5.18 UTILITIES AND SERVICE SYSTEMS

This section of the updated Draft Program Environmental Impact Report (PEIR) evaluates the potential impacts of the Santa Ana General Plan Update (GPU) to utility and service systems in the City of Santa Ana and its sphere of influence (plan area). The section addresses wastewater treatment and collection, water supply and distribution, storm drainage, solid waste, and electricity and natural gas services.

The analysis in this section is based in part on the following technical reports:

- *City of Santa Ana General Plan Update Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality,* Fuscoe, June 3, 2020.
- *City of Santa Ana General Plan Update Water Supply & Demand Technical Report*, Fuscoe, May 29, 2020.

A complete copy of these reports are included in the technical appendices (Volume III, Appendices H-a and H-b).

5.18.1 Wastewater Treatment and Collection

5.18.1.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Clean Water Act

The Clean Water Act (CWA) establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters. Under the CWA, the U.S. Environment Protection Agency (EPA) is authorized to set wastewater standards and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that generate discharges that go directly into waters of the United States. The federal CWA, United States Code, Title 33, Sections 1251 et seq. requires wastewater treatment of all effluent before it is discharged into surface waters.

State

State Water Resources Control Board: Statewide General Waste Discharge Requirements

The General Waste Discharge Requirements specify that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California need to develop a Sewer Master Plan. The plan evaluates existing sewer collection systems and provides a framework for undertaking the construction of new and replacement facilities to maintain proper levels of service. The master plan includes inflow and infiltration studies to analyze flow monitoring and water use data, a capacity assurance plan to analyze the existing system with existing land use and unit flow

factors, a condition assessment and sewer system rehabilitation plan, and a financial plan with recommended capital improvements and financial models.

General Pretreatment Regulations for Existing and New Sources of Pollution

The General Pretreatment Regulations establish responsibilities of the federal, state, and local government; industry; and the public to implement National Pretreatment Standards to control pollutants that pass through or interfere with treatment processes in Publicly Owned Treatment Works (POTW) or that may contaminate sewage sludge. Pretreatment standards are pollutant discharge limits that apply to industrial users.

Regional

Orange County Sanitary District Reclamation Plants NPDES Permit

Wastewater discharge requirements for Orange County Sanitary District (OCSD) Reclamation Plants No. 1 and No. 2 are detailed in Order No. R8-2012-0035 issued in 2012. The permit includes the conditions needed to meet minimum applicable technology-based requirements. The permit includes limitations more stringent than applicable federal technology-based requirements where necessary to achieve the required water quality standards.

Orange County Sanitation District Capital Facilities Charges

The OCSD Capital Facilities Charge (Ordinance No. OCSD-40) is imposed when a property newly connects to the OCSD system or a previously connected property expands its use. Revenue generated from the charge is used for the acquisition, construction, and reconstruction of OCSD's wastewater collection, treatment, and disposal facilities; to repay principal and interest on debt instruments; or to repay federal or state loans for the construction and reconstruction of sewage facilities, together with costs of administration and provisions for necessary reserves.

Orange County Sanitation District Ordinance Nos. 25 and 48

OCSD Ordinance OCSD-25 sets forth some prohibitions on activities by food service establishments to minimize discharges of fat, oils, and grease to sewers.

OCSD Ordinance OCSD-48 sets limits on wastewater that is discharged to sewers and conveyed to OCSD wastewater treatment plants. The ordinance limits concentrations of certain substances, including metals, some hazardous materials such as pesticides, and oil and grease (petroleum derived).

Local

City of Santa Ana Design Guidelines for Water and Sewer Facilities

The purpose of the Santa Ana Design Guidelines for Water and Sewer Facilities is to provide applicants (developer/builder) with a general understanding of the design criteria for the City of Santa Ana water and sewer facilities for new development or re-development projects.

City of Santa Ana 2016 Sewer Master Plan

The City's most recent Sewer Master Plan update was performed in December 2016. The 2016 Sewer Master Plan Update Final Report (SMP) was an update to a sewer capacity analysis performed in 2003. The 2016 SMP analyzed the age of the sewer infrastructure, and the capacity of the City's sewer collection system for existing and future peak-flow conditions under both dry and wet weather conditions. In addition, the 2016 SMP summarized the rankings of the condition of the sewer pipes/manholes and the recommended rehabilitation and replacement of these sewers.

Santa Ana Municipal Code

Chapter 8 - Article III (Plumbing Code): This article of the Santa Ana Municipal Code incorporates the 2016 California Plumbing Code by reference.

Chapter 39 - Article III (Sewers): Requires all buildings or other structures that contain any plumbing fixtures and are located within any sewer district or district serviced by a public sewer be connected to a public sewer. The article also requires issuance of a permit before any sewer connection can be made. All connection fees collected are deposited into the sewer connection fee fund. Building permits are reviewed by the director of public works for the purpose of determining whether the proposed development would result in an overload of existing sewer line capacity. This article also prohibits the discharge of fat, oils, and greases into public sewer lines and details fat, oil, and grease best management practices (BMPs). The sewerage service fee is also detailed in this article.

Existing Conditions

Wastewater Collection System

The City operates and maintains Santa Ana's sewer system, which serves the entire plan area and portions of Garden Grove and Orange. The City's sewer collection system consists of approximately 450 miles of sewer mains, including approximately 60 miles of OCSD regional trunk facilities within the city. The system operates largely by gravity and discharges at several locations into OCSD gravity trunk sewers for conveyance to OCSD Treatment Plant 1.

The sewer system is divided into minor sewers (6 to -8 inches in diameter) serving an area no greater than 25 miles and major sewers that are larger sewer systems that convey greater than 25 miles of sewer discharges. See Table 5.18-1 for a summary of sewer facilities within the focus areas. Figure 5.18-1, *Existing Sewer Facilities,* illustrates the existing City and OCSD sewer infrastructure in the plan area.

Table 5.18-1 Existing Sewer Facilities within the Focus Areas

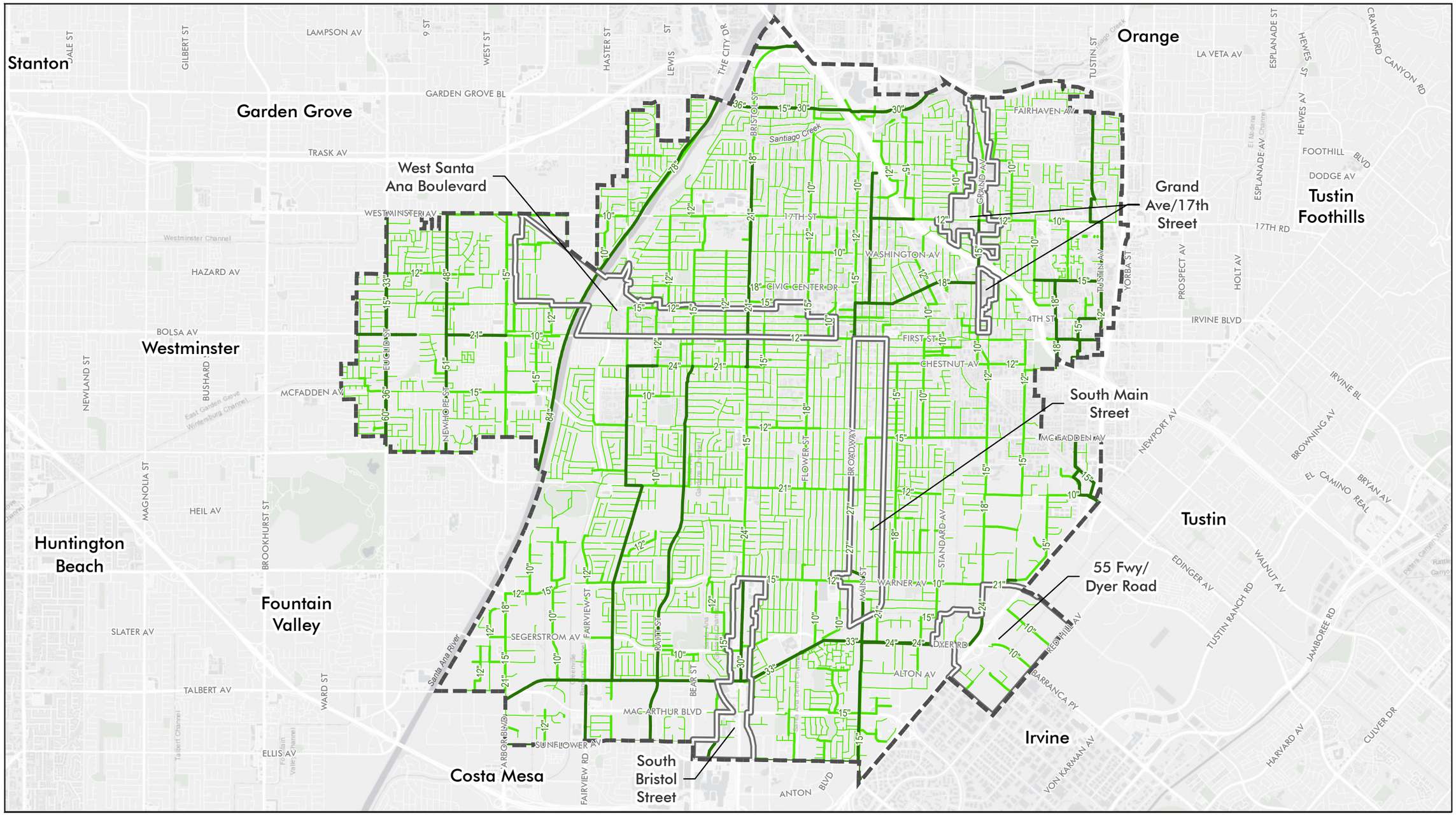
Focus Area	Primary Sewer System Facilities
West Santa Ana Boulevard	10"-15" City Lines 21" OCSD Trunk Line
Grand Avenue/17th Street	8"-12" City Lines 15" OCSD Trunk Line
South Main Street	8"-15" City Lines 21"-27" OCSD Trunk Line
South Bristol Street	8"-15" City Lines 30"-33" OCSD Trunk Line
55 Freeway/Dyer Road	8"-10" City Lines 21"-24" OCSD Trunk Line

Source: Fuscoe 2020a.

Existing Sewer Flows

For each land use in the City of Santa Ana and the five focus areas, a total sewer generation was estimated to provide a baseline condition and to allow for comparison against proposed land use changes. Acreages of the existing development (i.e., residential and non-residential) were used along with their corresponding flow/generation factors to develop existing condition flow rates. Commercial sewer generation factors were provided from the OCSD Design and Construction Standards for Sanitary Sewers (2016). Residential sewer generation factors were derived from the Municipal Water District of Orange County (MWDOC) Orange County Water Reliability Study (MWDOC 2016) water flow factors for single-family and multifamily residences for 2015 multiplied by a 0.95 sewer factor as indoor water flows and sewer flows are similar. This sewer factor per land use is the recommended approach by sewer agencies to determine any impacts to sewer infrastructure at a level consistent with a general plan update. The generation factors are typically conservative in nature and tend to over-represent sewer flows to incorporate a safety factor into pipe network design and hydraulic capacity assessments.

Figure 5.18-1 - Existing Sewer Facilities



City of Santa Ana
Focus Area

City Sewer Pipelines
8" and Below in Diameter
9" - 84" in Diameter

OCSD Sewer Pipelines
OCSD Sewer Lines

0 1
Scale (Miles)

Source: FUSCOE Engineering, 2020

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Table 5.18-2, *Existing Average Sewer Flows,* provides a summary of the existing wastewater flows for the City and focus areas. Refer to the Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality in Volume III, Appendix H-a for detailed sewer flow calculations.

Table 5.18-2 Existing Average Daily Sewer Flows

Area	Number of Dwelling Units	Non-Residential Square Footage	Average Sewer Flows (gpd)
Focus Area			
West Santa Ana Boulevard	2,658	3,090,472	827,553
Grand Avenue/17th Street	220	1,577,511	125,918
South Main Street	561	1,400,741	188,358
South Bristol Street	1,720	1,685,978	565,500
55 Freeway/Dyer Road	1,221	5,666,453	538,450
Focus Area Total	**6,380**	**13,421,155**	**2,245,779**
Remainder of City			
All Other Areas of City	72,412	53,697,441	27,786,561
Citywide Total	**78,792**	**67,118,596**	**30,032,340**

Source: Fuscoe 2020a.
Notes:
See Appendix A of the *City of Santa Ana General Plan Update Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality* (Vol. III, App. H-a) for sewer flow calculations.
gpd: gallons per day
SF: square feet

Under the existing conditions, average daily sewer flows are estimated at 30 million gallons per day (mgd) throughout the City of Santa Ana. Under existing conditions, the focus areas represent approximately 7.5 percent of the City's sewer flows. These flow estimates are for land planning purposes only.

Wastewater Treatment

OCSD operates two treatment plants, Treatment Plant No. 1 and Reclamation Plant No. 2. Wastewater from the plan area is treated at OCSD's Treatment Plant No. 1 in Fountain Valley. The treatment plant has a secondary treatment capacity of 182 mgd (SARWQCB 2012). Average wastewater flows through Plant No. 1 are about 120 to 130 mgd; thus, the minimum residual capacity is about 52 mgd (OCSD and OCWD 2016). Wastewater treated at Treatment Plant No. 1 is sent to the Orange County Water District (OCWD) for further treatment in the groundwater replenishment system (GWRS) facility in Fountain Valley.

GWRS produces approximately 100 mgd of purified water for residents of Orange County. Secondary-treated wastewater from OCSD undergoes a three-step treatment process in the GWRS, which consists of microfiltration, reverse osmosis, and advanced oxidation with ultraviolet light and hydrogen peroxide. The treated water is injected into a seawater barrier and pumped to recharge basins where it naturally percolates into the groundwater basin. Ultimate capacity for the GWRS is projected at 130 mgd after facilities are completely expanded. This requires OCSD to provide an additional 40 mgd of secondary-treated wastewater to OCWD. This increase will be accommodated through changes and additions to infrastructure that will allow additional treated effluent from Reclamation Plant No. 2 in Huntington Beach to be delivered to the GWRS treatment

system in Fountain Valley (OCSD 2017). Construction of the GWRS expansion is estimated to be completed in 2023 (OCWD 2020).

Existing Sewer Capacity Assessment

The City's SMP analyzed the age of the sewer infrastructure, and the capacity of the City's sewer collection system for existing and future peak-flow conditions under both dry and wet weather conditions. In addition, the 2016 SMP summarized the rankings of the condition of the sewer pipes/manholes and the recommended rehabilitation and replacement of these sewers based on the most recent CCTV inspection reports. The results of the capacity analysis and condition assessment are summarized herein.

City Sewer Capacity Assessment

The capacity of the City's sewer system was assessed for all major trunk lines with diameters ranging from 10 to 39 inches in size. In total, approximately 97 miles of City pipelines, 20 miles of OCSD trunk lines, and a total of 1,799 manholes were modelled. The capacity of the system was assessed for existing and future (2040) base flow scenarios in addition to peak wet-weather flows (PWWF) derived for a 10-year storm event.

