5.16 Utilities and Service Systems

5.16.1 INTRODUCTION

This section of the EIR evaluates the potential effects on utilities and service systems from implementation of the Project by identifying anticipated demand and existing and planned utility availability. This includes water supply and infrastructure, wastewater, drainage, and solid waste. Electric power, natural gas, telecommunications, and renewable energy resources are described in Section 4.14, *Energy Resources*.

Water supply and infrastructure capacity information in this section is from the Water Supply Assessment prepared (WSA 2019)(included as Appendix H), the City of Santa Ana 2015 Urban Water Management Plan (UWMP), the Sewer Analysis Report (Sewer 2019)(included as Appendix L), and Preliminary Water Quality Management Plan (WQMP 2019)(included as Appendix G).

Because CEQA focuses on physical environmental effects, this section analyzes whether increases in demand for water and wastewater utilities would result from the proposed Project would result in significant adverse physical environmental effects. For example, an increase in wastewater generation, by itself, would not be considered a physical change in the environment; however, physical changes in the environment resulting from the construction of new facilities or an expansion of existing wastewater facilities could constitute a significant impact under CEQA.

5.16.2 WATER

5.16.2.1 WATER REGULATORY SETTING

Safe Drinking Water Act

The United States Environmental Protection Agency administers the Safe Drinking Water Act, which is the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the requirements of the Act and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminates that could threaten public health.

California Urban Water Management Planning Act

Section 10610 of the California Water Code established the California Urban Water Management Planning Act (CUWMPA), requires urban water suppliers to initiate planning strategies to ensure an appropriate level of reliability in its water service. CUWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that annually provides more than 3,000 acre-feet of water service, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. The CUWMPA describes the contents of UWMP's as well as methods for urban water suppliers to adopt and implement the plans. As described below, the City of Santa Ana has an updated 2015 UWMP that addresses water supply and demand through 2040.

Senate Bill 610

Senate Bill (SB) 610 requires public urban water suppliers with 3,000 or more service connections to identify existing and planned sources of water for planned developments of a certain size. It further requires the

public water system to prepare a specified water supply assessment (WSA) for projects that meet the following criteria:

a) A proposed residential development of more than 500 dwelling units;

b) A proposed shopping center employing more than 1,000 persons or having more than 500,000 square feet of floor space;

c) A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;

d) A hotel or motel, or both, with more than 500 rooms;

e) An industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area; and

f) A mixed-use project that includes one or more of the projects above.

The components of a WSA include existing water demand, future water demand by the project, and must ensure that water is available for the project during normal years, a single dry year, and multiple dry years during a 20-year future projection period. The WSA must also describe whether the project's water demand is accounted for in the water supplier's UWMP. Supplies of water for future water supply must be documented in the WSA.

Senate Bill 221

SB 221 requires the local water provider to provide "written verification" of "sufficient water supplies" to serve the project. SB 221 applies only to residential projects of 500 units or more (infill or low-income or very-low-income housing subdivisions are exempt) and requires the land use planning agency to include as a condition of approval of a tentative map, parcel map, or development agreement a requirement that "sufficient water supply" be available. Sufficiency under SB 221 differs from SB 610 in that it is determined by considering the availability of water over the past 20 years; the applicability of any urban water shortage contingency analysis prepared per Water Code Section 10632; the reduction in water supply allocated to a specific use by an adopted ordinance; and the amount of water that can be reasonably relied upon from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer. In most cases, the WSA prepared under SB 610 meets the requirement for proof of water supply under SB 221.

Senate Bill 1262

SB 1262, which amends Section 66473.7 of the Government Code and Section 10910 of the Water Code requires Water Supply Assessments (WSAs) to include additional information regarding sustainable groundwater management if water supply for a project includes groundwater, including:

- Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924.
- If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

As described below, the City obtains a majority of its water supply from the groundwater basin. Thus, this additional information is provided in the project specific WSA (Appendix H, herein).

CalGreen Building Code

California Code of Regulations Title 24, Part 11, establishes the California Green Building Code or CALGreen. The CALGreen Code is updated every three years. It was recently updated in 2019 and is effective January 1, 2020. CALGreen sets forth water efficiency standards (i.e., maximum flow rates) for all new plumbing and irrigation fittings and fixtures.

City of Santa Ana General Plan

The City is currently undergoing a comprehensive update to the General Plan. The existing Conservation Element of the Santa Ana General Plan includes the following goals and policies are related to water supply and the proposed Project.

Goal 1: Protect the public health, safety and welfare through effective management of natural resources.

Objective 1.2: Provide sufficient water of adequate quality for all users.

Objective 2.1: Conserve water resources in commercial, industrial, residential and recreational uses.

City of Santa Ana Municipal Code

Municipal Code Section 39-106; Permanent Water Conservation Requirements: The City promotes water use efficiency and only allows outdoor watering to every other day or Monday, Thursday, and Saturday and only between the hours of 6:00 p.m. and 6:00 a.m. Municipal Code Section 39-106 establishes permanent water conservation requirements and prohibition against waste that are effective at all times and is not dependent upon a water shortage for implementation that includes:

- No washing down hard or paved surfaces
- Limit on watering hours
- Re-circulating water required for water fountains and decorative water features
- Drinking water served upon request only
- Limits on washing vehicles
- Commercial lodging establishments must provide guests option to decline daily linen services
- Restaurants required to use water conserving dish wash spray valves
- Obligation to fix leaks, break, or malfunctions
- No installation of single pass cooling systems
- Commercial car wash systems
- No excessive water flow or runoff
- No installation of non-recirculating water systems in commercial car wash and laundry systems
- No watering during or within 48 hours of measurable rainfall
- No irrigation of ornamental turf on public street medians with potable water
- Limit on irrigation with potable water of landscapes outside of new construction

In an event of a water supply shortage, the ordinance further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Municipal Code Section 41-1503; Landscape Water Use Standards: The City promotes water use efficiency through water efficient landscape requirements that were implemented in January 2016. This code requires that new landscape projects greater than 2,500 square feet comply with the performance requirements of the City's Water Efficient Landscape Guidelines that identifies a maximum allowable water use for landscape that is implemented by efficient irrigation systems and drought tolerant landscape species.

