Project, because the VGS Alternative is intended to replace existing imported supplies, it would not increase overall water supplies to the City in a manner that would induce population growth. Therefore, the VGS Alternative would not indirectly result in a significant growth-inducing impact. The impact would be less than significant.

Public Services and Recreation

Similar to the Proposed Project, the VGS Alternative facilities would be located within already developed industrial sites collocated with existing operations. Therefore, the VGS Alternative is not expected to result in the need for new or altered police or fire facilities to maintain acceptable service ratios or response times. Therefore, the impact on fire and police services would be less than significant, similar to the Proposed Project.

The demand for new or expanded schools, parks, or other public facilities is generally associated with an increase in housing or population. Similar to the Proposed Project, the VGS Alternative does not include a residential or other component that would directly generate an increase in housing or population. The temporary nature of construction activity in the context of existing large regional construction employment pool is not anticipated to increase population within a given service district. Furthermore, the operation of the AWPF at VGS would require approximately 22 permanent personnel, which would not represent a substantial increase in population in the context of existing services within the City. As discussed above, the VGS Alternative would not increase housing or population because it is intended to replace existing imported water supplies and would not increase overall water supplies to the City in a manner that would induce growth. Therefore, the VGS Alternative would not result in substantial adverse physical impacts associated with the provision of new or physically altered public services facilities. Similar to the Proposed Project, no impact would occur.

Transportation and Traffic

Under the VGS Alternative, the proposed AWPF would be constructed at VGS, an active LADWP electrical generation station. The construction process and schedule for the AWPF under this alternative would be similar to that under the Proposed Project. Additionally, some construction (i.e., the expansion of the flow equalization tanks and the Balboa Pump Station) would still take place at DCTWRP. As with the Proposed Project, few impacts to traffic would occur in relation to the construction activities occurring at VGS or DCTWRP. Instead, traffic impacts would result from the installation of the recycled water pipeline and the brine line in City streets, which would require the closure of up to two traffic lanes (including parking lanes) in the section of roadway under construction. These lane closures would affect the capacity of roads to accommodate traffic, in many instances reducing the existing capacity by half.

Under the VGS Alternative, the recycled water pipeline, at 4 miles, would be approximately twice the length as under the Proposed Project. The pipeline would be routed from VGS along San Fernando Road and Branford Street to Arleta Avenue, where it would follow the same alignment along Arleta to PSG as under the Proposed Project. In addition, the brine line under the VGS Alternative would be approximately 7 miles long, compared to approximately 300 feet of in-road construction for the brine line under the Proposed Project. The brine line would be routed from VGS along San Fernando Road, Sheldon Street, Laurel Canyon Boulevard, Erwin Street, and Colfax Avenue, where it would connect to the VORS. Similar to the Proposed Project, the pipeline installation would employ a trenching method of construction.

Intersections and roadway segments involved in this construction were analyzed for the VGS Alternative. Because of the increased length of in-road construction, this analysis considered two additional intersections than were analyzed under the Proposed Project (a total of 17 intersections) and 14 additional roadway segments (a total of 20 segments). This analysis focused on the effects that would be created by construction activities when considered in relation to the future background traffic conditions that would exist during the years of construction, taking into account the anticipated growth in ambient traffic that would occur over the intervening years. However, to comply with various rulings relative to baseline conditions considered in CEQA analyses, the effects of construction considered in relation to existing background traffic conditions were also analyzed. Significant impacts on the study roadway intersections and segments are defined by a worsening in peak-hour level of service (LOS) to an E or F condition due to Project construction or a worsening of an already existing LOS E or F condition due to Project construction. As discussed in Section 3.15 (Transportation and Traffic), LOS E represents a roadway operating at full capacity (i.e., characterized by significant delays and significantly reduced speeds) and LOS F at above full capacity. The results of these analyses are discussed below. (Further detail of the analyses is provided in Appendix G of this Draft EIR.)

Under the Existing Plus Project Construction scenario, the impact to the study intersections is relatively minor and does not vary markedly between the Proposed Project and the VGS Alternative. However, under the VGS Alternative, 15 of the 20 study road segments would experience a significant degradation in LOS during the a.m. and/or p.m. peak period of traffic, including, in numerous cases, a worsening from LOS A to LOS E or F. This compares to the Proposed Project, under which only four of the six study road segments would experience a significant degradation in LOS.

Under the Future Plus Project Construction scenario, the impact to the study intersections is relatively minor and does not vary markedly between the Proposed Project and the VGS Alternative. However, under the VGS Alternative, 17 of the 20 study road segments would experience a significant degradation in LOS during the a.m. and/or p.m. peak period of traffic, including, in numerous cases, a worsening from LOS A to LOS E or F. This compares to the Proposed Project, under which five of the six study road segments would experience a significant degradation in LOS.