The SMP identified four areas of the City where sewer capacity deficiencies were identified. The most significant areas of potential wet weather capacity deficiencies are between Fairhaven Avenue and 17th Street running through Old Grand Street, to Santa Clara Avenue, and then onto Wright Street in the northeastern area of the city.

City Sewer Condition Assessment

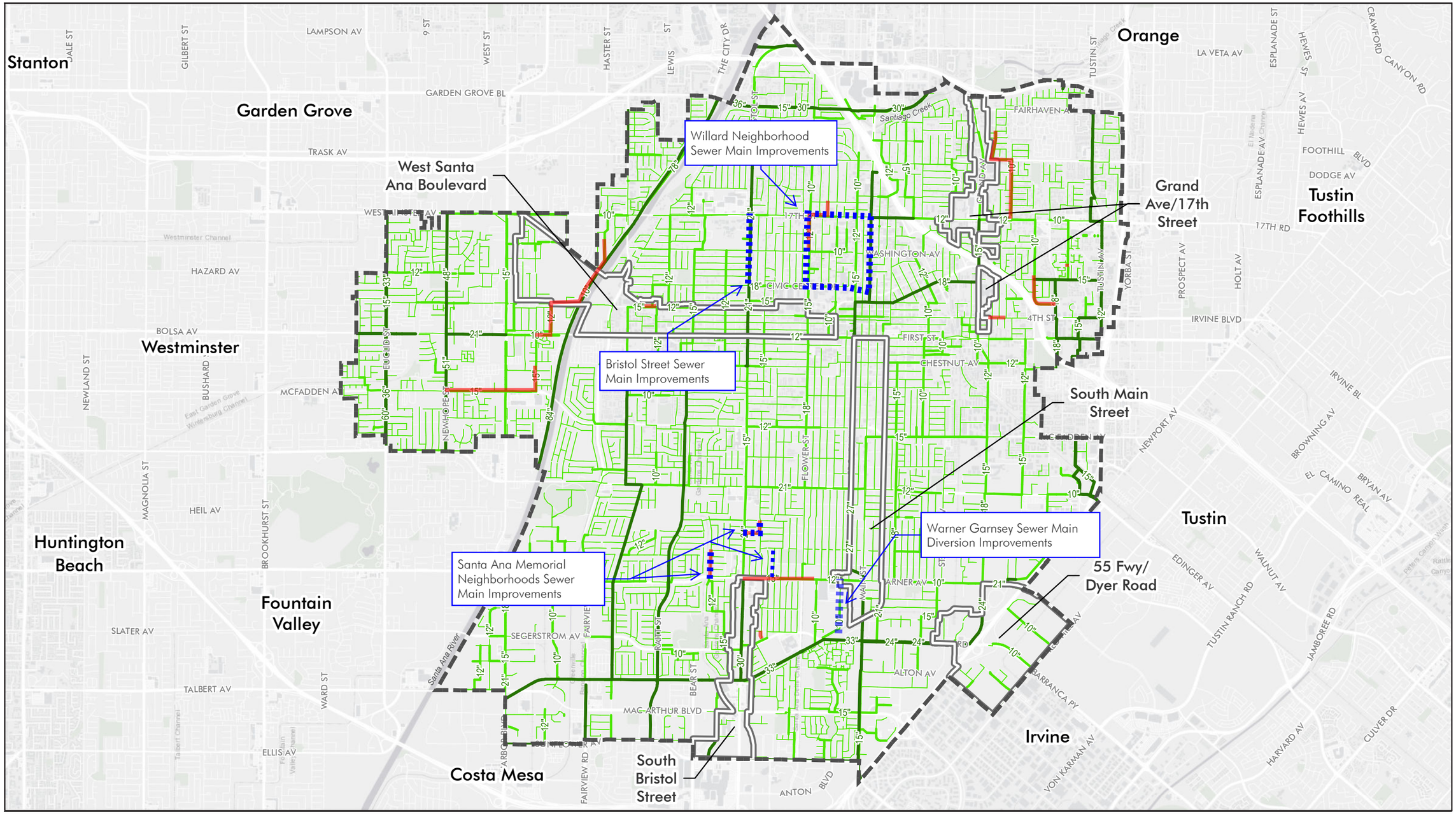
In addition to the sewer capacity assessment, the City assessed the condition of its sewer system. The review identified several defects in the condition in the sewer system, primarily in the central part of the city, including the downtown area. This area is known to have older pipes compared to the outer neighborhoods and consequently has more defect issues.

The combined deficiencies and recommended improvement areas found by the capacity assessment and the condition assessment are shown in Figure 5.18-2, *Existing Sewer System Improvement Projects*.

Capital improvement projects are prioritized to allocate available funds to critical projects based on risk of failure and level of impact to economic, social, and environment issues. Similar to many public agencies, the City has an annual budget for replacing or rehabilitating aging infrastructure and therefore requires a systematic and defensible method for prioritizing both capacity and condition-based improvement projects. The SMP has aided in prioritizing projects on each year's CIP. The SMP references 20 projects for Fiscal Year (FY) 2016/2017 to FY 2020/2021. The current 2018/2019 CIP sewer projects are listed below:

- Bristol Street Sewer Main Improvements
- Santa Ana Memorial Neighborhoods Sewer Main Improvements
- Warner Garnsey Sewer Main Diversion Improvements (project listed in SMP as CIP-CAP-006A)
- Willard Neighborhood Sewer Main Improvements

Figure 5.18-2 - Existing Sewer System Improvement Projects



Source: FUSCOE Engineering, 2020

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Furthermore, the current CIP projects currently under design or construction are listed below:

- Citywide Sewer Main Improvements Phase II
- Columbine Sewer Main Improvements
- Washington Square Neighborhood Sewer Main Improvements
- Flower Street Sewer Main Improvements (Washington Street – 17th)
- Segerstrom/San Lorenzo Sewer List Station

In addition to the SMP and CIP sewer system management procedures, the City currently requires sewer monitoring studies for all projects that go through the entitlement process. After submittal and review of these studies by City staff, if the sewer system is found to be deficient, the developer will be required to upsize the portion of the sewer pipe within the frontage of their property. There may be options depending on the condition of the sewer infrastructure for the developers to enter into a joint cost-sharing agreement with the City to cover a portion of the cost for required upsizing that may be done by the City at a later date. If improvements are needed to infrastructure downstream of the project site, the developer may be required to participate and pay into the fair-share agreement currently employed by the City. The fair-share agreement will allow the developer to fund a percentage of the downstream improvement that will be carried out by the City in the future. Therefore, the City has a robust process in place on a project-by-project basis to ensure the sewer system is functioning efficiently.

Orange County Sanitation District Master Plan Update Report No. 3

OCSD prepared an update to its Master Plan in December 2019. The purpose of this Update Report was to evaluate collections system capacity throughout the OCSD service area. The 2019 Update Report determined a series of trunk line segments that exhibited hydraulic deficiencies or potential hydraulic deficiencies under existing (2017) and buildout (2040) conditions. Hydraulic deficiencies were assessed for both peak dry-weather flow and peak wet-weather flow scenarios. Of the assessed segments, the Greenville-Sullivan Trunk Line within the GPU boundary was shown to exhibit surcharge conditions for peak wet-weather flows. A capacity improvement project for the Greenville-Sullivan Trunk Line has been included in OCSD's proposed projects and is currently under review. The project will upsize all 33-inch segments within the trunk line to a 39-inch diameter, addressing all surcharge concerns.

5.18.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would have a significant effect on the environment if the project would:

U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

U-3 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.18.1.3 REGULATORY REQUIREMENTS AND GENERAL PLAN UPDATE POLICIES

Regulatory Requirements

RR U-1 Any sewer utility infrastructure improvement associated with development under the General Plan Update shall be designed, constructed, and operated in accordance with Chapter 8, Article III, and Chapter 39, Article III, and of the Santa Ana Municipal Code.

RR U-2 Any new connections to the Orange County Sanitation District system or expansion of a previous connection shall pay a capital facilities charge in accordance with Ordinance No. OCSD-40.

RR U-3 Sewer utility infrastructure improvements associated with development under the General Plan Update shall be designed, constructed, and operated in accordance with the Orange County Sanitation District's Ordinance Nos. 25 and 48 and the wastewater discharge requirements of the National Pollutant Discharge Elimination System permit (Order No. R8-2012-0035).

General Plan Update Policies

The following are relevant policies of the Santa Ana GPU, which may contribute to reduce potential impacts to wastewater and treatment facilities as a result of implementation of the proposed project.

Public Services Element

- **Policy 3.2. Wastewater Service:** Provide and maintain wastewater collection facilities which adequately serve existing land uses and future development projects while maximizing cost efficiency.
- **Policy 3.3. Wastewater Technology:** Explore new technologies that treat and process wastewater that reduce overall capacity needs of centralized wastewater systems.
- **Policy 3.12. Sewer and Water:** Maintain and upgrade sewer and water infrastructure through impact fees from new development and exploring other funding sources.

5.18.1.4 ENVIRONMENTAL IMPACTS

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.18-1: Development pursuant to the GPU would require or result in the relocation or construction of new or expanded wastewater facilities. [Threshold U-1]

Under the proposed land use changes, sewer flows would increase across the City of Santa Ana. A total increase of 36,261 dwelling units and increase of approximately 5,849,220 square feet of non-residential uses are proposed. Sewer flows for proposed conditions were projected using the same methodology as existing sewer flows; however, flow factors for residential land uses are based on 2025–2040 flow factors from the MWDOC Orange County Water Reliability Study.. Table 5.18-3, *Average Sewer Flows – General Plan Update Buildout*, provides a summary of the proposed increases in sewer flows under GPU implementation..

Table 5.18-3 Average Sewer Flows – General Plan Update Buildout

Area	Number of Dwelling Units	Non-Residential SF	Proposed Sewer Flows (gpd)	Existing Sewer Flows (gpd)	Change in Sewer Flows (gpd)	% Change
Focus Area						
West Santa Ana Boulevard	3,920	2,808,805	941,567	827,553	+114,014	13.8%
South Bristol Street	5,492	5,082,641	1,257,985	125,918	+1,132,067	899%
Grand Avenue/17th Street	2,283	703,894	451,305	188,358	+262,947	140%
South Main Street	2,308	946,662	565,847	565,500	+347	0.1%
55 Freeway/Dyer Road	9,952	6,142,283	2,120,271	538,450	+1,581,821	294%
Focus Area Total	**23,955**	**15,684,285**	**5,336,974**	**2,245,779**	**+3,091,195**	**138%**
Remainder of City						
All Other Areas of City	91,098	57,283,531	28,829,359	27,786,561	+1,042,778	3.75%
City of Santa Ana Total	**115,053**	**72,967,816**	**34,166,333**	**30,032,340**	**+4,133,993**	**13.8%**

Source: Fuscoe 2020a.
Notes:
See Appendix A of the *City of Santa Ana General Plan Update Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality* (Vol. III, App. H-a) for sewer flow calculations.
gpd: gallons per day
SF: square feet

Full implementation of the proposed land use changes has the potential to increase sewer flows by 4.13 mgd within the City and by 3.09 mgd throughout the focus areas. Therefore, the focus areas represent approximately 75 percent of the proposed increases in sewer flows throughout the plan area. These flow estimates are for infrastructure planning purposes only.

Wastewater capacity analysis, included in the 2016 SMP, is based on existing water meter data to establish baseline conditions and uses several resources, including population projections and development projects associated with the current General Plan to project final buildout conditions. It is helpful to understand how sewer flows under the current General Plan compare to the proposed GPU to refine the identification of impacts. The proposed GPU modifies buildout numbers within the GPU focus areas. In comparison to the current General Plan, the proposed GPU would add 13,195 dwelling units (DUs), consisting primarily of multifamily units, and would reduce commercial square footage by approximately 2.7 million square feet. Table 5.18-4 compares land use changes between the current General Plan and the proposed GPU. This analysis is based on total DU count and commercial square footage only and does not differentiate between single-family and multifamily sewer flow factors.

Table 5.18-4 Sewer Flow Changes, Current General Plan to Proposed GPU

Area	Change in Housing Units, Current GP to Proposed (dwelling units)	Change in Commercial Areas, Current GP to Proposed (square feet)	Change in Sewer Flows (gpd)
Focus Area			
West Santa Ana Boulevard	+ 1,308	- 38,106	+ 234,115
South Bristol Street	+ 2,232	+ 946,213	+ 452,011
Grand Avenue/17th Street	+ 1,766	- 1,715,794	+ 226,655
South Main Street	+ 667	- 1,481,837	+ 43,444
55 Freeway/Dyer Road	+ 7,222	- 376,333	+ 1,284,029
Focus Area Total	**+ 13,195**	**- 2,665,857**	**+ 2,243,264**
Remainder of City			
All Other Areas of City	+ 0	+ 0	+ 0
Citywide Total	**+ 13,195**	**-2,665,857**	**+ 2,243,264**

Source: Fuscoe 2020a.

As shown in Table 5.18-4, increases in sewer flows under the proposed GPU would be distributed across the five focus areas, with no deviations from the current General Plan elsewhere in the city. As the 2016 SMP capacity analysis was based on the current General Plan, increased wastewater generation from focus area development under the GPU would alter the capacity assessment and recommended sewer upsizing to achieve optimal hydraulic capacity. Additional flows beyond those modeled using the current General Plan are anticipated to impact the five focus areas as follows:

- **West Santa Ana Boulevard Focus Area.** There are two recommended hydraulic improvements (CIP-CAP-003 of SMP) within the West Santa Ana Boulevard Focus Area as identified in the SMP. The recommended improvements along the CIP-CAP-003 segment are to upsize the pipes from 10 to 12 inches in diameter to 15 inches in diameter. An additional 234,115 gallons per day (gpd) is anticipated across the focus area under the proposed GPU compared to the modeled land use buildout from the current GP. As a result of the proposed land uses under the GPU, the recommended improvement to a 15-inch line may need to be increased to an 18-inch line and will require additional flow monitoring and sewer modeling to confirm final pipe size.

- **South Bristol Street Focus Area.** Two improvements immediately adjacent to the focus area were identified in the 2016 SMP. Under proposed GPU buildout, an additional 452,011 gpd of flows are anticipated through the focus area as compared to current GP; or an additional 1.13 mgd as compared to existing land use. While it is unlikely that the two improvement areas adjacent to the focus area will be exacerbated by the increase in flows, the magnitude of flows may result in additional improvements or deficiencies within or adjacent to the focus area. The sewer master plan demonstrated there is sufficient capacity under current and future conditions with the ability to accommodate significant growth over time. A primary reason is that the entire area is directly adjacent to large OCSD trunk lines which results in greater capacity. Based on the sewer flow monitoring requirements for local City lines and OCSD's separate detailed capacity assessment of their trunk lines, the system would be managed and updated to accommodate the full buildout of the proposed GPU over time.

- **Grand Avenue / 17th Street Focus Area.** There are two nearby deficiency areas; however, the focus area is not directly tributary to any recommended improvements (identified capacity issues are upstream). The additional 226,655 gpd under the proposed GPU as compared to the current GP, or additional 262,947 from existing land use to proposed GPU, will not exacerbate existing adjacent upstream capacity issues within the 15- and 18-inch trunk lines.