5.16.2.2 WATER ENVIRONMENTAL SETTING

The City of Santa Ana Water Resources Division provides water services to 27-square mile service area that includes the City of Santa Ana and a small area of the City of Orange.

Water Supply and Demand

The City's water supply is a combination of imported water from the Metropolitan Water District of Southern California (MWD), groundwater from the Orange County Groundwater Basin (OC Basin), and recycled water. As shown on Table 5.16-1, in 2015 the City obtained 71.2 percent of water supply from groundwater, 27.8 percent of water from imported/purchased supplies, and 1.0 percent from recycled water sources.

Table 5.16-1: City of Santa Ana Actual Water Supply 2015

Source	Volume (acre-feet)	Percentage
OC Groundwater Basin	26,351	71.2%
Imported/Purchased	10,305	27.8%
Recycled	352	1.0
Total	**37,008**	**100%**

Source: 2015 UWMP.

The 2015 UWMP identified that water demands were 36,656 AF from July 2014 to June 2015, which is 352 AF less than the water supply shown in Table 5.16-1. Thus, sufficient water supply was available to meet demands. In addition, the 2015 UWMP highlights that 2010 UWMP anticipated water demands in 2015 to be much larger at 47,800 AF and detailed the ability of the City to meet the greater anticipated demand.

As shown in Table 5.16-2, the 2015 UWMP estimates that water supplies in the future are anticipated to be obtained through a similar mix of groundwater and imported water. The 2015 UWMP anticipates that the City's water supply will increase from 36,998 acre-feet (AF) in 2020 to 40,036 AF in 2040 (increase of 3,038 AFY) to meet the City's anticipated growth in water demands, which is an 8.2 percent increase.

Table 5.16-2: City of Santa Ana Projected Water Demand and Supply Projections (acre-feet)

Source	2020	2025	2030	2035	2040	2040 Percentage
OC Groundwater Basin	25,899	27,802	27,992	27,985	28,025	70.0%
Imported/Purchased	10,799	11,615	11,697	11,693	11,711	29.2%
Recycled	320	320	320	320	320	0.8%
Total	**36,998**	**39,717**	**39,989**	**39,978**	**40,036**	**100%**

Source: 2015 UWMP.

The 2040 projections anticipate that 70 percent of supply would be from the OC Basin and 29.3 percent from imported/purchased sources. The 2015 UWMP details that the available supply would meet the projected demand in single dry years and multiple dry years through 2040 with a planned demand increase of 6 percent due to diversified supply and conservation measures.

The 2015 UWMP also describes that water demands per capita have been decreasing in recent years due to new state and local regulations related to water conservation. The 2015 UWMP plan describes that the City used 83 gallons per capita per day (GPCD) in 2015, which exceeded the City's target of 116 GPCD for 2020.

Groundwater: As described previously, a majority of the City's water supply is groundwater that is pumped from the OC Basin. The OC Basin covers an area of approximately 350 square miles, bordered by the Coyote and Chino Hills to the north, the Santa Ana Mountains to the northeast, the Pacific Ocean to the southwest, and terminates at the Orange County line to the northwest, where its aquifer systems continue into the Central Basin of Los Angeles County.

The OC Basin is recharged primarily by four sources including local rainfall, storm and base flows from the Santa Ana River (SAR), purchased MWD imported water; and highly treated recycled wastewater. Basin recharge occurs largely in 4 recharge basins that are in or adjacent to the City of Anaheim.

OCWD manages the OC Basin through a Basin Production Percentage (BPP) that is determined each water year based on groundwater conditions, availability of imported water supplies, water year precipitation, SAR runoff, and basin management objectives. While there is no legal limit as to how much an agency pumps from the OC Basin, there is a financial disincentive to pump above the BPP. For example, if the BPP is set at 75 percent, all pumpers within the Basin, including the City, can supply 75 percent of their water needs from groundwater supplies at a cost significantly less than the cost of imported water. If groundwater production is equal to or less than the BPP (i.e. less than 75 percent in the example above), all producers within the Basin pay a replenishment assessment (RA) fee which is used to fund groundwater replenishment and recharge programs aimed at ensuring the long-term viability and stability of the Basin. In 2015, the BPP was 75 percent and OCWD's goal is to provide a stable 75 percent BPP through management of the basin (WSA 2018).

As required by Senate Bill 1262, the WSA prepared for the proposed Project describes that the OC Basin is designated as a medium-priority basin and has operated within its sustainable yield over a period of at least 10 years without experiencing significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) seawater intrusion, (5) inelastic land subsidence, or (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water. In addition, the OC Basin has not been in conditions of critical overdraft.