As such, the impacts to transportation and traffic under the VGS Alternative would be substantially greater than under the Proposed Project. These increased impacts are related to the considerably longer routes for the recycled water pipeline and brine line under the VGS Alternative and the specific conditions on the streets involved in these routes in terms of volume of traffic, width, and lane configurations. These impacts are temporary, related to construction activities; once construction is complete, no long-term impacts to traffic would result from the VGS Alternative. However, because of the substantial degradation in LOS related to pipeline construction under the VGS Alternative, the implementation of Mitigation Measure TRA-A would not reduce these impacts to a less than significant level. As under the Proposed Project, impacts to traffic would be significant and unavoidable under the VGS Alternative.

Utilities and Service Systems

Under the VGS Alternative, the same components as described under the Proposed Project would be constructed at VGS. Similar to the Proposed Project, a SWPPP and an erosion control plan, including construction BMPs, would be prepared. This alternative would also comply with NPDES permit requirements. Similar to the Proposed Project, compliance with these existing regulations would ensure that the VGS Alternative would not exceed wastewater treatment requirements of the applicable RWQCB.

Similar to the Proposed Project, construction of the VGS Alternative would last about 4 years. Construction activities, such as dust control, would be limited and temporary and would not consume large amounts of water requiring construction of new water or wastewater treatment facilities. Operation of the AWPF at VGS would require an additional 22 staff. Therefore, the VGS Alternative would result in a nominal increase in demand for water and in the generation of wastewater over existing uses at VGS. It is anticipated that this increase could be accommodated by existing facilities and supplies. The impact to water supply would be less than significant under the VGS Alternative, similar to the Proposed Project.

Similar to the Proposed Project, the VGS Alternative would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. The Los Angeles County MS4 Permit requirement for hydromodification control would be implemented, and an appropriate combination of monitoring and resource impact avoidance would be employed during construction of the VGS Alternative. The impact would be less than significant, similar to the Proposed Project.

Debris generated from the construction of the VGS Alternative would be transported to the same facilities as under the Proposed Project. Construction debris would be recycled or disposed of according to local and regional standards. All materials would be handled and disposed of in accordance with existing local, state, and federal regulations. Limited quantities of solid waste would be generated during operation and would comply with state and local policies and ordinances to reduce solid waste. Similar to the Proposed Project, compliance with existing regulations would ensure a less than significant impact to solid waste disposal under this alternative.

5.4.2 No Project Alternative

A No Project Alternative is required under CEQA. Under this alternative, the Proposed Project would not be implemented in any manner. No AWPF or support facilities would be constructed at DCTWRP or any alternative location, and none of the other improvements necessary to implement the Project, including conveyance lines or spreading grounds improvements would occur. The No Project Alternative is technically feasible since no action would be taken. Furthermore, the No Project Alternative would eliminate the short-term direct impacts associated with construction of the Proposed Project since no construction activities would occur. This alternative would meet those objectives of the Project that are intended to maintain or preserve certain existing conditions as a provision of Project implementation. That is, because the No Project Alternative would not result in changes to current operations or facilities, it would maintain the existing levels of recycled water supplies for NPR customers and other beneficial uses; maintain the functional and logistical integrity of LASAN operations; and preserve future potential expansion capability for recycled water treatment. However, it would not meet any of the objectives related to the fundamental purpose of the Project to supplement the City of Los Angeles' potable water supply through local GWR in order to reduce dependence on imported water and diversify the City's water portfolio. As a result, while the direct environmental impacts from the Project would be eliminated under the No Project Alternative, indirect impacts related to the continued importation of water to meet demand may be created. While these impacts are not specifically ascertainable, they could include those associated with the diversion of imported water from other uses or in relation to the construction of new storage and conveyance facilities necessary to provide redundancy and security for imported water in the face of dwindling and unpredictable supplies.

5.5 Alternative Comparison Summary

By definition, the alternatives (including the Proposed Project) that were considered in the Draft EIR for more detailed evaluation are all feasible. Likewise by definition, the Proposed Project (AWPF at DCT SE) would meet all the Project objectives. However, as discussed above (and in Chapter 3 of the Draft EIR), the Proposed Project would create temporary but significant environmental impacts related to air quality, noise, and traffic during construction.