- **South Main Street Focus Area.** There are no identified deficiencies in this focus area. The proposed GPU will result in a 43,444 gpd increase in flows spread across the focus area from current General Plan to proposed GPU; or only 347 gpd from existing land use as compared to the proposed GPU. Given the relatively small increase in flows (0.04 mgd) spread across the focus area and the lack of deficiencies identified in the SMP, it is not anticipated that any new deficiencies would result from the proposed GPU land uses.

- **55 Freeway/Dyer Focus Area.** There are no identified deficiencies in this focus area. While there were no capacity issues or recommended improvement projects within or adjacent to the focus area identified in the 2016 SMP, buildout of the proposed GPU as compared to the current GP would result in an additional 1,284,029 gpd (1.3 mgd) across the focus area; or approximately 1.6 mgd from existing land use to the proposed GPU. The SMP demonstrated there is sufficient capacity under current and future conditions with the ability to accommodate significant growth over time. A primary reason is that the entire area is directly adjacent to large OCSD trunk lines, which results in greater capacity. Based on the sewer flow monitoring requirements for local City lines and OCSD's separate detailed capacity assessment of their trunk lines, the system would be managed and updated to accommodate the full GPU buildout over time.

At a citywide scale, the City's SMP and CIP process would adequately prioritize necessary projects as developments under the GPU come online. Additionally, any project within the City and under the proposed GPU that goes through the entitlement process would be required to perform a sewer monitoring study. After submittal and review of the study by City staff, if the sewer system was found to be deficient, the developer would be required to upsize the portion of the sewer pipe within the frontage of their property. There may be options depending on the condition of the sewer infrastructure for the developers to enter into a Joint Cost-Sharing Agreement with the City to cover a portion of the cost for required upsizing that may be done by the City at a later date. If improvements are needed to infrastructure downstream of the project site, the developer may be required to participate and pay into the fair-share agreement currently employed by the City. The fair-share agreement would allow the developer to fund a percentage of the downstream improvement that would be carried out by the City in the future. Therefore, impacts to the City's wastewater system would be less than significant.

Furthermore, the OCSD Master Plan Update Report No. 3 (2019) notes surcharge conditions through the Greenville-Sullivan Trunk Line. A capacity improvement project for the trunk line has been proposed and is currently under review. The Greenville-Sullivan Trunk Line is not within a focus area but is downstream of the West Santa Ana Boulevard Focus Area that is anticipating an increase in sewer flows of 114,014 gpd or 0.01 mgd. This anticipated increase from the West Santa Ana Boulevard Focus Area will happen over a series of several years as new developments and redevelopments come online. The CIP project planned will be upsizing

the Greenville-Sullivan Trunk Line from a 33-inch-diameter line to a 39-inch-diameter line, which is more than adequate to handle the increase of 0.01 mgd proposed under the Santa Ana GPU.

OCSD bases its long-term sewer capacity assessments on the Center for Demographic Research (CDR) population estimates in coordination with all cities in their service area and does not generally use City-specific General or Specific Plans to plan or conduct capacity analysis. For improvement projects associated with new developments and redevelopments, OCSD manages required upgrades based on detailed population growth models and on a project-by-project basis. In cases where a trunk line requires upsizing as a result of a specific project and the project is not included in the CIP or any planning documents, OCSD allows the project applicant to conduct the trunk line upsize and follow a reimbursement agreement process. Therefore, OCSD has a functioning and effective process in place to ensure the regional sewer infrastructure will support future developments under the Santa Ana GPU and impacts would be less than significant.

Level of Significance Before Mitigation: With the implementation of RR U-1 and RR U-2 and Policies 3.2 and 3.12 (see Section 5.18.1.3), Impact 5.18-1 would be less than significant.

Impact 5.18-2: OCSD and OCWD have adequate capacity to serve development pursuant to the GPU in addition to the providers existing commitments. [Threshold U-3]

OCSD's Treatment Plant No. 1, which serves the plan area, has a treatment capacity of 182 mgd and an average wastewater flow of approximately 120 to 130 mgd. Therefore, the plant has a minimum residual capacity of about 52 mgd. Therefore, OCSD's Treatment Plant No. 1 would be able to accommodate the 6.8 mgd increase in wastewater generated by development pursuant to the GPU at buildout.

Furthermore, the effluent from Treatment Plant No. 1 would go through additional treatment in the GWRS, which currently produces 100 mgd of purified water. The plant has an ultimate capacity of 130 mgd after facilities are completely expanded in 2023. The GWRS would be able to accommodate an additional 40 mgd of secondary-treated wastewater from OCSD at that point. Therefore, the GWRS has enough capacity to treat the wastewater generated from buildout of the GPU.

Additionally, if development under the GPU requires additional sewer flow connections through OCSD sewer lines or pump stations, it would be required to pay a sewer connection fee prior to issuance of building permits. Any sewer utility infrastructure improvement would be designed, constructed, and operated in accordance with the City's Design Guidelines for Water and Sewer Facilities. To ensure the quality of wastewater conveyed to the wastewater treatment plants does not cause any impacts, development would need to abide by the requirements of OCSD's ordinances Nos. 25 and 48 and the wastewater discharge requirements of the NPDES permit (Order No. R8-2012-0035). Thus, wastewater generated through development in accordance with the proposed project would have a less-than-significant impact on the City and OCSD's overall wastewater collection and treatment facilities and systems.

Level of Significance Before Mitigation: With the implementation of RR U-3 and Policy 3.3 (see Section 5.18.1.3), Impact 5.18-2 would be less than significant.

5.18.1.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and GPU policies, Impacts 5.18-1 and 5.18-2 would be less than significant.

5.18.1.6 MITIGATION MEASURES

No mitigation is required.

5.18.1.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts 5.18-1 and 5.18-2 would remain less than significant.

5.18.2 Water Supply and Distribution

5.18.2.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it came into law. The act authorizes the U.S. EPA to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Water Resources Control Board (SWRCB) conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), which was passed in California in 1969 and amended in 2013, the SWRCB has authority over state water rights and water quality policy. This act divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions. RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Santa Ana is overseen by the San Ana Area RWQCB.

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires water suppliers to prepare plans that:

- Plan for water supply and assess reliability of each source of water, over a 20-year period in 5-year increments.
- Identify and quantify adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implement conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 [SBX7-7]), which amends the act and adds new water conservation provisions to the Water Code.

Senate Bill 610 and 221

Senate Bill 610 (SB 610) (2001) amended the California Urban Water Management Planning Act, Sections 10610 et seq. of the California Water Code. It mandates that a city or county approving certain projects subject to CEQA[1] (i) identify any public water system that may supply water for the project, and (ii) request those public water systems to prepare a specified water supply assessment. The assessment is to include the following:

1. A discussion of whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection would meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.
2. The identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts.
3. A description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts.
4. A demonstration of water supply entitlements, water rights, or water service contracts by the following means:
5. The identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.
6. Additional information is required if groundwater is included in the supply for the proposed project.

The water supply assessment shall be included in any environmental document prepared for the project. The assessment may include an evaluation of any information included in that environmental document. A

[1] Under Water Code Section 10912(a)(7), SB 610 applies to a CEQA project that "would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project."

determination shall be made whether the projected water supplies would be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

Additionally, SB 610 requires new information to be included as part of an Urban Water Management Plan (UWMP) if groundwater is identified as a source of water available to the supplier. Information must include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 prohibits eligibility for funds from specified bond acts until the plan is submitted to the state.

Furthermore, SB 221 requires written verification that there is sufficient water supply available for applicable new residential subdivisions. The verification must be provided before commencement of construction.

Mandatory Water Conservation

Following Governor Brown's declaration of a state of emergency on July 15, 2014, the SWRCB adopted Resolution No. 2014-0038. The Emergency Regulation was partially repealed by Resolution No. 2017-0024. The repealed regulation prohibited several activities, including (1) the application of potable water to outdoor landscapes in a manner that causes excess runoff; (2) the use of a hose to wash a motor vehicle except where the hose is equipped with a shut-off nozzle; (3) the application of potable water to driveways and sidewalks; (4) the use of potable water in non-recirculating ornamental fountains; and (5) the application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall. The SWRCB resolution also directed urban water suppliers to submit monthly water monitoring reports to the SWRCB.

The Water Conservation Act of 2009 (Senate Bill X7-7)

The Water Conservation Act of 2009, SB X7-7, requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per-capita water use by 20 percent by 2020, with an interim goal of a 10-percent reduction in per capita water use by 2015. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards, it also requires that agricultural water suppliers prepare plans and implement efficient water management practices.

20x2020 Water Conservation Plan

The 20x2020 Water Conservation Plan, issued by the California Department of Water Resources (DWR) in 2010 pursuant to the Water Conservation Act of 2009 (SBX7-7), established a statewide water conservation target of 20-percent reduction in water use by 2020 compared to the state's 2005 baseline use.

Water Conservation in Landscaping Act of 2006 (Assembly Bill [AB] 1881)

The Water Conservation in Landscaping Act of 2006 (AB 1881) required DWR to update the State Model Water Efficient Landscape Ordinance (MWELO) by 2009. The state's model ordinance was issued on October 8, 2009. Under AB 1881, cities and counties are required to adopt a state-updated model landscape water conservation ordinance by January 31, 2010, or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance. It also requires reporting on the implementation and enforcement of local ordinances, with required reports due by December 31, 2015 (DWR 2019).

2015 Update of the State Model Water Efficient Landscape Ordinance (Per Governor's Executive Order B-29-15)

To improve water savings in the landscaping sector, DWR updated the Model Ordinance in accordance with Executive Order B-29-15. The Model Ordinance promotes efficient landscapes in new developments and retrofitted landscapes. The Executive Order calls for revising the Model Ordinance to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture, and by limiting the portion of landscapes that can be covered in turf.

New development projects that include landscape areas of 500 square feet or more are subject to the ordinance. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review. The previous landscape size threshold for new development projects ranged from 2,500 to 5,000 square feet.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) establishes mandatory residential and nonresidential measures for water efficiency and conservation under Sections 4.3 and 5.3. The provisions establish the means of conserving water used indoors, outdoors, and in wastewater conveyance. The code includes standards for water-conserving plumbing fixtures and fittings and the use of potable water in landscaped areas.

Local

City of Santa Ana Water Master Plan

The 2017 Santa Ana Water Master Plan (WMP) was prepared to document a multi-year capital improvement program to maintain the City's water utility infrastructure systems in sound operable condition and to meet the level of service expectations of the City over the proposed planning period from 2017/2018 to 2039/2040. The goal of the 2017 WMP was to identify needed system improvements, define typical refurbishment and replacement requirements, recommend the prioritization of these improvements/replacements, and establish an overall general implementation schedule and budget for these future capital improvement projects.

City of Santa Ana Urban Water Management Plan 2015

The City's UWMP is required under Water Code Section 10610 through 10656 of the Urban Water Management Planning Act, effective January 1, 1984. The act requires all urban water suppliers to prepare, adopt, and file a UWMP with DWR every five years. The plan outlines current water demands, sources, and supply reliability to the City by forecasting water use based on climate, demographics, and land use changes within the City. The plan also provides demand-management measures to increase water-use efficiency for various land use types and details a water supply contingency plan in case of shortage emergencies (Metropolitan 2016).

City of Santa Ana Design Guidelines for Water and Sewer Facilities

The purpose of the Santa Ana Design Guidelines for Water and Sewer Facilities is to provide applicants (developer/builder) with a general understanding of the design criteria for the City of Santa Ana water and sewer facilities for new development or re-development projects.

City of Santa Ana's Construction Standards

The City's Construction Standards are used as a guide by developers, engineers, and contractors in the design and installation of all additions, replacements, and modifications to the City's public water system. It is the intent that these specifications will provide uniformity in materials and installation of piping, valves, fire hydrants, service laterals, meters, and other water system appurtenances. These standards will also provide construction methods and controls to be used by contractors to construct, pressure-test, disinfect, and place in service all improvements and modifications to the City's public water system.

Santa Ana Municipal Code

Chapter 8 - Article III (Plumbing Code): This article of the Santa Ana Municipal Code incorporates the 2016 California Plumbing Code by reference.

Chapter 8 - Article XVI (Green Building Standards Code): This article of the Santa Ana Municipal Code incorporates the California Green Building Standards Code by reference.

Chapter 39 - Article II (Water): This article requires a permit prior to connecting to a water main or prior to an increase in size of an existing water meter or service in addition to the payment of fees in amounts as established by resolution of the city council.

Chapter 39 - Article VI (Water Shortage Contingency Plan): The purpose of this article is to prevent the waste or unreasonable use of water and to provide a mandatory water conservation plan during a proclaimed water shortage. Division 4 (Regulations Governing Water Conservation Phases) details permanent water conservation requirements in addition to regulations governing a Phase 1, Phase 2, and Phase 3 water supply shortage.

Chapter 41 - Article XVI (Water Efficient Landscape Standards): The City adopted this article to be consistent with Executive Order B-29-15. The article includes implementation procedures and landscape water use standards.

Existing Conditions

Water Distribution System

The City's Water Utility provides water service within a 27-square-mile service area. The service area includes the City of Santa Ana, and a small neighborhood in the City of Orange, near Tustin Avenue and Fairhaven by the northeast corner of Santa Ana. There are also Irvine Ranch Water District (IRWD) water lines that serve portions of the city. In addition, OCWD provides recycled water service to portions of the city. Metropolitan Water District of Southern California (Metropolitan) also has delivery/conveyance lines that run through the city. The City's water system has a total of nine reservoirs with a storage capacity of 49.3 million gallons, 21 groundwater wells, and seven imported water connections.

The City's water system consists of two pressure zones (High Zone and Low Zone). Each of these pressure zones have groundwater wells, reservoirs, and booster pump stations that supply potable water to the City's customers. In general, the facilities are consolidated into several stations consisting of multiple groundwater wells, a storage reservoir, and a booster pump station. At each station, the wells pump groundwater into the storage reservoir and the booster pump station pumps water from the storage reservoir to the distribution system. The City's water distribution system consists of approximately 480 miles of transmission/distribution mains ranging from 4 to 30 inches in diameter. Most of the City's water lines were constructed in the 1960s. The primary water facilities within the focus areas are summarized in Table 5.18-5 and shown on Figure 5.18-3, *Existing Water System Facilities*.