Imported Water: The City of Santa Ana is one of only three retail member agencies of MWD in Orange County. As a member agency the City has preferential rights to a certain percentage of MWD water and receives water directly from MWD, as opposed to other cities in Orange County that obtain their imported MWD water through Municipal Water District of Orange County (MWDOC). The MWD imported water is treated at MWD's Robert Diemer Filtration Plant north of Yorba Linda. The City has seven connections to the MWD system. In addition, the City participates in MWD's Conjunctive Use Program, which uses allows for the storage of surplus imported MWD water in the Basin to maintain reliability during dry, drought, and emergency conditions.

Approximately 28-29 percent of the City's water supply is imported/purchased from MWD and the OCWD. The 2015 MWD UWMP determined that MWD has supply capabilities that would be sufficient to meet expected demands from 2020 through 2040 under the normal, single dry-year and multiple dry-year conditions. MWD also has proposed programs in place to ensure against water shortages in the future. These programs include projects along the California Aqueduct and the Colorado River Aqueduct in addition to

demand reduction projects. In all climate scenarios, MWD estimates potential surpluses in water supply through 2040. In addition, the City participates in MWD's Conjunctive Use Program, which stores surplus imported MWD water in the Basin for use as needed (WSA 2019).

Recycled Water: The City obtains recycled water supply from the Orange County Water District (OCWD) for non-potable uses such as irrigation. OCWD provided 352 AF of recycled water to the City of Santa Ana in 2015 as part of the Green Acres Project (GAP), which is a water recycling system that provides up to 8,400 AFY of recycled water as an alternate source of water that is mainly delivered to parks, golf courses, greenbelts, cemeteries, and nurseries in the Cities of Santa Ana, Costa Mesa, Fountain Valley, Newport Beach. The City maintains an agreement with OCWD to supply GAP water to customers where available, and it is anticipated that recycled water supplied to the City will maintain around 300 AFY through 2040 (2015 UWMP).

Water Infrastructure

The City maintains 444 miles of transmission and distribution mains, 9 reservoirs with a storage capacity of 49.3 million gallons, 7 pumping stations, 20 wells, and 7 connections to the MWD System that have a transfer capacity of 60,580 gallons per minute (gpm). The Project site is currently served by the City's water utility and is connected to the existing water infrastructure. Warner Avenue contains a 12-inch water main that conveys water supplies to the Project site and adjacent areas.

5.16.2.3 WATER THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

UT-1 Require or result in the construction of new water facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects; or

UT-2 Have sufficient water supplies available to serve the project and reasonably foreseeable development during normal, dry, and multiple dry years.

5.16.2.4 WATER SERVICE METHODOLOGY

The evaluation of water supply quantifies the amount of water that would be required to support operation of the proposed Project and compares the demand to the City's available water supply to identify if sufficient water supplies available to serve the Project and reasonably foreseeable development during normal, dry, and multiple dry years. Additionally, the water supply infrastructure in the Project area was identified and evaluated to ensure design capacity would be adequate to supply the Project site, or to identify if expansions would be required to serve the proposed development.

5.16.2.5 WATER ENVIRONMENTAL IMPACTS

IMPACT UT-1: THE PROJECT WOULD NOT REQUIRE OR RESULT IN THE RELOCATION OR CONSTRUCTION OF NEW WATER FACILITIES, OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS.

Less than Significant. The proposed Project would redevelop the Project site, which is currently served by the City's water infrastructure. An existing 12-inch water pipeline in Warner Avenue currently provide water supplies to the Project site and surrounding adjacent areas. The proposed Project would install new water infrastructure on the Project site that would connect to the existing 12-inch water pipeline in Warner Avenue. The new onsite water system would convey water supplies to the proposed residences, commercial uses, and

landscaping through plumbing/landscaping fixtures that are compliant with the CalGreen Plumbing Code for efficient use of water.

The proposed Project would continue to receive water supplies through the existing 12-inch water line located within the Red Hill Avenue rights-of-way that has the capacity to provide the increased water supplies needed to serve the proposed Project, and no extensions or expansions to the water pipelines that convey water to the Project site would be required. Redevelopment of the existing onsite water distribution lines would only serve the proposed Project and would not provide water to any off-site areas.

The construction activities related to the onsite water infrastructure that would be needed to serve the proposed multi-family residential and commercial uses is included as part of the proposed Project and would not result in any physical environmental effects beyond those identified throughout this EIR. For example, construction emissions for excavation and installation of the water infrastructure is included in Sections 5.2, *Air Quality* and 5.6, *Greenhouse Gas Emissions*. Therefore, the proposed Project would not result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and impacts would be less than significant.

IMPACT UT-2: THE CITY WOULD HAVE SUFFICIENT WATER SUPPLIES AVAILABLE TO SERVE THE PROJECT AND REASONABLY FORESEEABLE DEVELOPMENT DURING NORMAL, DRY, AND MULTIPLE DRY YEARS.

Less than Significant. The proposed Project would redevelop the Project site, which is currently developed with three partially occupied light industrial buildings and onsite landscaping that is included in the City's existing water demand estimates. Based on the water demand factors from the City of Santa Ana Design Guidelines for Water and Sewer Facilities, an industrial water demand factor of 3,500 gallons per day (gpd) per acre, and a landscape water demand factor of 3,000 gpd/acre was used to identify the water demand that is accounted for in City water entitlements for the site. Because the existing buildings were fully occupied and operational during preparation of the City's UWMP, the demands for the existing buildings are included in the UWMP estimates. The existing onsite landscaping consists of approximately 60,000 square feet. As shown in Table 5.16-3, the estimated water demand for the site, which is included in existing City entitlements is approximately 21,185 gpd or 23.73 acre-feet per year (AFY).