The VGS Alternative relocates the AWPF and associated support facilities to VGS (the flow equalization tank and Balboa Pump Station expansions would still occur at DCTWRP under this alternative). The purpose of the VGS Alternative would be to eliminate or reduce the potential noise impacts to the Japanese Garden and Woodley Park related to Project construction activity at DCTWRP. In addition, while some limited improvements would still be required at DCTWRP, the primary water purification facilities (i.e., the AWPF and necessary support functions) would be located on property entirely owned and controlled by the City of Los Angeles. However, in order to locate the AWPF at VGS, both the recycled water pipeline and the brine line would be substantially longer than under the Proposed Project (approximately 4 miles of recycled water pipeline for the VGS Alternative versus 2 miles for the Project and 7 miles of brine line for VGS versus 0.6 miles for the Project). Because the construction-related noise impact created by the Proposed Project is site-specific in relation to uses surrounding DCTWRP, the VGS Alternative eliminates this impact since it is not adjacent to any noise-sensitive receptors. However, primarily due to the increased length and construction activity related to the pipeline installation under the VGS Alternative, air quality and traffic impacts would be considerably more significant under the VGS Alternative than under the Proposed Project.

As discussed above, the No Project Alternative is feasible and would eliminate the direct impacts of the Project related to construction. However, since it would not meet any of the Project objectives related to increasing reliance on local water supplies and decreasing dependence on imported water, indirect, but specifically unascertainable, impacts related to the continued importation of water may be created by the No Project Alternative.

In accordance with the CEQA Guidelines, an EIR shall identify an environmentally superior alternative among the feasible alternatives, including the Proposed Project. As discussed above, the No Project Alternative would eliminate all direct impacts associated with the construction and operation of the Project, but it may also result in greater long-term impacts related to the continued importation of potable water into the Los Angeles Basin. Furthermore, the No Project Alternative would not achieve any of the Project objectives related to supplementing the City of Los Angeles' potable water supply through local GWR, thereby reducing dependence on imported water supplies. CEQA also requires that an environmentally superior alternative be identified from among the alternatives other than the No Project Alternative. In comparison to the VGS Alternative, the Proposed Project would represent an environmentally superior alternative because it would result in the least impact to the physical environment that can be reasonably ascertained.

Table 5-5 provides a summary of the alternatives to the Proposed Project. Table 5-6 provides a comparison of the impacts of the alternatives to the Proposed Project.

Table 5-5
Summary of Alternatives Analyzed in Draft EIR

Alternative	Project Objectives	Avoid or Substantially Lessen Significant Impacts of Project	Increase Any Impacts Compared to Proposed Project
Proposed Project (DCT SE)	Would meet all the Proposed Project objectives.	Would result in short-term construction period impacts related to air quality, noise, and traffic.	N/A
VGS Site	Would meet all the Proposed Project objectives except it would not maintain the functional and logistical integrity of LASAN operations to the same extent that the Proposed Project would.	Would eliminate the short-term construction period impact related to noise.	Would increase significant impacts related to air quality and traffic, primarily from substantially extended pipeline construction.
No Project	Would not meet any of the Proposed Project objectives related to supplementing the City of Los Angeles' potable water supply through local GWR.	Would eliminate all the direct short-term impacts related to Project construction.	May increase indirect long-term but specifically unascertainable impacts related to the continued importation of water.

Table 5-6
Comparison of Impacts for the Proposed Project and Alternatives

Impact Area	Proposed Project	VGS Alternative	No Project Alternative
Aesthetics	III	III (Less)	IV (Less)
Agriculture and Forestry Resources	IV	IV (Similar)	IV (Similar)
Air Quality	II	I (Greater)	IV (Less)
Biological Resources	II	II (Similar)	IV (Less)
Cultural Resources	II	II (Similar)	IV (Less)
Geology and Soils	III	III (Similar)	IV (Less)
Greenhouse Gas Emissions and Energy	III	III (Similar)	III (Greater)
Hazards and Hazardous Materials	III	III (Similar)	IV (Less)
Hydrology, Water Quality, and Groundwater	III	III (Similar)	IV (Less)
Land Use and Planning	III	III (Similar)	IV (Less)
Mineral Resources	III	III (Similar)	IV (Less)
Noise	I	II (Less)	IV (Less)
Population and Housing	III	III (Similar)	IV (Less)
Public Services and Recreation	III	III (Similar)	IV (Less)
Transportation and Traffic	I	I (Greater)	IV (Less)
Utilities and Service Systems	III	III (Similar)	IV (Less)

Notes:
I: Significant Unavoidable Impact
II: Potentially Significant Impact Unless Mitigated
III: Less Than Significant Impact
IV: No Impact