Table 5.18-5 Existing Water Facilities within the Focus Areas

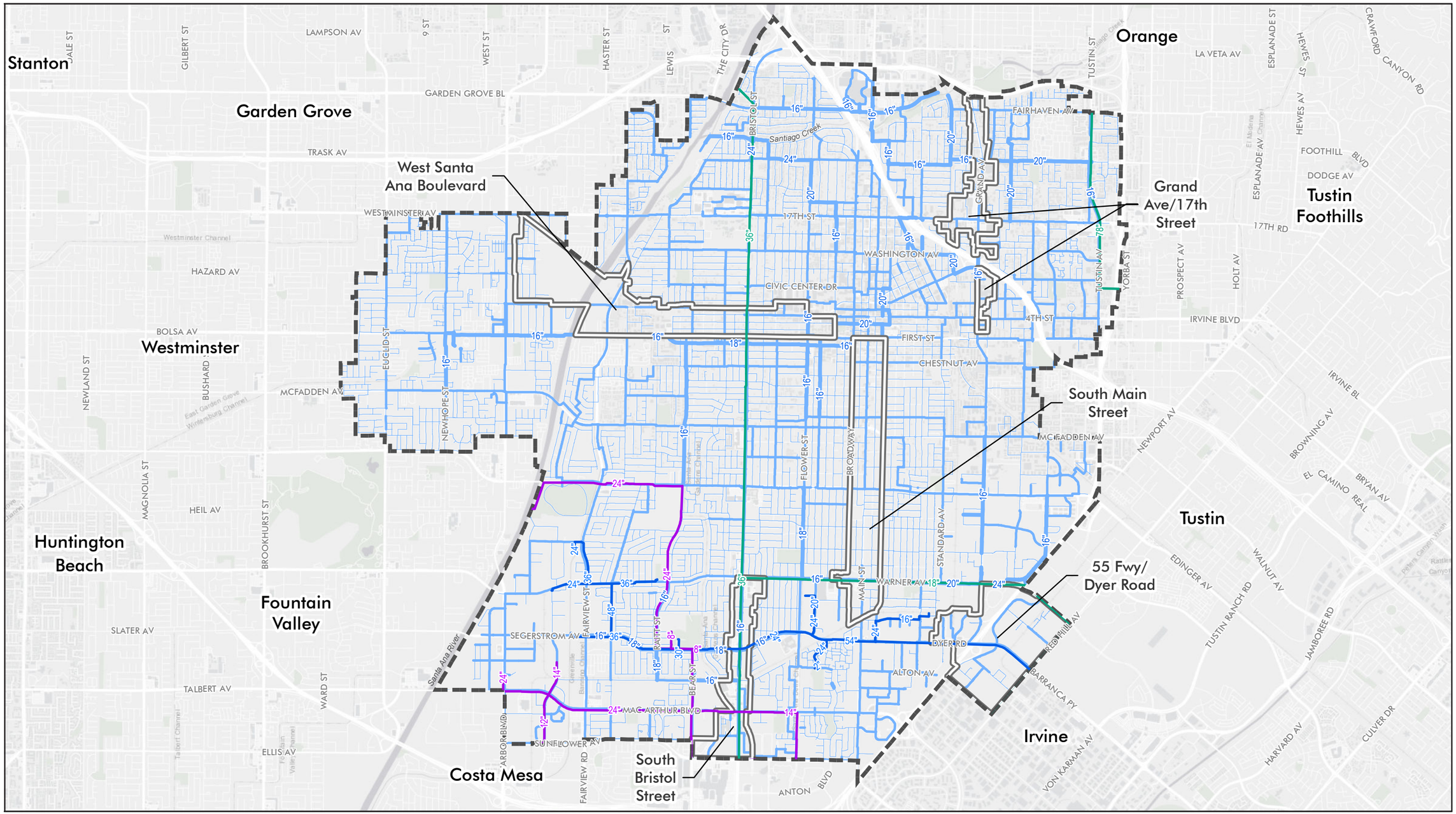
Focus Area	Primary Sewer System Facilities
West Santa Ana Boulevard	6"-12" City water lines 36" MWD conveyance water line
Grand Avenue/17th Street	6"-12" City water lines
South Main Street	4"-24" City water lines 16"-18" MWD conveyance line 24"-54" IRWD water lines
South Bristol Street	8" – 36" City water lines 36" MWD conveyance line 16"-18" IRWD water lines 14" OCWD reclaimed water lines
55 Freeway/Dyer Road	8"-12" City water lines 24" MWD conveyance line 54" IRWD water line

Source: Fuscoe 2020a.

Existing Water Distribution Flows

For each land use in the City of Santa Ana and its focus areas, water flow estimates were developed to provide a baseline condition and allow for comparisons against any proposed land use changes. Acreages and units of development (i.e., residential and non-residential) were used along with their corresponding flow factors to identify changes in water flow. Commercial water flow factors were provided from the City of Santa Ana Guidelines for Water and Sewer Facilities (2017). Residential water flow factors were provided from the MWDOC Orange County Water Reliability Study (2016). Similar to the methodology employed to estimate sewer flows as described in Section 5.18.1.1, the generation factors for estimating water flows are typically conservative in nature and tend to over-represent water flows as a means to incorporate a safety factor into pipe network design and hydraulic capacity assessments specifically for infrastructure.

Figure 5.18-3 - Existing Water System Facilities



Source: FUSCOE Engineering, 2020

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Table 5.18-6 provides a summary of the existing condition water flow for the city and focus areas. Detailed calculations are provided in the *Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality* in Appendix H-a.

Table 5.18-6 Existing Average Daily Water Flows

Area	Number of Dwelling Units	Non-Residential Square Footage	Average Sewer Flows (gpd)
Focus Area			
West Santa Ana Boulevard	2,658	3,090,472	880,807
Grand Avenue/17th Street	220	1,577,511	136,957
South Main Street	561	1,400,741	202,362
South Bristol Street	1,720	1,685,978	600,682
55 Freeway/Dyer Road	1,221	5,666,453	582,841
Focus Area Total	**6,380**	**13,421,155**	**2,403,648**
Remainder of City			
All Other Areas of City	72,412	53,697,441	29,403,648
Citywide Total	**78,792**	**67,118,596**	**31,833,589**

Source: Fuscoe 2020a.
Notes:
gpd – Gallons per day

Under the existing conditions, average daily water flows are estimated at 31.83 mgd through the city. Focus area water flows represent approximately 7.5 percent of existing city-wide water flows. These conservative flow estimates are for infrastructure capacity planning purposes only.

City of Santa Ana Water Master Plan

The 2017 Santa Ana Water Master Plan (WMP) is a multi-year capital improvement program to maintain the City's water utility infrastructure systems in sound operable condition and to meet the level of service expectations of the City over the proposed planning period from 2017/2018 to 2039/2040. The WMP analyzed several components of the City's water system, including groundwater well rehabilitation needs, reservoir and pump station status, distribution system upgrade needs, and other miscellaneous improvements. Maintaining groundwater wells has been given the highest priority as groundwater supply is more affordable as compared with water supplies purchased from Metropolitan.

The results of the water supply analysis indicated that the City's water system has adequate capacity and distribution capabilities to supply the entire water system demands using only groundwater wells. However, as discussed in the WMP, as of 2017, based on age of the existing pipe, 20 percent (about 560,000 feet of pipe) of the City's distribution system has already past the pipe material's typical useful life. By the end of the proposed planning period (fiscal year 2039/2040), 70 percent (about 1,870,000 feet of pipe) of the City's distribution system will be past the material's lifetime. In summary, while the City's distribution system is robust and hydraulically sound, the system is old and needs to be systematically replaced. The recommended proposed

pipeline replacement program from the WMP is summarized herein, in addition to updates from the City's most recent CIP Update and discussions with the City on the status of improvement projects:

- Bristol Street Water Main Improvements Phase 4
- Cambridge Pump Station Entry Improvements
- Washington Well Site Improvements

The 2018/2019 CIP projects and the 2017 WMP projects are shown in Figure 5.18-4, *Existing Water System Improvement Projects*.

Existing Water Supply

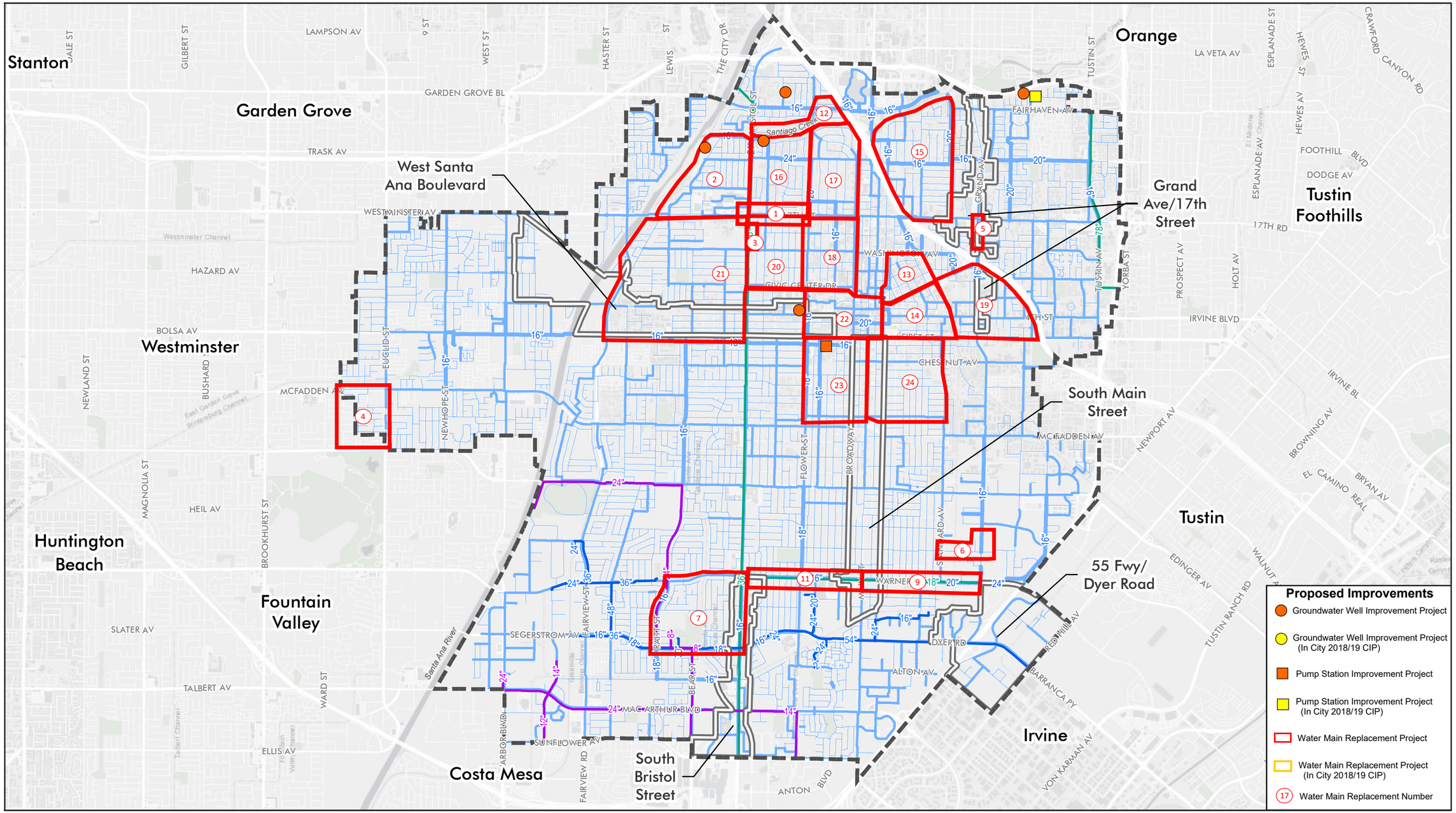
The City obtains water from two primary sources: local groundwater from the Orange County Groundwater Basin (OC Basin), which is managed by OCWD, and imported water from Metropolitan. The City is a member agency of Metropolitan. Groundwater production accounts for 70 to 77 percent of the water supply and Metropolitan-imported water supplies provide the remaining 23 to 30 percent. The City also receives recycled water from OCWD.

OCWD Groundwater

Historically, local groundwater has been the cheapest and most reliable source of supply for the City. The City draws water from the OC Basin. The OCWD regulates groundwater levels in the OC Basin within its management area by regulating the annual amount of pumping. The OC Basin has been operated within its sustainable yield for more than 10 years without degrading water quality, reducing storage, or lowering groundwater levels. In addition, the OC Basin has not been in conditions of critical overdraft. The OC Basin storage capacity is estimated to be 66 million acre-feet (AF), of which, only a fraction is available for use to prevent against physical damage to the OC Basin, such as seawater intrusion or land subsidence. According to OCWD's Engineer's Report for fiscal year 2018/2019, the City used 25,512.4 AF of groundwater and 7,743.0 AF of supplemental water in the 2018–2019 water year.

OCWD manages the OC Basin through the Basin Production Percentage (BPP), which is determined each water year. The BPP is set based on groundwater conditions, availability of imported water supplies, water year precipitation, surface area (SAR) runoff, and basin management objectives. The BPP represents an established percentage identifying the amount of groundwater all pumpers in the OC Basin can pump without paying a "pumping tax" or Basin Equity Assessment (BEA) to OCWD. The BEA is an additional fee paid on each AF of water pumped above the BPP, making the total cost of that additional water equal to the higher cost of imported water from Metropolitan.

Figure 5.18-4 - Existing Water System Improvement Projects



Source: FUSCOE Engineering, 2020

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Over the recent past, production capability of the OC Basin has increased because of increased wastewater reclamation at the GWRS in Fountain Valley. The GWRS, which is designed to turn wastewater into drinking water, is one of the most technologically advanced wastewater treatment plants in the world. A treatment plant expansion of 30 mgd was recently put online by OCWD, increasing the recharge capacity of the GWRS to 100 mgd. This equates to the recycling of over 110,000 acre-feet per year (AFY) of wastewater back into the OC Basin for future extraction and potable use. A final expansion of the treatment system has been designed and currently under construction to expand to a capacity of 130 mgd. Expansion projects to the GWRS increase local water supply reliability and ensure low-cost water supplies throughout northern Orange County, including the City of Santa Ana.

Metropolitan Imported Water

The City of Santa Ana is one of only three retail member agencies of Metropolitan in Orange County. As a member agency, pursuant to the Metropolitan Act, the City has preferential rights to a certain percentage of water delivered to Metropolitan each year primarily from the State Water Project (SWP) and/or the Colorado River Aqueduct as well as other Metropolitan storage programs. Being a member agency of Metropolitan puts the City in a better position relative to receiving water directly from Metropolitan, as opposed to other agencies in Orange County that obtain their imported Metropolitan water through MWDOC. The main sources of water Metropolitan provides to the City include water from northern California delivered via the SWP and water from the Colorado River Basin delivered via the Colorado River Aqueduct.

Colorado River

Colorado River water is allocated and delivered to seven states in the U.S., including Colorado, Utah, Wyoming, New Mexico, Arizona, Nevada, and California. Mexico also has an allocation of 1.5-million AF along the Colorado River each year.

California's urban water allocation is managed by Metropolitan and imported from the Colorado River via the Colorado River Aqueduct (CRA). The CRA includes supplies from the implementation of the Quantification Settlement Agreement (QSA) and related agreements to transfer water from agricultural agencies in Imperial County to urban uses throughout Southern California, including Los Angeles, Orange County, and San Diego. The 2003 QSA enabled California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for 75 years and reducing the state's demand on the river to its 4.4 million AF entitlement. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.25 million AF on an as-needed basis.