Table 5.16-3: Existing Water Demands Assumed in City Entitlements

Water Use	Square Footage	Acreage Equivalent	Water Demand Factor (gpd/acre)	Water Demand (gpd)	Water Demand (AFY)
Industrial Buildings	212,121	4.87	3,500	17,045	19.09
Landscaping	60,000	1.38	3,000	4,140	4.64
Total	**272,121**	**6.16**	**--**	**21,185**	**23.73**

Source: WSA, Appendix H.

The proposed mixed uses would result in an increased demand for water supplies on the Project site. The Project is proposed to include 1,150 multi-family residential units, 80,000 square feet of commercial retail and restaurant space, and 247,506 square feet of landscaping. The estimates for residential water in the WSA were developed by following the Orange County Water Reliability Study by Municipal Water District of Orange County (MWDOC); and the commercial and landscaping water demands factors are from the City of Santa Ana Design Guidelines for Water and Sewer Facilities.

As shown in Table 5.16-4, the proposed Project would result in a total demand of 269 AFY at full occupancy, which would be a 245.27 AFY increase in comparison to the water demand from the existing buildings that are included in the UWMP assumptions.

Table 5.16-4: Water Demands from Operation of the Project

Land Use Type	Residences or acreage	Unit Water Demand Factor	Daily Water Usage (gpd)	Annual Water Usage (AFY)
Multi-family	1,150 DU	190 gpd/DU[1]	218,500	244.8
Commercial	1.84 acres	2,500 gpd/acre[2]	4,591	5.1
Landscaped Areas	5.68 acres	3,000 gpd/acre[2]	17,046	19.1
Total Project Water Demand			**240,137**	**269**
Existing Site Water Demand			**21,185**	**23.73**
Change in Water Demand from the Project			**218,952 gpd**	**245.27 AFY**

Source: WSA, Appendix H.
DU = Dwelling Units

This equates to an 8.1 percent of the anticipated increase in water demand between 2015 and 2040 of 3,028 AFY that is anticipated by the 2015 UWMP. However, the water factors from the City's Design Guidelines are very conservative, higher than the actual average water use, and assumes full occupancy of the proposed Project. Because the proposed Project would result in an increase in demand for water supplies that is 8.1 percent of the 2015 UWMP anticipated increase, the City would have water supplies available to serve the Project.

In addition, as shown in Table 5.16-2 and detailed in the WSA included as Appendix H, the City's available supply, including groundwater and imported water, will meet projected demand that includes the proposed Project during normal, single dry and multiple dry years (WSA 2019). Therefore, impacts related to water supplies from the proposed Project would be less than significant.

5.16.2.6 WATER CUMULATIVE IMPACTS

Cumulative water supply impacts are considered on a citywide basis and are associated with the capacity of the infrastructure system and the adequacy of the City's infrastructure and primary sources of water that include groundwater pumped through City wells, deliveries of imported water from MWD, and recycled water from OCWD.

As described previously, during construction of the Project water lines would be installed to serve the proposed buildings and landscaping, which would connect to the existing system that is adjacent to the Project site. The onsite water system has been designed for the proposed Project and would be served by existing off-site adjacent infrastructure. Thus, the proposed Project would not result in the requirement for new or expanded off-site water infrastructure that could combine with other water infrastructure needs to result in an environmental impact. Thus, potential cumulative impacts from off-site water system expansions would not occur from the proposed Project.

The WSA that was prepared for the proposed Project describes that the 2015 MWD UWMP details the ability to meet the demands of its member agencies, including the City of Santa Ana, through 2040. In addition, the City of Santa Ana 2015 UWMP confirmed the ability of the local supplies and the OC Basin to meet the growing demands of the City in multiple dry year scenarios. Also, as described previously the increased water demand from the proposed Project would be 8.1 percent of the 2015 UWMP anticipated increase. Thus, the City would have water supplies available to serve the Project from existing entitlements, and cumulative water supply needs would be able to be met as detailed by the MWD and City's UWMPs.

As a result, the proposed Project would not result in a cumulatively considerable increase in water supply demands that would require new or expanded entitlements, and cumulative impacts would be less than significant.

5.16.2.7 EXISTING STANDARD CONDITIONS AND PLANS, PROGRAMS, OR POLICIES

The following standard regulations would reduce potential impacts related to water:

- California Code of Regulations Title 24, Part 11; the California Green Building Code
- Santa Ana Municipal Code Section 39-106; Permanent Water Conservation Requirements
- Santa Ana Municipal Code Section 41-1503; Landscape Water Use Standards

5.16.2.8 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impacts UT-1 and UT-2 would be less than significant.

5.16.2.9 WATER MITIGATION MEASURES

No mitigation measures are required.

5.16.2.10 WATER LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable adverse impacts related to water supplies or water infrastructure would occur.

5.16.3 WASTEWATER

5.16.3.1 WASTEWATER REGULATORY SETTING

National Pollution Discharge Elimination System Permit

The NPDES permit system was established in the federal Clean Water Act to regulate both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the U.S. For point source discharges, such as sewer outfalls, each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge.

State Water Resources Control Board Statewide General Waste Discharge Requirements for Sewer Systems

The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SWRCB Order No 2006-0003-DWQ) applies to sanitary sewer systems that are greater than one mile long and collect or convey untreated or partially treated wastewater to a publicly owned treatment facility. The goal of Order No. 2006-0003 is to provide a consistent statewide approach for reducing Sanitary Sewer Overflows (SSOs), which are accidental releases of untreated or partially treated wastewater from sanitary sewer systems, by requiring that:

1. In the event of an SSO, all feasible steps be taken to control the released volume and prevent untreated wastewater from entering storm drains, creeks, etc.
2. If an SSO occurs, it must be reported to the SWRCB using an online reporting system developed by the SWRCB.
3. All publicly owned collection system agencies with more than one mile of sewer pipe in the State must develop a Sewer System Management Plan (SSMP), which must be updated every five years.