Less: Impact is lower in magnitude than impacts of the Proposed Project
Similar: Impact is similar in magnitude to impacts of the Proposed Project
Greater: Impact is greater in magnitude than impacts of the Proposed Project

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CHAPTER 6
ACRONYMS AND ABBREVIATIONS

AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AF	acre-feet
AFY	acre-feet per year
AHMP	Adaptive Habitat Management Plan
ANGS	Air National Guard Station
AOP	advanced oxidation processes
AQMP	Air Quality Management Plan
AVORS	Additional Valley Outfall Relief Sewer
AWPF	advanced water purification facilities
BAC	biologically activated carbon
BMPs	Best Management Practices
BSA	Biological Survey Area
bgs	below ground surface
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations

cfs	cubic feet per second
CH_4	methane
City	City of Los Angeles
CLARTS	Central Los Angeles Recycling & Transfer Station
CMP	congestion management program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COHb	carboxyhemoglobin
Corps	United States Army Corps of Engineers
CPA	Community Plan Area
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CY	cubic yards
dB	decibel
dBA	a-weighted decibel
dbh	diameter at breast height
DCT SE	southeast corner of DCTWRP complex
DCT SW	southwest corner of DCTWRP complex
DCTWRP	Donald C. Tillman Water Reclamation Plant
DDW	Division of Drinking Water
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EMD	Emergency Management Department
EO	Executive Order
EVIS	East Valley Interceptor Sewer
EVRWL	East Valley Recycled Water Line
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gas

gpd	gallons per day
GWP	global warming potential
GWR	groundwater replenishment
GWRMP	Groundwater Replenishment Master Plan
HAP	Hazardous Air Pollutants
H_2S	hydrogen sulfide
HFC	hydrofluorocarbon
HRI	Historic Resource Inventory
HSG	Hansen Spreading Grounds
HTS	Hyperion Treatment System
I-405	Interstate 405
IPP	Intermountain Power Project
IRP	Integrated Resource Plan
kWh	kilowatt-hours
LACDPW	Los Angeles County Department of Public Works
LADCP	City of Los Angeles Department of City Planning
LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAGWR	Los Angeles Groundwater Replenishment
LAHCM	Los Angeles Historic-Cultural Monument
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LAPL	Los Angeles Public Library
LARAP	City of Los Angeles Department of Recreation and Parks
LASAN	Los Angeles Department of Public Works Bureau of Sanitation
LAUSD	Los Angeles Unified School District
L_{eq}	Equivalent Noise Level
LOS	level of service
LST	Localized Significance Threshold
MATES-IV	Multiple Air Toxics Exposure Study IV
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
MF	microfiltration
mg	million gallons

mgd	million gallons per day
$\mu g/m^3$	micrograms per cubic meter
MLD	Most Likely Descendent
MMT	million metric tons
MPO	metropolitan planning organization
MOU	memorandum of understanding
mph	miles per hour
MRZ	Mineral Resources Zone
MSL	mean sea level
MWD	Metropolitan Water District
N	nitrogen
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NGS	Navajo Generating Station
NHMLAC	Natural History Museum of Los Angeles County
NPDES	National Pollution Discharge Elimination System
NO	nitric oxide
NOAA	National Oceanic and Atmospheric Administration
N_2O	nitrous oxide
NO_x	nitrogen oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NPR	non-potable reuse
NRHP	National Register of Historic Places
O	oxygen
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
Pb	lead
PFC	perfluorocarbon
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter 10 microns in diameter or less
ppb	parts per billion

ppm	parts per million
PPA	Power Purchase Agreement
PPV	peak particle velocity
PSG	Pacoima Spreading Grounds
PVC	polyvinyl chloride
RMS	root mean square
RO	reverse osmosis
ROG	reactive organic gas
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RTWF	Rinaldi-Toluca Wellfield
RWC	Recycled Water Contribution
RWMP	Recycled Water Master Plan
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
SEATAC	Significant Ecological Area Technical Advisory Committee
SF_6	sulfur hexafluoride
SFB	San Fernando Groundwater Basin
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxide
SRP	Scientific Review Panel
SSMP	Sewer System Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDM	Transportation Demand Management
TMDL	Total Maximum Daily Loads
TMP	Traffic Management Plan
TWF	Tujunga Wellfield
UBC	Uniform Building Code
ULARA	Upper Los Angeles River Area
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
UST	underground storage tank
UV	ultraviolet
UWMP	Urban Water Management Plan
V/C	volume-to-capacity ratio
VdB	RMS velocity in decibels
VGS	Valley Generating Station
VOC	volatile organic compound
VORS	Valley Outfall Relief Sewer
WDR	Waste Discharge Requirement

CHAPTER 7
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