California is apportioned the largest allocation on the river of 4.4 million AF of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to but not used by Arizona or Nevada. Metropolitan has a basic entitlement of 550,000 AFY of Colorado River water, plus surplus water up to an additional 662,000 AFY if certain conditions exist. The remainder of California's allocation goes to Imperial County, primarily to the Imperial Irrigation District, and is used mainly for agriculture production.

Over the past 19 years (2000–2018), there have only been three years when the Colorado River flow has been above average. On May 20, 2019, the Department of the Interior, Bureau of Reclamation and representatives from all seven Colorado River Basin states signed completed drought contingency plans for the upper and lower Colorado River basins. These completed plans are designed to reduce risks from ongoing drought and protect the single-most important water resource in the western United States. In addition to the voluntary reductions and other measures to which the basin states agreed, Mexico has also agreed to participate in additional measures to protect the Colorado River Basin.

State Water Project

The SWP collects water from rivers in Northern California and redistributes it to the water-scarce but populous central and southern portions of California through a network of aqueducts, pumping stations, and power plants. Approximately 70 percent of the water provided by the SWP is used for urban areas and industry in southern California and the San Francisco Bay Area, and 30 percent is used for irrigation in the Central Valley. The availability of water supplies from the SWP can be highly variable. A wet water year may be followed by a dry water year, which restricts the amount of water that can be delivered throughout California.

The Sacramento-San Joaquin River Delta (Delta) is key to the SWP's ability to deliver water to its agricultural and urban contractors. The Delta faces many challenges concerning its long-term sustainability such as climate change posing a threat of increased variability in floods and droughts. Sea level rise complicates efforts in managing salinity levels and preserving water quality in the Delta to ensure a suitable water supply for urban and agricultural use. Furthermore, other challenges include continued subsidence of Delta islands, many of which are below sea level, and the related threat of a catastrophic levee failure as the water pressure increases, or as a result of a major seismic event.

Metropolitan's Board approved a Delta Action Plan in June 2007 that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance and the environment. In April 2015, the Brown Administration announced California WaterFix, as well as a separate ecosystem restoration effort called California EcoRestore. Together, the California WaterFix and California EcoRestore will make significant contributions toward achieving the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The WaterFix is aimed at making physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, south-of-Delta SWP water supplies, and water quality. The WaterFix includes the construction of two tunnels up to 150 feet below ground and three new intakes, each with 3,000 cubic-feet per second (cfs) capacity and an average annual yield of 4.9 million AF designed to protect California's water supplies. These proposed upgrades would provide protection against water supply disruption from failure of aging levees due to sea-level rise, earthquakes, and flood events.

In May 2019, the Newsom Administration revised their stance on the WaterFix in response to multiple legal challenges. The revised project would include the construction of one tunnel instead of the previously proposed two-tunnel system. At this time, the DWR and the U.S. Bureau of Reclamation (BOR) have withdrawn their water rights petition (the WaterFix Petition) and the project has been postponed indefinitely.

Recycled Water

The City depends on OCWD for its recycled water supply 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). OCWD owns and operates the GAP, 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 Costa Mesa, Fountain Valley, Newport Beach, and Santa Ana. The City maintains an agreement with OCWD to supply GAP water to customers where available. It is anticipated that recycled water supplied to the City will maintain around 300 AFY through 2040.

Existing Water Demand

Approximately 67 percent of the City's water demand is residential, including single-family and multifamily residential units. Commercial land uses, including dedicated landscape, accounts for the remaining 33 percent of the total demand. As shown in Table 5.18-7, there was a decrease in potable water supplied to the City in 2015 as to what was predicted to be delivered in the 2010 UWMP (47,800 AF) by approximately 23 percent. This is likely due to SBx7-7, which requires the State of California to reduce urban water use by 20 percent by the year 2020. Similarly, the Executive Order mandated by California Governor Brown in April 2015 in response to the drought that started in 2011 further required a collective reduction in statewide urban water use of 25 percent, which would also reduce Citywide demands. In addition, UWMPs are typically developed in a conservative manner and tend to overestimate future water demands.

Table 5.18-7 2015 Potable Water Demand

	2010 UWMP Projected 2015 Demand (acre-feet)	2015 UWMP Demand (acre-feet)
Single-Family	18,368	14,084
Multifamily	13,563	10,399
Other (CII)	15,684	12,025
Landscape	185	147
Total	**47,800**	**36,656**

Source: Fuscoe 2020b.

Per SBx7-7, the City must determine baseline water use during their baseline period and water use targets for the years 2015 and 2020 to meet the state's water reduction goal. The City's 2015 target was 123 gallons per capita per day (gpcd) and the 2020 target is 116 gpcd. The 2015 UWMP reported that the City has already met both the 2015 and 2020 water use targets with an actual use in 2015 of 83 gpcd. This is likely due to increased conservation as required by the Governor's Executive Order during severe drought conditions throughout California. The City's water demand has been decreasing in recent years due to the combination of the Governor's Executive Order and SBx7-7 goals. More recently, the City has documented a per-capita usage of 66 gpcd, which highlights the continued conservation efforts.

A summary of the projected demands of water for the City is shown in Table 5.18-8. It is projected that water demands will increase from 37,008 AF in 2015 to 40,036 AF in year 2040 representing an increase of 3,028 AF.

These estimates are approximately 10,000 AF less than what was predicted in the 2010 UWMP further highlighting the conservative nature of UWMP preparation.

Table 5.18-8 City of Santa Ana Projected Water Supplies (AF)

	2015	2020	2025	2030	2035	2040
Potable Water	36,656	36,678	39,397	39,669	39,658	39,716
Recycled Water	352	320	320	320	320	320
Total Supply	**37,008**	**36,998**	**39,717**	**39,989**	**39,978**	**40,036**

Source: Santa Ana 2016.

Water Supply Reliability

Overall, the City has documented that it is 100 percent reliable for a normal year, a single-dry year, and multiple-dry year events from 2020 through 2040. Tables 5.18-9 through 5.18-11 show the City's water demand and supply through these conditions.

Table 5.18-9 City of Santa Ana Projected Normal Year Supply and Demand (AF)

	2020	2025	2030	2035	2040
Supply Total	36,998	39,717	39,989	39,978	40,036
Demand Total	36,998	39,717	39,989	39,978	40,036
Difference	**0**	**0**	**0**	**0**	**0**

Source: Santa Ana 2016.

Table 5.18-10 City of Santa Ana Projected Single Dry Year Supply and Demand (AF)

	2020	2025	2030	2035	2040
Supply Total	39,218	42,100	42,388	42,377	42,438
Demand Total	39,218	42,100	42,388	42,377	42,438
Difference	**0**	**0**	**0**	**0**	**0**

Source: Santa Ana 2016.

Table 5.18-11 City of Santa Ana Projected Multiple Dry-Year Event Supply and Demand (AF)

		2020	2025	2030	2035	2040
First Year Supply	Supply Total	39,218	42,100	42,388	42,377	42,438
	Demand Total	39,218	42,100	42,388	42,377	42,438
	Difference	**0**	**0**	**0**	**0**	**0**
Second Year Supply	Supply Total	39,218	42,100	42,388	42,377	42,438
	Demand Total	39,218	42,100	42,388	42,377	42,438
	Difference	**0**	**0**	**0**	**0**	**0**
Third Year Supply	Supply Total	39,218	42,100	42,388	42,377	42,438
	Demand Total	39,218	42,100	42,388	42,377	42,438
	Difference	**0**	**0**	**0**	**0**	**0**

Source: Santa Ana 2016.

Furthermore, the 2015 Metropolitan UWMP stated that Metropolitan would be able to meet the demands of its member agencies, including the City of Santa Ana, through 2040. Therefore, imported water demands for the City are projected to be met through the 20-year requirements of SB 610 and beyond. The City of Santa Ana 2015 UWMP also confirmed the ability of the local supplies and the OC Basin to meet the growing demands of the City.

5.18.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would have a significant effect on the environment if the project would:

U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

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

5.18.2.3 REGULATORY REQUIREMENTS AND GENERAL PLAN UPDATE POLICIES

Regulatory Requirements

RR U-5 Any development implemented under the General Plan Update shall abide by the water conservation and efficiency requirements detailed in Chapter 8, Article XVI, Chapter 39, Article VI and Chapter 41, Article XVI of the Santa Ana Municipal Code.

RR U-6 Water connection fees shall be paid in accordance with Chapter 39, Article II of the City's Municipal Code and plumbing shall be installed in compliance with Chapter 8, Article III.

RR U-7 Water Supply Assessments and written verifications shall be prepared for any development implemented under the General Plan Update that meets the criteria of Senate Bill 610 or Senate Bill 221.

General Plan Update Policies

The following are relevant policies of the Santa Ana GPU, which may contribute to reduce potential impacts to water supply and distribution facilities as a result of implementation of the proposed project.

Economic Prosperity Element

- **Policy 2.9. Energy Conservation:** Collaborate with utility providers and regional partners to encourage business and industry to improve performance in energy efficiency, water conservation, and waste reduction.

Public Services Element

- **Policy 3.7. Emergency Connections:** Maintain emergency connections with local and regional water suppliers in the event of delivery disruption.
- **Policy 3.8. Conservation Strategies:** ~~Implement~~ Promote cost-effective conservation strategies and programs that increase water use efficiency.
- **Policy 3.12. Sewer and Water.** Maintain and upgrade sewer and water infrastructure through impact fees from new development and exploring other funding sources.

~~*Open Space Element*~~

- ~~**Policy 1.6. Sustainable Landscape.** Promote citywide use of drought tolerant landscape and development practices for wise water use and energy consumption.~~

Conservation Element

- **Policy 4.1. Water Use.** Encourage and educate residents, business owners, and operators of public facilities to use water wisely and efficiently.
- **Policy 4.2. Landscaping.** Encourage public and private property owners to plant native or drought-tolerant vegetation.
- **Policy 4.3. Recycled Water Systems.** Continue to coordinate with the Orange County Water District, Orange County Sanitation District, and developers for opportunities to expand use of reclaimed water systems.
- **Policy 4.4. Irrigation Systems.** Promote irrigation and rainwater capture systems that conserve water to support a sustainable community.

- **Policy 4.5. Water Supply.** Continue to collaborate with Orange County Water District and Metropolitan Water District to ensure reliable, adequate, and high-quality sources of water supply at a reasonable cost.

5.18.2.4 ENVIRONMENTAL IMPACTS

Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (2007) 40 C4th 412, CR3d 821, the California Supreme Court articulated the following principles for analysis of future water supplies for development projects subject to CEQA:

- An adequate environmental impact analysis for a long-range development plan cannot be limited to the water supply for the first stage of development. While CEQA's tiering principles allow an agency to defer analysis of certain details of later phases of long-term projects until those phases are considered for approval, CEQA's disclosure requirement "is not satisfied by simply stating information will be provided in the future." 40 C4th at 441

- Future water supplies identified and analyzed in an EIR must be reasonably likely to prove available; speculative sources and unrealistic paper allocations do not provide an adequate basis for decision making under CEQA. 40 C4th at 432

- When, despite a full analysis, "it is impossible to confidently determine that anticipated future water sources will be available," CEQA requires some discussion of possible replacement or alternative supply sources, and of the environmental consequences of resorting to those sources. 40 C4th at 432

- An EIR for a land use plan need not demonstrate that the water supply for the project is assured through enforceable agreements with a provider and built or approved treatment and delivery facilities. To interpret CEQA as requiring firm assurances of future water supplies at early stages of the planning process would be inconsistent with the water supply statutes, which call for an assured supply only at the end of the approval process. 40 C4th at 432

- The burden of identifying likely water sources for a project varies with the stage of project approval involved, with the necessary degree of confidence in actual availability for approval of a conceptual plan being "much lower than for issuance of building permits." 40 C4th at 434

- The "ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project." 40 C4th 434

It should be noted that the *Vineyard* case concerned a specific development project and not a general plan update. The court in *Watsonville Pilots Ass'n vs. City of Watsonville* (2010) 183 CA4th 1059, 1092, 108 CR3d 577, held that it is not necessary for an EIR on a general plan to establish a likely source of water. Relying on the principles outlined in the California Supreme Court's opinion in *Vineyard*, the court ruled that because general plan EIRs are conceptual, they need only address:

- The reasonably foreseeable impacts of supplying water to the project,

- Note any uncertainties that prevent identification of future water sources,
- Identify and describe alternatives,
- Discuss the environmental impacts of those alternatives.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.18-3: Development pursuant to the GPU would require or result in the relocation or construction of new or expanded water facilities. [Threshold U-1]

Under the proposed land use changes, water flows would increase throughout the City of Santa Ana and its focus areas due to increases in dwelling units and commercial land uses. As shown in Table 5.18-6, the City currently has 78,792 dwelling units and 67,118,596 square feet of non-residential uses. Compared to the proposed dwelling units and non-residential square footage as shown in Table 5.18-12, a total increase of 36,261 dwelling units and an increase of approximately 5,849,220 square feet of non-residential uses are proposed. Table 5.18-12 shows the proposed water demand associated with each land use change, using the same methodology as for the existing conditions. Water demand for the proposed GPU were projected using the same methodology as used for existing water demand; however, demand factors for residential land uses are based on 2025–2040 demand factors from the MWDOC Orange County Water Reliability Study to reflect buildout conditions.

Table 5.18-12 Average Water Demand – Existing Compared to GPU

Area	GPU - Number of Dwelling Units	GPU - Non-Residential Square Feet	Proposed Water Demand (gpd)	Existing Water Demand (gpd)	Change in Water Demand (gpd)	% Change
Focus Area						
West Santa Ana Boulevard	3,920	2,808,805	996,756	880,807	+115,949	13.6%
South Bristol Street	5,492	5,082,641	1,335,183	136,957	+1,198,226	857%
Grand Avenue/17th Street	2,283	703,894	475,779	202,362	+273,417	135%
South Main Street	2,308	946,662	597,029	600,682	- 3,653	-0.6%
55 Freeway/Dyer Road	9,952	6,142,283	2,243,399	582,841	+1,660,558	666%
Focus Area Total	**23,955**	**15,684,285**	**5,648,146**	**2,403,648**	**+3,244,498**	**135%**
Remainder of City						
All Other Areas of City	91,098	57,283,531	30,458,068	29,403,648	+1,054,420	3.6%
City of Santa Ana Total	**115,053**	**72,967,816**	**36,106,214**	**31,833,589**	**+4,272,625**	**13.4%**

Source: Fuscoe 2020b.
Notes:
See Appendix C of the *City of Santa Ana General Plan Update Infrastructure Technical Report for Hydrology, Sewer, Water, and Water Quality* (Vol. III, App. H-a) for water demand calculations.
gpd: gallons per day

Full GPU implementation has the potential to increase water demand by 4.27 mgd within the city. Water demand across all focus areas are anticipated to increase by 3.24 mgd, representing approximately 75 percent of the projected city-wide increase in water demand. Water demand would primarily be generated from additional dwelling units within the focus areas and specific plan/special zoning areas.