The City of Santa Ana has updated its Sewer System Management Plan in compliance with these requirements in 2014.

City of Santa Ana General Plan

The City is currently undergoing a comprehensive update to the General Plan. The existing Conservation Element of the Santa Ana General Plan includes the following objective related to wastewater and the proposed Project.

Objective 1.4: Assure adequate sewer treatment facilities to meet population and economic growth requirements.

5.16.3.2 WASTEWATER ENVIRONMENTAL SETTING

In 2015, the City of Santa Ana generated approximately 23,826 acre-feet of wastewater (2015 UWMP). The City of Santa Ana operates and maintains the local sewer system consisting of over 390 miles of pipeline, 7,630 manholes, and two lift stations. Wastewater from the Project site currently discharges into existing City-owned 8-inch sewer line within Warner Avenue. The existing sewer lines drain southeasterly to a manhole at Red Hill Avenue that are conveyed southeasterly through an existing six-inch double siphon that drains to a 42-inch trunk OCSD sewer line in Red Hill Avenue that drains southwesterly.

The Sewer Study prepared for the proposed Project monitored existing flows in Warner Avenue over a period of two weeks from April 30, 2019 to May15, 2019, and determined that the capacity of the existing 8-inch pipeline is 0.35 cfs and that the existing average flows were 0.01 cfs and the existing peak flows were 0.04 (Sewer 2019).

The OCSD trunk pipelines, including the one in Red Hill Avenue adjacent to the site, conveys wastewater to the OCSD Reclamation Plant No. 1 in Fountain Valley that has a treatment capacity of 204 million gallons per day (mgd) and an average daily flow of 117 mgd (OCSD 2018). Given the anticipated growth within OCSD's service area, OCSD is currently implementing several infrastructure projects to provide additional capacity (OCSD 2018).

5.16.3.3 WASTEWATER THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

UT-3 Require or result in the construction of new wastewater facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects; or

UT-4 Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.16.3.4 WASTEWATER SERVICE METHODOLOGY

The evaluation of wastewater infrastructure quantifies the amount of wastewater that would be generated from operation of the proposed Project and compares the demand to the existing and planned sewer infrastructure in the Project area and wastewater treatment plant that treats flows from the Project site. The evaluation identifies if expansions would be required to serve the proposed development, and if those expansions have the potential to result in an environmental impact.

5.16.3.5 WASTEWATER ENVIRONMENTAL IMPACTS

IMPACT UT-3: THE PROJECT WOULD NOT REQUIRE OR RESULT IN THE RELOCATION OR CONSTRUCTION OF NEW WASTEWATER FACILITIES, OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS.

Less than Significant. The Project site is currently served by the City's 8-inch sewer line within Warner Avenue. The Project includes replacing approximately 367 feet of the existing 8-inch City sewer line in Warner Avenue, between the Project site and the Orange County Sanitation sewer line in Red Hill Avenue, with a 10-inch sewer. In addition, the Project would install a new onsite sewer system that would connect to off-site City of Santa Ana sewer facilities. Approximately half the Project site would discharge wastewater directly into a City-owned manhole located at the intersection of Warner Avenue and Red Hill Avenue. The other half of the Project site would discharge wastewater into the improved 10-inch sewer in Warner Avenue to the existing 42-inch sewer in Red Hill Avenue.

In order to determine whether the sewer system would be able to adequately handle the wastewater flows from the proposed Project in addition to existing flows, sewer flow monitoring was performed for a period of two weeks to identify the existing average and peak wastewater flow rates.

Per the City's Design Criteria, the proposed development would generate an average daily sewage flow of 0. 3966 cfs. Per the City's Design Guidelines, Section 300.4.2 Peak Flows, the peak daily flow is calculated as three times the average daily flow, which would equal a peak daily flow of 1.1898 cfs. The Sewer Study also identified that the existing industrial buildings on the Project site generates an average daily flow of 0.0881 cfs and a peak daily flow of 0.2643 cfs. Thus, the proposed Project would result in an increase of flows by an average daily flow of 0.3085 cfs and a peak daily flow of 0.9255 cfs. The Sewer Study (Appendix L, herein) identifies this as very conservative in comparison to actual existing peak flow observed at the location during flow monitoring.

Based on results of the sewer flow monitoring and the City's Design Criteria wastewater generation rates, the Sewer Study identified that with replacing 367 feet of the existing 8-inch sewer line in Warner Avenue with a 10-inc sewer, as proposed, the sewer lines that serve the Project site would have a peak flow half full capacity of 0.65 cfs which would is adequate capacity to accommodate the additional wastewater flows from the proposed Project.

The construction activities related to replacing 367 feet of 8-inch water line with 10-inch water line within the Warner Avenue right of way and installation of the onsite sewer infrastructure that would serve the proposed Project, is included as part of the proposed Project and would not result in any physical environmental effects beyond those identified throughout this EIR. For example, construction emissions for excavation and installation of the sewer infrastructure is included in Section 5.2, *Air Quality* and 5.5, *Greenhouse Gas Emissions*, and noise volumes from these activities are evaluated in Section 5.10, *Noise*. As the proposed Project includes facilities to serve the Project and existing development, it would not result in the need for construction of other new wastewater facilities or expansions, the construction of which could cause significant environmental effects. Therefore, impacts would be less than significant.