Water Distribution System

The City currently has 19 identified water main replacement projects, 6 groundwater well improvement projects, and 1 pump station improvement project throughout, as identified in the 2017 Water Master Plan. Four of the five focus areas have water main improvements identified as summarized below and shown on Figure 5.18-4:

- **West Santa Ana Boulevard Focus Area:** West Santa Ana Boulevard Focus Area includes Nos. 10 and 21 water main replacement projects as well as one groundwater well improvement project.
- **Grand Avenue/17th Street Focus Area:** The Grand Ave/17th Street Focus Area includes Nos. 5 and 19 water main replacement projects.
- **South Main Street Focus Area:** The South Main Street Focus Area includes Nos. 9, 11, 23, and 24 water main replacement projects.
- **South Bristol Street Focus Area:** The South Bristol Street Focus Area includes Nos. 8 and 11 water main replacements projects.

Table 5.8-13 compares the increase in water demand for the proposed GPU in comparison to the current General Plan. This analysis is based on total dwelling units and commercial square footage and does not differentiate between single-family and multifamily water demand factors.

Table 5.18-13 Water Flow Changes, Current General Plan to Proposed GPU

Area	Change in Housing Units, Current GP to Proposed (dwelling units)	Change in Commercial Areas, Current GP to Proposed (square feet)	Change in Water Flows ~~Sewer Flows~~ (gpd)
Focus Area			
West Santa Ana Boulevard	+ 1,308	- 38,106	+ 246,333
South Bristol Street	+ 2,232	+ 946,213	+ 478,385
Grand Avenue/17th Street	+ 1,766	- 1,715,794	+ 237,067
South Main Street	+ 667	- 1,481,837	+41,684
55 Freeway/Dyer Road	+ 7,222	- 376,333	+ 1,350,381
Focus Area Total	**+ 13,195**	**- 2,665,857**	**+2,354,041**
Remainder of City			
All Other Areas of City	+ 0	+ 0	+ 0
Citywide Total	**+ 13,195**	**-2,665,857**	**+2,354,041**

Source: Fuscoe 2020a.

Under buildout of the proposed GPU, water demand would increase across all focus areas, potentially creating deficiencies or necessitating the need for improvement projects not identified in the 2017 WMP. However,

major deficiencies from increased demand are not anticipated, as the 2017 WMP found that the distribution system was largely hydraulically sound. Improvement projects as a result of deteriorated or aged pipes are anticipated to constitute the majority of future water infrastructure projects. Through its planning and CIP mechanisms, the City would have adequate capacity for the proposed increases in water flows across the City under implementation of the GPU and would be able to serve the additional dwelling units and commercial square footage proposed. This has been confirmed with City staff (Rosas 2020).

Furthermore, GPU policies encourage the maintenance and upgrade of water infrastructure through impact fees from new development, and the exploration of other funding sources. The policies also promote the citywide use of drought-tolerant landscape and encourage public and private property owners to plant native or drought-tolerant vegetation. Therefore, impacts from proposed GPU buildout would be less than significant.

Level of Significance Before Mitigation: With the implementation of RR U-5 though RR U-7 and Policy 3.12 (see Section 5.18.2.3), Impact 5.18-3 will be less than significant.

Impact 5.18-4: Water supply would be adequate to meet development pursuant to the GPU. [Thresholds U-4]

As UWMPs typically overestimate water demand projections, the City provided water use data to update water demand estimates since the 2015 UWMP. For each land use in the City of Santa Ana and its focus areas, water demand estimates were developed to provide a baseline condition and to allow for comparisons against any proposed land use changes. Water demands were estimated using the average gallons per capita water use estimate of 66 gpcd. This gpcd estimate was then multiplied by dwelling unit buildout projections and residents per dwelling-unit assumptions. Commercial water demand factors were provided from the City of Santa Ana Guidelines for Water and Sewer Facilities (2017). In addition, the City provided data for 2018/2019 water use from irrigation that was also used to establish a total baseline existing condition water demand for 2020.

Table 5.18-14 provides a summary of the existing condition water demand for the City. Detailed calculations are provided in the Water Supply and Demand Technical Report (see Appendix H-b).

Table 5.18-14 Existing Average Daily Water Demand

Land Use	Land Use	Residents Per / Dwelling Unit	Water Demand Factor	Water Demand (AFY)
Single-Family Residential	56,782 DUs	4.60	66 gpcd	19,323
Multifamily Residential	22,010 DUs	3.60	66 gpcd	5,862
Commercial	1,541 acres (67 million sf)	—	2,500 gpd/acre	4,318
Potable and Recycled Irrigation	—	—	—	1,648
Citywide Total	**78,792**	**—**	**67,118,596**	**31,151**

Source: Fuscoe 2020b.

Under existing conditions, average daily water demand is estimated at 31,151 AFY. Based on correspondence with City staff, the existing water demand estimate is within the range of actual water use based on 2018/2019 data, thereby confirming this methodology is appropriate for projecting water demand.

The 2015 UWMP projected water demand of 36,998 AFY in 2020 was based on previous population projections. This is nearly 6,000 AFY greater than actual water uses within the City for the same time frame. This is likely due to the conservative nature of UWMPs as well as ongoing water conservation efforts employed by the City to reduce potable water demand.

Under the proposed GPU, water demands would increase throughout the City due to the total increase of 36,261 dwelling units and increase of approximately 5,849,220 square feet of non-residential uses.

The methodology to estimate increases in water demand is similar to the methodology used for establishing the existing condition baseline. However, a 20-percent reduction factor was employed to the gpcd multifamily residential water demands to account for required reductions in water demands associated with new developments, including the California Green Building Code standards (e.g., mandatory low-flow toilets and efficient fixtures) as well as model-efficiency landscape guidelines. A factor of 53 gpcd was used to project multifamily water demand associated with the GPU. A slight decrease in single-family residences is anticipated; this decrease assumed 66 gpcd associated with higher usage, older homes. The City has noted that the reduction in per capita water used in the methodology has already been observed during recent years (2019–2020) and ranges between 44–58 gpcd (based on monthly water usage reporting requirements the City must forward to DWR). The commercial water demand factor of 2,500 gpd/acre remained consistent with existing water demand factors, although this approach is likely overestimated and therefore conservative.

Table 5.18-15 shows the proposed water demand associated with each land use change. Detailed calculations and associated exhibits are included in the Water Supply and Demand Technical Report (see Appendix H-b).

Table 5.18-15 Water Demand - Existing Compared to GPU

Land Use	Land Use	Residents Per Dwelling Unit	Water Demand Factor	Water Demands (AFY)
Single-Family Residential	-590 DUs	4.30	66 gpcd	-188
Multifamily Residential	+36,851 DUs	3.10	53 gpcd	6,761
Commercial	+134 acres (+5.85 million sf)	—	2,500 gpd/acre	376
			Citywide Total Projected Increase in Demand	**+6,950**
			Existing Total Demand	**31,151**
			Proposed GPU Total Demand	**38,101**

Source: Fuscoe 2020b.

Full implementation of the Santa Ana GPU has the potential to increase water demand by 6,950 AFY. Table 5.18-16 compares the 2015 UWMP water demand to the water demand calculated in Tables 5.18-4 and 5.18-15.

Table 5.18-16 Water Demand Comparison

Source	Water Demand Scenario	Water Demand Estimate (AFY)
Table 5.18-14	Existing	31,151
Table 5.18-15	Proposed GPU	38,101
2015 UWMP	Projected 2020 Water Demand (Normal – Multiple-Dry Year)	36,998–39,218
2015 UWMP	Projected 2040 Water Demand (Normal – Multiple-Dry Year)	40,036–42,438

Source: Fuscoe 2020b.

Under full GPU buildout, water demand would increase from approximately 31,151 AFY to 38,101 AFY. The 2015 UWMP projected a 2040 total water demand of 40,036 to 42,438 AFY (depending on climate conditions), which is greater than the total of 38,101 AFY associated with GPU implementation.

The 2018–2019 OCWD Engineer's report provides data on groundwater usage across its service area, including the City of Santa Ana. Water production for the City consisted of 77 percent groundwater for the 2018–2019 year, with the remaining 23 percent consisting of imported and recycled water. Total groundwater production for the 2018–2019 year was 302,756 AF, which falls within OCWD's sustainable groundwater management goals. Population within OCWD's service area is expected to increase from the current 2.28 million people (based on U.S. Census 2010 demographic data) to approximately 2.59 million people by the year 2035. This population growth is expected to increase water demands from the current 393,222 AFY to 447,000 AFY in 2035 (a water demand projection that takes into consideration future water conservation savings). This yields an anticipated increase in water demand of 53,779 AFY. The proposed increase of 6,950 AFY under implementation of the Santa Ana GPU is well within the planned increase in water demands from OCWD projections.

Table 5.18-17 shows OCWD's projected future water budget under average hydrologic conditions. This projection considers several possible new sources of water recharge supply: the final expansion of GWRS, recharge with recycled water produced by a proposed Metropolitan Regional Recycled Water Supply Program, and desalinated ocean water. The future projection accounts for these new water supplies as an increase in total inflow to the basin. In the case where one or more of the new water supplies is not available in the future, the amount of groundwater production would be reduced in order to create a balanced water budget.

Table 5.18-17 Projected Water Budget for OCWD's Management Area

Flow Component	Acre-Feet
Inflow	
Santa Ana River baseflow	52,000
Santa Ana River stormflow	52,000
GWRS recharge in Forebay	104,000
Imported Water/Metropolitan	65,000
Desalinated Ocean Water	53,000
Talbert Barrier injection	30,000
Alamitos Barrier injection in Orange County	2,000
Incidental recharge	62,000
Total Inflow	**420,000**
Outflow	
Groundwater Production	420,000
Total Outflow	**420,000**
Change in Storage	**0**

Source: OCWD 2017.

As shown in Table 5.8-17, the OC Basin would have enough supply to meet demand. The OC Basin has been operated within its sustainable yield for more than 10 years without degrading water quality, reducing storage, or lowering groundwater levels and will continue to be managed sustainably by OCWD.

In addition, Metropolitan's 2015 UWMP stated that Metropolitan would be able to meet the demands of its member agencies, including the City of Santa Ana, through 2040. A 2014 Purchase Order between the City and Metropolitan further establishes adequate water supplies to meet current and future demands. The Purchase Order sets terms for maximum deliveries of imported water over a 10-year period, from January 1, 2015, through December 31, 2024. Among the stipulations of the purchase agreement was a maximum annual delivery of 19,617 AFY. As noted in the OCWD 2018–2019 Engineer's Report, the City of Santa Ana utilized 25,512.4 AF of groundwater further supporting the approximate 75 percent groundwater to 25 percent imported water supply portfolio for the City. As noted in the City's UWMP, this ratio of groundwater and imported water is anticipated to continue through 2040. Therefore, an available 11,874 AF of water delivered by Metropolitan is still available if ever needed. This surplus alone is sufficient to meet the proposed increase in demands of 6,950 AFY under implementation of the proposed GPU. When combined with anticipated increases in OCWD groundwater supply capacity, it is not anticipated that the proposed increase in water demands will adversely impact regional water supplies.

Therefore, the proposed water demand increases as a result of the Santa Ana GPU are within the planned supplies from the City, OCWD, and Metropolitan during normal-dry and multiple-dry year scenarios. Furthermore, GPU policies encourage business and industry to improve their performance in water conservation, promote the implementation of cost-effective conservation strategies and programs that increase water-use efficiency, and encourage and educate residents, business owners, and operators of public facilities to use water wisely and efficiently. Policies also promote the maintenance of emergency connections with local and regional water suppliers in the event of delivery disruption, the maintenance and upgrade of water

infrastructure through impact fees from new development, and the exploration of other funding sources. The policies also promote the citywide use of drought-tolerant landscape and encourage public and private property owners to plant native or drought-tolerant vegetation. Therefore, impacts as a result of proposed GPU buildout would be less than significant.

Level of Significance Before Mitigation: With the implementation of RR U-5 and RR U-7 and Policies 2.9, 3.7, 3.8, 4.3, ~~1.6,~~ 4.1, 4.2, 4.3, 4.4, and 4.5 (see Section 5.18.2.3), Impact 5.18-4 will be less than significant.

5.18.2.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: Impacts 5.18-3 and 5.18-4.

5.18.2.6 MITIGATION MEASURES

No mitigation measures are required.

5.18.2.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts 5.18-3 and 5.18-4 would remain less than significant.

5.18.3 Storm Drainage

5.18.3.1 ENVIRONMENTAL SETTING

Regulatory Background

Regional

Orange County Regional Municipal Separate Stormwater Sewer System (MS4) Permit

In May 2009, the Santa Ana RWQCB re-issued the North Orange County MS4 Stormwater Permit as WDR Order R8-2009-0030 (NPDES Permit No. CAS618030) to the County of Orange, the incorporated cities of Orange County, and the Orange County Flood Control District (OCFCD) within the Santa Ana Region. Pursuant to this "Fourth-Term" MS4 Permit, the Co-permittees were required to update and implement a Drainage Area Management Plan (DAMP) for its jurisdiction, as well as Local Implementation Plans (LIPs), which describe the Co-permittees' urban runoff management programs for their local jurisdictions.

Under the City's LIP, land development policies pertaining to hydromodification and low-impact development (LID) are regulated for new developments and significant redevelopment projects. The term "hydromodification" refers to the changes in runoff characteristics from a watershed caused by changes in land use condition. More specifically, hydromodification refers to the change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow, and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. The use of LID BMPs in project planning and design is to preserve a site's predevelopment hydrology by minimizing the loss of natural hydrologic processes such as infiltration, evapotranspiration, and

runoff detention. LID BMPs try to offset these losses by introducing structural and non-structural design components that restore these water quality functions into the project's land plan. These land development requirements are detailed in the county-wide Model Water Quality Management Plan (WQMP) and Technical Guidance Document (TGD), approved in May 2011, which cities have incorporated into their discretionary approval processes for new development and redevelopment projects.

The LID hierarchy requires new developments and re-developments to implement BMPs under the LID hierarchy, as described in the TGD. The LID hierarchy requires new projects to first infiltrate, then harvest and reuse, then biofilter stormwater runoff from their project site depending on site constraints. New projects and redevelopments within the plan area will follow the set hierarchy of BMP selection.

Local

City of Santa Ana Storm Drain Master Plan

The purpose of the Master Plan of Storm Drainage (MPD) is to provide comprehensive long-range planning for the implementation and development of drainage facility improvements, determine the cost of implementing such facilities, and discuss funding priorities of the improvements within the City of Santa Ana. Main collector elements (storm drain facilities 36 inches or larger) within the City were modeled with the goal of identifying issues related to existing storm drain facilities. Flooding results for the 10-, 25-, and 100-year storm conditions were compared to County of Orange design protection levels for streets to determine deficient segments and locations (Michael Baker 2015).

City of Santa Ana Municipal Code

Chapter 8 - Article III (Plumbing Code) of the Santa Ana Municipal Code incorporates the 2016 California Plumbing Code by reference.

5.18.3.2 EXISTING CONDITIONS

Storm Drain System

Storm drain lines throughout the plan area include both City and OCFCD drainage facilities to convey stormwater runoff. All underground lines are under jurisdiction of the City and all the open flood control channels are maintained by OCFCD. One open trapezoidal channel runs west from Harbor Boulevard to south of 1st Street is owned and maintained by the City.

The City storm drain infrastructure feeds to a series of OCFCD regional drainage channels. These channels and their respective drainage areas divide the plan area into seven separate regional watersheds (Michael Baker 2015). The regional watersheds, named after the drainage channel that they flow to, are as follows:

- **Wintersburg/Garden Grove:** Located in the northwest corner of the City, drains to Anaheim Bay – Huntington Harbor Watershed. Contains portions of the West Santa Ana Boulevard Focus Area.
- **Greenville-Banning:** Located in the southwest of the City, drains to the Santa Ana River Watershed. Contains portions of the West Santa Ana Boulevard Focus Area.

- **Gardens:** Located in the southern portion of the City, drains to the Newport Bay Watershed. Contains portions of the West Santa Ana Boulevard Focus Area.
- **Santa Ana:** Located in the northern portion of the City, drains to the Santa Ana River Watershed. Contains portions of the 17th Street and Grand and West Santa Ana Boulevard Focus Areas.
- **Delhi:** Located in the southern portion of the City, drains to the Newport Bay Watershed. Contains the South Main Focus Area and portions of the 17th Street and Grand and West Santa Ana Boulevard Focus Areas.
- **Santa Fe:** Located in the northeastern corner of the City, drains to the Newport Bay Watershed. Contains portions of the 17th Street and Grand Focus Area.
- **Lane-Barranca:** Located in the southeastern corner of the City, drains to the Newport Bay Watershed. Contains the 55 Freeway and Dyer Road Focus Area.

Additional major drainage features within the City include trunk lines that outlet to the larger drainage channels. Storm drain facilities serving the focus areas are in Table 5.18-18.

Table 5.18-18 Existing Drainage Facilities within the Focus Areas

Focus Area	Acreage	Primary Drainage Facility
West Santa Ana Boulevard	604	12”-60” City Storm Drain Lines OCFCD Drainage Channels Santa Ana River (OCFCD Maintained)
17th Street and Grand	81	36”-81” City Storm Drain Lines
South Main Street	451	12”-84” City Storm Drain Lines
South Bristol Street	232	12”-72” City Storm Drain Lines OCFCD Drainage Channel (Gardens)
55 Freeway and Dyer Road	449	12”-48” City Storm Drain Lines OCFCD Drainage Channel (Lane-Barranca)

Source: Fuscoe 2020a.

Figure 5.9-3, *Existing Storm Drain Recommended Improvements*, shows the existing storm drain system throughout the City and the focus areas.

Storm Drain Master Plan

The City of Santa Ana’s MPD recommended improvements for each regional watershed within the plan area. Top recommended improvements are shown in Table 5.18-19.

Table 5.18-19 Plan Area Recommended Storm Drain Improvements

Improvement Number	Regional Watershed	Improvement
1	Delhi	Improve County Delhi Channel between Alton and Sunflower
2	Gardens	Improve County Gardens Channel between Edinger and Sunflower
3	Santa Ana	Improve City system along 17th Street between Santa Ana River and west of Flower St
4	Santa Fe	Improve City system along Grand Avenue between Santa Clara and the Santa Fe Channel
5	Santa Fe	Improve City system along Tustin Avenue between 17th Street and the Santa Fe Channel
6	Santa Fe	Improve City system between Macarthur and Sunflower
7	Greenville Banning	Improve the City system between Alton and Macarthur connecting to the Lane Channel
8	Santa Ana	Improve City system along Flower between Santa Clara and Santiago Creek
9	Santa Ana	Improve City system along Fairview between Trask and the Santa Ana River
10	Wintersburg	Improve City system along Rosita between Hazard Avenue and the Wintersburg Channel

Source: Fuscoe 2020a.

The MPD recommends that all improvements are implemented beginning at the most downstream portion of the target area. All recommendations made in the MPD are done so at a master planning level. For individual projects, specific modeling/analysis may be necessary. Of the 10 improvement projects identified in the MPD, one project (Improvement 7) was included in the 2018/2019 City of Santa Ana's CIP. Figure 5.9-3 illustrates recommended storm drain improvement areas in the City and their associated improvement numbers.

The 2018/2019 CIP includes a stormwater capture project located at Mabury Park. This project includes the construction of a large bioretention basin to slow and treat flows draining the Newport Bay. In addition, the City provides frequent updates to the status of their CIP projects for sewer, water, and storm drain systems. The following projects are listed on the October–March 2020 CIP quarterly executive summary schedule:

- D-03 Channel Improvements at Alton Avenue
- Civic Center Storm Drain Lift Station
- C-5-F Channel Repair between Newhope and Harbor
- First Street Undercrossing Stormwater Lift Station
- Warner Avenue Storm Drain Improvements (Ph 1) (Main Street to Oak Street)

Most of the projects listed above are either going through the design phase or construction phase as of March 2020.

Orange County Public Works 7-Year CIP

Orange County Public Works' (OCPW's) 7-Year Capital Improvement Plan covers OCFCD drainage facilities, Road, Bridge, Flood, and Bikeway Projects for Fiscal Years 2019/2020–2025/2026. There was one project within the GPU area downstream of the 55 Freeway/Dyer Road Focus Area included in the 2018/2019 CIP that is estimated to be concluded in June 2020:

Lane Channel (FY 2018/2019) – Demolish existing damaged concrete-lined channel and replace with channel lining constructed with current design standard criteria.

5.18.3.3 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on the environment if the project would:

U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

5.18.3.4 REGULATORY REQUIREMENTS AND GENERAL PLAN UPDATE POLICIES

Regulatory Requirements

RR U-8 Storm drain shall be installed in compliance with Chapter 8, Article III, of the Santa Ana Municipal Code.

RR-HYD-1 All development pursuant to the General Plan Update shall comply with the requirements of the Construction General Permit (Order No. 2012-0006-DWQ) for stormwater discharges associated with construction activity. Compliance requires filing a Notice of Intent (NOI), a Risk Assessment, a Site Map, a Stormwater Pollution Prevention Plan (SWPPP) and associated best management practices (BMPs), an annual fee, and a signed certification statement.

RR HYD-4 All development pursuant to the General Plan Update shall comply with the requirements of the Orange County MS4 Permit (Order R8-2009-0030, NPDES No. CAS618030, as amended by Order No. R8-2010-0062). The MS4 Permit requires new development and redevelopment projects to:

- Control contaminants into storm drain systems
- Educate the public about stormwater impacts
- Detect and eliminate illicit discharges
- Control runoff from construction sites
- Implement best management practices and site-specific runoff controls and treatments for new development and redevelopment

General Plan Update Policies

The following are relevant policies of the Santa Ana GPU, which may contribute to reduce potential impacts to storm drainage facilities as a result of implementation of the proposed project.

Public Services Element

- **Policy 3.4. Drainage Facilities.** Expand and maintain storm drain facilities to accommodate the needs of existing and planned development.

- **Policy 3.5. Green Infrastructure.** Incorporate sustainable design and Low Impact Development (LID) techniques for storm water facilities and new development to achieve multiple benefits, including enhancing preserving and creating open space and habitat, reducing flooding, and improving runoff water quality.

Safety Element

- **Policy 1.3. Storm Drain Infrastructure.** Update the Drainage Master Plan to prioritize improvements to existing system deficiencies, and plan for infrastructure needs that support the General Plan land use vision.

- **Policy 1.7. Surface Water Infiltration.** Encourage site drainage features that reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storm events on private and public developments.

5.18.3.5 ENVIRONMENTAL IMPACTS

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.18-5: Existing and/or proposed stormwater drainage facilities would be able to accommodate proposed development pursuant to the GPU. [Threshold U-1]

The City is largely built out and there are no major areas within the City that are undeveloped. However, in some areas, single-family homes and vacant lots would be redeveloped into higher-intensity uses that could increase peak-flow runoff. Impact 5.9-3 describes these areas in addition to planned storm drain improvement projects. These improvement projects include:

- Improvements to the Garden Channel between Edinger and Sunflower.

- Improvements along Grand Avenue between Santa Clara and the Santa Fe Channel within the regional Santa Fe Watershed.

- Improvements to Lane Channel, which includes demolishing and replacing a portion of damaged concrete-lined channel. These improvements are anticipated to be finished in June 2020 and will serve to improve the hydrologic capacity of downstream areas.

Prioritizing these improvements may be beneficial to ensure no hydrology impacts result from the future developments proposed under the GPU. Additionally, the City and County have policies in place for reviewing and permitting new developments. As part of the development process, detailed hydrology studies will be required and if necessary, on-site detention systems within the development would be required to match existing peak flows, thereby eliminating any potential increase in runoff. In addition, the City will continue monitoring its storm drain system for any segments that need immediate improvements and will regularly update its MPD

to adequately plan for future drainage needs. OCPW also updates their CIP each year to ensure regional drainage facilities are functioning.

Furthermore, GPU policies require expanding and maintaining storm drain facilities to accommodate the needs of existing and planned development in addition to updating the Drainage Master Plan to prioritize improvements to existing system deficiencies, and plan for infrastructure needs that support the General Plan land use vision. GPU policies also encourage site drainage features that reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storm events on private and public developments. Therefore, impacts due to development pursuant to the GPU would be less than significant.

In addition, the specific location and design of future storm drainage systems (new or expanded) required to provide services in accordance with the proposed GPU are not known at this time, and therefore, it would be speculative to provide environmental analysis for construction-related impacts. Improvements would also be subject to the proposed General Plan policies; federal, state, and local regulations; and applicable mitigation measures as detailed in each topical section of this updated Draft PEIR. Moreover, these improvements would fall within the impact significance conclusions in this updated Draft PEIR for construction-related impacts for implementation of the GPU (e.g., construction air quality, noise, greenhouse gas emissions [GHG], cultural resources). Therefore, construction-related impacts are concluded to be less than significant.

Level of Significance Before Mitigation: With implementation of RR HYD-4 and Policies 1.3, 1.7, 3.4, and 3.5 (see Section 5.18.3.3), Impact 5.18-5 will be less than significant.

5.18.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and General Plan Policies, Impact 5.18-3 would be less than significant.

5.18.3.7 MITIGATION MEASURES

No mitigation is required.

5.18.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impact 5.18-3 would remain less than significant.

5.18.4 Solid Waste

5.18.4.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations), Part 258, contains regulations for municipal solid waste landfills and requires states to implement their own permitting

programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design (e.g., liners, leachate collection, run-off control), groundwater monitoring, and closure of landfills.

State

Assembly Bills 939, 341, and 1826

AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates. Actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years of disposal capacity for all jurisdictions in the county or show a plan to transform or divert its waste.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide solid waste diversion goal to 75 percent by 2020. The law also mandates recycling for commercial and multifamily residential land uses as well as schools and school districts.

AB 1826 (California Public Resources Code Sections 42649.8 et seq.), signed into law in September 2014, requires recycling of organic matter by businesses generating such wastes in amounts over certain thresholds. This law also requires that local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily dwellings that consist of five or more units. Multifamily dwellings are not required to recycle food waste including food-soiled paper (CalRecycle 2018). The law took effect in April 2016.

California Solid Waste Reuse and Recycling Access Act of 1991

This act was passed by the state legislature and instructs the California Integrated Waste Management Board (now known as "CalRecycle") to draft a "model ordinance" for the disposal of construction waste associated with development projects. This act also requires local agencies to ensure that development projects have adequate areas for the collection and loading of recyclable materials.

California Green Building Standards Code

Section 5.408 (Construction Waste Reduction, Disposal, and Recycling) of the California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. CALGreen is updated on a three-year cycle; the 2019 CALGreen took effect on January 1, 2020.

Local

Santa Ana Municipal Code

Chapter 8 - Article XVI (Green Building Standards Code) of the Santa Ana Municipal Code incorporates the California Green Building Standards Code by reference.

Existing Conditions

Solid Waste Collection

Waste Management of Orange County provide residential, commercial, and industrial trash collection; recycling services; and dumpster rentals in the City of Santa Ana. Waste Management of Orange County operates two yards, located in the cities of Santa Ana and Irvine, and two transfer stations, located in the cities of Orange and Irvine. These facilities accept trash and recyclables from local waste haulers, businesses such as landscapers or construction firms, and local residents. Waste Management employees at Orange Transfer in Orange and Sunset Environmental in Irvine sort through the materials brought to the transfer stations to remove items that may be recycled. Materials that cannot be recycled are loaded on to a tractor-trailer and hauled to the landfill (Waste Management 2017).

Landfills

Solid waste generated within the City is delivered to 17 landfills. Of these, Frank R. Bowerman Sanitary Landfill received the largest amount of waste in 2018 (296,256 tons). Olinda Alpha Sanitary Landfill received 35,094 tons. Solid waste disposed from the City of Santa Ana in 2018 totaled 342,026 tons (CalRecycle 2020a).

Table 5.18-20 provides more information on landfill capacity and closing dates for the two primary landfill sites that receive solid waste from the City.

Table 5.18-20 Landfills

Landfill Name and Location	Maximum Permitted Throughput, tons per day	Average Disposal, tons per day[1]	Residual Disposal Capacity, tons per day	Remaining Capacity, cubic yards[2]	Estimated Closing Year
Frank R. Bowerman Sanitary landfill 11002 Bee Canyon Road Irvine, CA 92602	11,500	8,583	2,917	170,400,000	2053
Olinda Alpha Sanitary Landfill 1942 North Valencia Avenue Brea, CA 92823	8,000	8,605	Operating at Capacity	24,500,000	2021[3]
Total	**19,500**	**17,188**	**2,917**	**239,200,000**	Not Applicable

Source: CalRecycle 2020b; CalRecycle 2020c; CalRecycle 2020d; Arnua 2020.
[1] Based on five days per week operation (250 days per year).
[2] Remaining capacity as of June 30, 2019.
[3] OC Waste and Recycling is currently working with the City of Brea to revise the closure date.

AB 939 requires all counties to demonstrate that they have 15 years of available countywide solid waste landfill capacity, either in their jurisdiction, or contracted with another entity. Orange County has 15 years of available countywide solid waste landfill capacity at the Olinda Alpha, Frank R. Bowerman, and Prima Deshecha Landfills. All three landfills are owned by the Orange County and are operated by the OC Waste & Recycling department (Arnau 2020).

Solid Waste Diversion

As discussed previously, the Integrated Waste Management Act (2000) requires all local jurisdictions to divert 50 percent of total annual solid waste tonnage to be recycled. Additionally, as discussed above, in 2008, the requirements were modified to reflect a per capita requirement, rather than tonnage. Each jurisdiction has both a per capita and per employee target diversion rate, which are calculated from the average of 50 percent of generation between base years 2003 through 2006, expressed in terms of per capita disposal. Disposal rates compared to disposal targets are one of several factors in determining a jurisdiction's compliance with AB 939; therefore, actual disposal rates at or below target disposal rates do not necessarily indicate compliance with AB 939.

The City's target disposal maximum rates are 7.5 pounds per capita per day and 16.9 pounds per employee per day. In 2018, the most recent year for which data are available, the actual disposal rates from Santa Ana were 5.5 pounds per day per resident and 12.2 pounds per day per employee lower than target disposal rates and thus consistent with AB 939 (CalRecycle 2020e).