IMPACT UT-4: THE PROJECT WOULD RESULT IN A DETERMINATION BY THE WASTEWATER TREATMENT PROVIDER THAT WOULD SERVE THE PROJECT THAT IT HAS ADEQUATE CAPACITY TO SERVE THE PROJECTS PROJECTED DEMAND IN ADDITION TO THE PROVODERS EXISTING COMMITMENTS.

Less than Significant. The proposed Project would result in an increase of wastewater generation from the site. To evaluate the maximum potential impact of the proposed Project on wastewater treatment facilities, and because wastewater treatment facility capacity is based on mgd not cfs, it has been conservatively assumed that all of the water needed for indoor uses by the proposed Project would be converted to wastewater and need treatment. As described previously in the Impact UT-2 discussion, based on the City's Design Guidelines, the proposed Project would utilize 201,906 gpd of water (without inclusion of the landscaping water need). Assuming all of this needs treatment, the Project would result in a 201,906 gpd increase in flows to the OCSD Reclamation Plant No. 1 in Fountain Valley.

As noted above, the OCSD 42-inch sewer in Red Hill Avenue conveys wastewater to the OCSD Reclamation Plant No. 1, which has a treatment capacity of 204 mgd and an average daily flow of 117 mgd. Due to the existing additional capacity of 87 mgd, the existing facilities would be available to accommodate the increase in wastewater flow from full occupancy of the proposed Project that would generate 201,906 gpd. As a result, implementation of the proposed Project would not result in inadequate capacity of the wastewater treatment plant to serve the Project's demand in addition to existing service commitments, and impacts would be less than significant.

5.16.3.6 WASTEWATER CUMULATIVE IMPACTS

Cumulative wastewater infrastructure impacts are considered on a systemwide basis and are associated with the overall capacity of existing and planned infrastructure. The cumulative system evaluated includes the sewer system that serves the Project site and conveys wastewater to the OCSD wastewater treatment and disposal system.

As described previously, with the proposed Project, the sewer system would have sufficient capacity to handle the increased flows resulting from implementation of the proposed Project. The continued regular assessment, maintenance, and upgrades of the sewer system by the City and OCSD would reduce the potential of cumulative development projects to result in a cumulatively substantial increase in wastewater such that new or expanded facilities would be required. Thus, increases in wastewater in the sewer system would result in a less than significant cumulative impact.

5.16.3.7 EXISTING STANDARD CONDITIONS AND PLANS, PROGRAMS, OR POLICIES

The following standard regulations would reduce potential impacts related to wastewater:

- California Code of Regulations Title 24, Part 11; the California Green Building Code

5.16.3.8 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impacts UT-3 and UT-4 would be less than significant.

5.16.3.9 WASTEWATER MITIGATION MEASURES

No mitigation measures are required.

5.16.3.10 WASTEWATER LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable adverse impacts related to wastewater infrastructure would occur.

5.16.4 DRAINAGE

5.16.4.1 DRAINAGE ENVIRONMENTAL SETTING

The Project site is currently 75 percent impervious and 25 percent pervious (WQMP 2019). The existing topography of the Project site is relatively flat and generally drains from the north to the south. Currently, the Project site drains northwest where flows enter an existing catch basin. The catch basin connects to a six-foot-high by ten-foot-wide culvert that directs flows to an 84-inch storm drain that flows southeast to a flood control basin. Drainage from the flood control basin is conveyed to the Barranca Channel that connects to San Diego Creek Reach 1 that drains to Newport Bay and the Pacific Ocean.

Onsite soils infiltration testing was performed during preparation of the Geotechnical Report, which determined that soils have an infiltration rate of 0.15 inches per hour which, is identified as a low infiltration rate and considered infeasible to support drainage on the Project site (GEO 2019).

5.16.4.2 DRAINAGE THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

UT-5 Require or result in the construction of new stormwater drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.16.4.3 DRAINAGE METHODOLOGY

The evaluation of stormwater drainage infrastructure quantifies the amount of impervious surfaces and stormwater runoff that would be generated from the proposed Project and identifies if runoff from the Project would be accommodated by the existing stormwater drainage infrastructure. The evaluation identifies if expansions would be required to serve the proposed development, and if those expansions have the potential to result in an environmental impact.

5.16.4.4 DRAINAGE ENVIRONMENTAL IMPACTS

IMPACT UT-5: THE PROJECT WOULD NOT REQUIRE OR RESULT IN THE RELOCATION OR CONSTRUCTION OF NEW DRAINAGE FACILITIES, OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS.

Less than Significant. The Project site currently includes 10.96 acres of impermeable surfaces, which equates to 75 percent of the site. After completion of Project construction, the site would have a greater amount of (12.64 acres or 86 percent of the site) impermeable surfaces. As shown on Table 5.16-5, the increase in impervious surfaces would result in an increase the 2-year, 24-hour storm volume by 37 percent and the time of concentration (Tc) would increase by 26 percent.

Table 5.16-5: 2-Year, 24-Hour Storm Summary

Condition	Time of concentration (min)	Peak Runoff (cfs)	Volume (ac-ft)
Pre-Development	10.33	14.9	1.241
Post-Development	13.06	16.3	1.699
Difference	+2.73	+1.4	+0.458
Percent Change	+26%	+9.4%	+37%

Source: WQMP, 2019

The runoff within the Project site would be collected by roof drains, surface flow designed pavement, curbs, and area drains and conveyed to one of four Modular Wetland System units that would be installed as part of the Project to retain, filter, and slowly discharge drainage. The Modular Wetland System units have been sized to treat runoff from the Design Capture Storm (85th percentile, 24-hour) (WQMP 2019). Treated runoff from the Modular Wetland System units would be discharged from the flow controlling Modular Wetland System units to the existing 84-inch drain located within Red Hill Avenue. From there, flows would travel southeast and be temporarily detained in an existing flood control basin before entering the Barranca Channel, which discharges into San Diego Creek Reach 1, then the Upper Newport Bay, Lower Newport Bay, and finally to the Pacific Ocean at Balboa Beach.

Although the Project related runoff conditions (flow rates and durations) would increase from predevelopment conditions (shown in Table 5.15-5), the Project would manage the increased flow by the four Modular Wetland System units that have been designed to accommodate the increased volume (WQMP 2019). As a result, the proposed Project would not result in a need to expand or construct new off-site drainage systems and impacts to stormwater drainage systems would be less than significant.

5.16.4.5 DRAINAGE CUMULATIVE IMPACTS

The geographic scope for cumulative impacts related to stormwater drainage includes the geographic area served by the existing stormwater infrastructure for the Project area, from capture of runoff through final discharge points. As described above the proposed Project includes installation of Modular Wetland System units that would retain, slow, and discharge runoff through storm drain connections to the off-site infrastructure in Red Hill Avenue. The Modular Wetland System units would retain runoff and control drainage, pursuant to the required design storm. As a result, the proposed Project would not generate runoff that could combine with additional runoff from cumulative projects that could cumulatively combine to impact drainage. Thus, cumulative impacts related to drainage would be less than significant.

5.16.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impact UT-5 would be less than significant.

5.16.4.7 DRAINAGE MITIGATION MEASURES

No mitigation measures are required.

5.16.4.8 DRAINAGE LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable adverse impacts related to drainage would occur.

5.16.5 SOLID WASTE

5.16.5.1 SOLID WASTE REGULATORY SETTING

California Assembly Bill 341

On October 6, 2011, Governor Brown signed AB 341 establishing a state policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020, and requiring CalRecycle to provide a report to the Legislature that recommends strategies to achieve the policy goal.

California Green Building Standards

Section 5.408.1 Construction waste diversion. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste.

5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

5.16.5.2 SOLID WASTE ENVIRONMENTAL SETTING

In 2018, a majority (87 percent) of the solid waste from the City of Santa Ana, which was disposed of in landfills, went to the Frank Bowerman Sanitary Landfill (Calrecycle 2019). The Frank Bowerman Sanitary Landfill is permitted to accept 11,500 tons per day of solid waste and is permitted to operate through 2053. In September 2019, the maximum tonnage received was 9,967 tons. Thus, the facility had additional capacity of 1,533 tons per day (Calrecycle 2019).

5.16.5.3 SOLID WASTE THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

UT-6 Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

UT-7 Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

5.16.5.4 SOLID WASTE METHODOLOGY

Solid waste generation from construction and operation of the Project was estimated using EPA and CalRecycle solid waste generation factors derived for multi-family residential and commercial uses. Solid waste volumes were then compared with recent estimates of remaining disposal capacity of the landfill serving the City. In addition, potential impacts related to compliance with solid waste regulations was evaluated by identifying how the proposed Project would be implement the relevant requirements.

5.16.5.5 SOLID WASTE ENVIRONMENTAL IMPACTS

IMPACT UT-6: THE PROJECT WOULD NOT GENERATE SOLID WASTE IN EXCESS OF STATE OR LOCAL STANDARDS, OR IN EXCESS OF THE CAPACITY OF LOCAL INFRASTRUCTURE, OR OTHERWISE IMPAIR THE ATTAINMENT OF SOLID WASTE REDUCTION GOALS.

Less than Significant Impact.

Construction

Project construction would generate solid waste for landfill disposal in the form of demolition debris from the existing buildings and infrastructure that would be removed from the site. Demolition waste would be properly characterized as required by law and recycled or disposed of at an appropriate type of landfill for such materials. Construction waste in the form of packaging and discarded materials would also be generated by the proposed Project. Utilizing a construction waste factor of 4.34 pounds per square foot (EPA 2003), development of the Project would generate approximately 460 tons of waste during demolition and additional waste during construction, which would occur over a 27-month period. However, Section 5.408.1 of the 2016 California Green Building Standards Code requires demolition and construction

activities to recycle or reuse a minimum of 65 percent of the nonhazardous construction and demolition waste. Thus, the demolition and construction solid waste that would be disposed of at the landfill would be approximately 35 percent of the waste generated. Therefore, demolition activities, which would generate the most solid waste would generate approximately 161 tons of solid waste. As shown in Table 3-3 of Section 3.0, *Project Description*, demolition activities would occur over a 30 workday (6 week) period. This equates to approximately 5.4 tons of debris per day.

As described above, the Frank Bowerman Sanitary Landfill is permitted to accept 11,500 tons per day of solid waste. In September 2019, the maximum tonnage received was 9,967 tons. Thus, the facility had additional capacity of 1,533 tons per day (Calrecycle 2019). Therefore, the Frank Bowerman Sanitary Landfill would be able to accommodate the addition of 5.4 tons of waste per week during construction of the proposed Project.

Operation

Based on the daily solid waste generation rates from CalRecycle and previous City estimates[1], multi-family uses produce 0.46 tons/unit/year and commercial retail uses generate approximately 1.9 tons per year per employee. The Economic and Fiscal Analysis prepared for the proposed Project determined that the Project would result in an average of one employee per every 250 square feet of commercial space. Thus, the proposed 80,000 square feet of commercial space would generate approximately 320 employees at full occupancy.

Based on this, operation of the Project at buildout would generate approximately 1,137 tons of solid waste per year, at least 75 percent of which is required by California law to be recycled, which would reduce the volume of landfilled solid waste to approximately 284.25 tons per year, or 5.47 tons per week, as shown on Table 5.16-6.

Table 5.16-6: Solid Waste Demand from Operation of the Proposed Project

Land Use	Quantity	Generation Rate	Solid Waste Demand
Multi-Family Units	1,150 units	0.46 tons/unit/year	529 tons per year
Commercial Retail	320 employees	1.9 tons/employee/year	608 tons per year
Total Solid Waste			**1,137 tons per year**
Annual Landfill Disposal with AB 341 (75% Reduction)			**284.25 tons per year**
Weekly Landfill Disposal with AB 341 (75% Reduction)			**5.47 tons per week**

As described previously, the Frank Bowerman Sanitary Landfill is permitted to accept 11,500 tons per day of solid waste. In September 2019, the maximum tonnage received was 9,967 tons. Thus, the facility had additional capacity of 1,533 tons (Calrecycle 2019). Therefore, the Frank Bowerman Sanitary Landfill would be able to accommodate the addition of 5.47 tons of waste per week. Thus, the proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and the Project would not impair the attainment of solid waste reduction goals. Impacts related to landfill capacity would be less than significant.

IMPACT UT-7: THE PROJECT WOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE.

[1] The solid waste generation rates were previously used in The Heritage Mixed Use Project EIR (2015), which is a similar development near the Project site

No Impact. The proposed Project would result in new development that would generate an increased amount of solid waste. All solid waste-generating activities within the City is subject to the requirements set forth in Section 5.408.1 of the 2016 California Green Building Standards Code that requires demolition and construction activities to recycle or reuse a minimum of 65 percent of the nonhazardous construction and demolition waste, and AB 341 that requires diversion of a minimum of 75 percent of operational solid waste. Implementation of the proposed Project would be consistent with all state regulations, as ensured through the City's development project permitting process. Therefore, the proposed Project would comply with all solid waste statute and regulations; and impacts would not occur.

5.16.5.6 SOLID WASTE CUMULATIVE IMPACTS

The geographic scope of cumulative analysis for landfill capacity is the service area for the Frank Bowerman Sanitary Landfill, which serves the Project area. The projections of future landfill capacity based on the entire projected waste stream going to these landfills is used for cumulative impact analysis. As described previously, the Frank Bowerman Sanitary Landfill has a maximum permitted capacity of 11,500 tons per day and in September 2019 had a maximum disposal of 9,9767 tons and a remaining capacity of 1,533 tons (CalRecycle 2019). The 5.47 tons of solid waste per week from operation of the proposed Project would be 0.36 percent of the remaining capacity of the landfill. Due to this small percentage, the increase in solid waste from the Projects would be less than cumulatively considerable and would be less than significant.

5.16.2.7 EXISTING STANDARD CONDITIONS AND PLANS, PROGRAMS, OR POLICIES

The following standard regulations would reduce potential impacts related to solid waste:

- Assembly Bill 341 (Chapter 476, Statutes of 2011)
- California Green Building Standards Code

5.16.2.8 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impacts UT-6 and UT-7 would be less than significant.

5.16.2.9 SOLID WASTE MITIGATION MEASURES

No mitigation measures are required.

5.16.2.10 SOLID WASTE LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable adverse impacts related to solid waste would occur.

REFERENCES

CalReycyle Solid Waste Information System. Accessed at:
http://www.calrecycle.ca.gov/SWFacilities/Directory/Search.aspx

CalReycyle Disposal Reporting System: Jurisdiction Tons by Facility. Accessed at:
https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility

City of Santa Ana Design Guidelines for Water and Sewer Facilities, March 2017. Accessed:
http://www.santa-ana.org/pwa/documents/DesignGuidelines.pdf

City of Santa Ana General Plan. Accessed: http://www.santa-ana.org/generalplan/default.asp#CurrentGPDocs

City of Santa Ana Municipal Code. Accessed: https://library.municode.com/ca/santa_ana/codes/code_of_ordinances?nodeId=14452

City of Santa Ana 2015 Urban Water Management Plan, April 2016. Accessed: http://www.ci.santa-ana.ca.us/pwa/documents/DRAFTSantaAnaUWMPApril2016.pdf

Economic and Fiscal Analysis for the Santa Ana Red Hill Development. Prepared by AECOM, 2019 (AECOM 2019).

Geotechnical EIR Due-Diligence Level Report (Geotechnical Report). Prepared by LGC Geotechnical. 2019 (GEO 2019).

Orange County Sanitation District Sewer Services (OCSD 2019). Accessed at: https://www.ocsd.com/services/regional-sewer-service

National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction Activities. Order No. 2009-0009-DWQ NPDES No. CAS000002. Accessed at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo2009_0009_dwq.pdf

Santa Ana River Basin Water Quality Control Plan (Basin Plan). Accessed at: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/

Santa Ana River Watershed: Accessed at: http://www.ocwatersheds.com/programs/ourws/snariver

State Water Resources Control Board Construction Water Program: Accessed at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html