5.18.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on the environment if the project would:

U-4 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.

U-5 Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

5.18.4.3 REGULATORY REQUIREMENTS AND GENERAL PLAN UPDATE POLICIES

Regulatory Requirements

RR U-7 All development pursuant to the General Plan Update shall comply with Section 4.408 of the 2019 California Green Building Code Standards, which requires new development projects to submit and implement a construction waste management plan in order to reduce the amount of construction waste transported to landfills.

RR U-8 All development pursuant to the General Plan Update shall store and collect recyclable materials in compliance with Assembly Bill 341. Green waste will be handled in accordance with Assembly Bill 1826.

General Plan Update Policies

The following are relevant policies of the Santa Ana GPU, which may contribute to reducing potential impacts to solid waste facilities as a result of implementation of the proposed project.

Economic Prosperity Element

- **Policy 2.9. Energy Conservation.** Collaborate with utility providers and regional partners to encourage business and industry to improve performance in energy efficiency, water conservation, and waste reduction.

Land Use Element

- **Policy 4.3. Sustainable Land Use Strategies.** Encourage land uses and strategies that reduce energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution.

Public Services Element

- **Policy 3.10. Development Projects.** Encourage new development and reuse projects to incorporate recycling and organics collection activities aligned with state waste reduction goals.
- **Policy 3.11. Waste Collection.** Support infill development projects that provide adequate and creative solutions for waste and recycling collection activities.

5.18.4.4 ENVIRONMENTAL IMPACTS

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.18-6: Existing and/or proposed solid waste facilities would be able to accommodate development pursuant to the GPU and comply with related solid waste regulations. [Thresholds U-4 and U-5]

Forecast Solid Waste Generation by General Plan Buildout

As shown in Table 5.18-21, the proposed GPU is forecast to generate approximately 3.14 million pounds of solid waste per day for the buildout year. Solid waste disposed from the City of Santa Ana in 2018 totaled 342,026 tons (CalRecycle 2020a). This amounts to approximately 2,736,208 pounds per day.[2] The net increase in estimated solid waste generation compared to existing conditions is approximately 401,408 pounds per day.

[2] Note that 342,036 tons is the amount of solid waste received at solid waste facilities in 2018. The daily rate is based on five days per week operation (250 days per year).

Table 5.18-21 Forecast Solid Waste Generation at Full Buildout

Area	Number of Dwelling Units	Non-Residential Square Footage	Solid Waste Generation (pounds/day)
Focus Area			
West Santa Ana Boulevard	3,920	2,808,805	120,779
Grand Avenue/17th Street	5,492	5,082,641	218,554
South Main Street	2,283	703,894	30,267
South Bristol Street	2,308	946,662	40,706
55 Freeway/Dyer Road	9,952	6,412,283	275,728
Focus Area Total	**23,955**	**15,684,285**	**674,424**
Remainder of City			
All Other Areas of City	91,098	57,283,532	2,463,192
Citywide Total	**115,053**	**72,967,816**	**3,137,616**

Notes: SF = square feet
Waste generation factors are:
Residential: 12.23 lbs./household/day from Arnua 2020.
Nonresidential: a generation rate of 0.043 lb/SF/day (average of office, commercial/retail, and industrial/warehouse) from Arnua 2020.

The Frank R. Bowerman Landfill has a residual capacity of 2,917 tons per day, or about 5.8 million pounds per day, as shown in Table 5.18-20. The estimated closing date is 2053. Given that the residual capacity of the Frank R. Bowerman Landfill exceeds the forecast daily solid waste generation by approximately 2.7 million pounds per day it is anticipated that waste generated by the plan area at buildout could be accommodated by existing facilities. Mr. John Arnau, at OC Waste and Recycling, confirmed that the Orange County solid waste landfill system would have the ability to provide for the proposed project with long-term solid waste landfill capacity while maintaining the 15-year countywide solid waste landfill capacity as required by AB 939 (Arnua 2020).

Furthermore, all development pursuant to the GPU would comply with Section 4.408 of the 2019 California Green Building Code Standards, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. Development would also comply with the requirements of AB 341 that mandates recycling for commercial and multifamily residential land uses as well as schools and school districts. Additionally, businesses pursuant to the GPU that generate organic waste in amounts over a certain threshold would be mandated to recycle organic matter in accordance with AB 1826. GPU policies also encourage land uses and strategies that reduce waste generation and support infill development projects that provide adequate and creative solutions for waste and recycling collection activities. Therefore, solid waste facilities would be able to accommodate project-generated solid waste and comply with related solid waste regulations and impacts would be less than significant.

Level of Significance Before Mitigation: With the implementation of RR U-7 and RR U-8 and Policies 2.9, 3.10, 3.11, and 4.3 (see Section 5.18.4.3), Impact 5.18-6 will be less than significant.

5.18.4.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements, Impact 5.18-6 would be less than significant.

5.18.4.6 MITIGATION MEASURES

No mitigation is required.

5.18.4.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would remain less than significant.

5.18.5 Other Utilities

5.18.5.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Energy Independence and Security Act of 2007

Signed into law in December 2007, this act is an energy policy law that contains provisions designed to increase energy efficiency and the availability of renewable energy. This act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliance equipment.

Energy Policy Act of 2005

Passed in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the Department of Transportation (DOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6 million miles of pipelines. DOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found at 49 CFR Parts 190 through 192, 49 CFR Part 195, and 49 CFR Part 199.

Pipeline Safety Improvement Act of 2002

The Pipeline Safety Improvement Act mandates that the DOT, the Department of Energy (DOE), and the National Institute of Standards and Technology (NIST) in the Department of Commerce carry out a program of research, development, demonstration and standardization to ensure the integrity of pipeline facilities. The purpose of the R&D program is to identify safety and integrity issues and develop methodologies and

technologies to characterize, detect, and manage risks associated with natural gas and hazardous liquid pipelines (PHMSA 2017).

Pipeline Inspection, Enforcement, and Protection (PIPES) Act of 2006

The Pipeline Inspection, Enforcement, and Protection (PIPES) Act confirms the commitment to the Integrity Management Program (IMP) and other programs enacted in the Pipeline Safety Improvement Act of 2002. The 2006 legislation includes provisions on:

- Preventing excavation damage to pipelines through the enhanced use and improved enforcement of state "One-Call" laws that preclude excavators from digging until they contact the state One-Call system to locate the underground pipelines
- Minimum standards for IMPs for distribution pipelines (including installation of excess flow valves on single family residential service lines based on feasibility and risk);
- Standards for managing gas and hazardous liquid pipelines to reduce risks associated with human factors (e.g., fatigue);
- Authority for the Secretary to waive safety standards in emergencies
- Authority for the Secretary to assist in restoration of disrupted pipeline operations;
- Review and update incident reporting requirements;
- Requirements for senior executive officers to certify operator integrity management performance reports; and
- Clarification of jurisdiction between states and PHMSA for short laterals that feed industrial and electric generator consumers from interstate natural gas pipelines (INGAA 2019).

Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 was designed to examine and improve the state of pipeline safety regulation. The act:

- Reauthorizes PHMSA's federal pipeline safety programs through fiscal year 2015
- Provides the regulatory certainty necessary for pipeline owners and operators to plan infrastructure investments and create jobs
- Improves pipeline transportation by strengthening enforcement of current laws and improving existing laws where necessary
- Ensures a balanced regulatory approach to improving safety that applies cost-benefit principles

- Protects and preserves Congressional authority by ensuring certain key rulemakings are not finalized until Congress has an opportunity to act (PHMSA 2019)

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, this policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair, and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

State

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, and ventilation and air conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long-Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's 5 billion-plus square feet of space accounts for 38 percent of the state's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of the state's electricity and gas use.

The CPUC and California Energy Commission (CEC) have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- **Goal 1:** New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.

- **Goal 2:** 50 percent of existing buildings will be retrofitted to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

- **Goal 3:** The commercial lighting market will be transformed through technological advancement and innovative utility initiatives.

California Energy Commission

The CEC was created in 1974 as the state's principal energy planning organization in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs.
- License power plants to meet those needs.
- Promote energy conservation and efficiency measures.
- Develop renewable energy resources and alternative energy technologies.
- Promote research, development, and demonstration.
- Plan for and direct the state's response to energy emergencies.

California Energy Benchmarking and Disclosure

AB 1103 (2007) requires that electric and gas utilities maintain records of the energy consumption data of all nonresidential buildings to which they provide service and that by January 1, 2009, upon authorization of a nonresidential building owner or operator, an electric or gas utility shall upload all of the energy consumption data for the specified building to the California Environmental Protection Agency Energy Star Portfolio Manager in a manner that preserves the confidentiality of the customer. This statute further requires a nonresidential building owner or operator disclose Energy Star Portfolio Manager benchmarking data and ratings, for the most recent 12-month period, to a prospective buyer, lessee, or lender. Enforcement of the latter requirement began on January 1, 2014.

On October 8, 2015, AB 802 was signed into law. AB 802 would revise and recast the above provisions. AB 802 directs the CEC to establish a statewide energy benchmarking and disclosure program and enhances the CEC's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning, and program design. Among the specific provisions, AB 802 would require utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. Beginning no later than January 1, 2017, AB 802 would require each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent, or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements. AB 802 would also authorize the commission to specify additional information to be delivered by utilities for certain purposes.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977. Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards, which were recently adopted on May 9, 2018, go into effect starting January 1, 2020.

The 2016 Standards improve upon the previous 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are generally 28 and 5 percent more energy efficient than the 2013 Standards, respectively (CEC 2015). Buildings that were constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the previous 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features. Although the 2016 standards do not achieve zero net energy, they get very close to the state's goal and take important steps toward changing residential building practices in California.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential photovoltaic systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); (3) residential and nonresidential ventilation requirements; (4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations (California Code of Regulations [CCR] Title 20, Parts 1600–1608) contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.

Governor's Green Building Executive Order (S-20-04)

On December 14, 2004, California's governor signed Executive Order S-20-04, creating a Green Building Action Plan to improve the energy performance of all state buildings. The order mandates reducing grid-based energy purchases for state-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies. These measures should include, but not be limited to:

- Designing, constructing, and operating all new and renovated state-owned facilities paid for with state funds as "LEED Silver" or higher-certified buildings;
- Identifying the most appropriate financing and project delivery mechanisms to achieve these goals;
- Seeking out office space leases in buildings with a U.S. EPA Energy Star rating; and
- Purchasing or operating Energy Star[3] electrical equipment whenever cost-effective (SOC 2004).

State Greenhouse Gas Regulations

Current State of California guidance and goals for reductions in GHG emissions from stationary sources are generally embodied in Executive Orders S-03-05 and B-30-15, AB 32 and AB 197, and SB 32. While these regulations are inherently aimed at reducing GHG emissions, they have a direct relationship to energy conservation. A detailed discussion of these regulations is provided in Section 5.7, *Greenhouse Gas Emissions*, of the updated Draft PEIR.

Local

Santa Ana Municipal Code

Chapter 8 - Article XVI (Green Building Standards Code) of the Santa Ana Municipal Code incorporates the California Green Building Standards Code by reference.

Existing Conditions

Electric power is provided to the City of Santa Ana by Southern California Edison (SCE). Natural gas is provided by the Southern California Gas Company (SoCalGas). Internet, phone, and satellite television services are currently provided by a variety of private sources, including AT&T, Time Warner Cable, Spectrum, Windstream, and Mediacom.

Electricity

Estimated Existing Electricity Demand in the Plan Area

Total estimated existing (2020) electricity demand in the plan area is about 1,570 million kilowatt hours (kWh) per year, as shown in Table 5.18-22.

[3] Energy Star is a government-backed labeling program that helps people and organizations save money and reduce GHG emissions by identifying factories, office equipment, home appliances, and electronics that have superior energy efficiency.

Table 5.18-22 Estimated Existing Electricity Demand

Area	Households	Residential Electricity Usage, kWh per year (Subtotal)	Employment	Non-Residential Electricity Usage, kWh per year (Subtotal)	Electricity Usage, kWh per year (Total)
City of Santa Ana	78,792	380,621,219	158,980	1,189,836,014	1,570,457,233
Plan Area, Total	**78,792**	**380,621,219**	**158,980**	**1,189,836,014**	**1,570,457,233**

Note: Electricity usage utilizes a seven-year (2012-2018) average annual electricity consumption based on data provided by SCE.

SCE Electric Generating Capacity

SCE is one of the nation's largest electric utilities providing electricity service to more than 15 million people in a 50,000-square-mile area of central, coastal, and Southern California. SCE's total mid-electricity[4] consumption in SCE's service area was 106,080 gigawatt-hour (GWh) in 2015 and is forecast to increase to 118,803 GWh in 2027. Therefore, the total mid-electricity consumption in SCE's service area is forecast to increase by approximately 12,723 GWh between 2015 and 2027 (CEC 2016).

Natural Gas

Existing Estimated Natural Gas Demands in Plan Area

Existing natural gas demands in the plan area are estimated at about 48.9 million therms per year, as shown in Table 5.18-23.

Table 5.18-23 Estimated Existing Natural Gas Demand

Area	Households	Residential Natural Gas Usage, therms per year (Subtotal)	Employment	Non-Residential Natural Gas Usage, therms per year (Subtotal)	Natural Gas Usage, therms per year (Total)
City Boundary	78,792	21,783,050	158,980	27,074,864	48,857,914
Plan Area, Total	**78,792**	**21,783,050**	**158,980**	**27,074,864**	**48,857,914**

Note: Natural gas usage utilizes a five-year (2014-2018) average annual natural gas consumption based on data provided by SoCalGas.

SoCalGas Natural Gas Generating Capacity

SoCalGas service area spans much of the southern half of California, from Imperial County on the southeast to San Luis Obispo County on the northwest, to part of Fresno County on the north, to Riverside County and most of San Bernardino County on the east. Total natural gas supplies available to SoCalGas in the year 2019 is estimated at 3,385 million cubic feet per day (MMCF/day). Supplies are forecasted to remain constant at

[4] CEC forecast include three scenarios: a high energy demand case, a low energy demand case, and a mid-energy demand case. The high energy demand case incorporates relatively high economic/demographic growth, relatively low electricity and natural gas rates, and relatively low efficiency program and self-generation impacts. The low energy demand case includes lower economic/demographic growth, higher assumed rates, and higher efficiency program and self-generation impacts. The mid case uses input assumptions at levels between the high and low cases.

3,775 MMCF/day from 2020 through 2035. Total natural gas consumption in SoCalGas' service area is forecast to decline slightly from 2,591 MMCF/day in 2019 to 2,313 MMCF/day in 2035 (CGEU 2018).

5.18.5.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on the environment if the project would:

U-1 Require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

5.18.5.3 REGULATORY REQUIREMENTS AND GENERAL PLAN UPDATE POLICIES

Regulatory Requirements

RR U-10 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11).

RR U-11 All new appliances would comply with the 2012 Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1608).

General Plan Update Policies

The following are relevant policies of the Santa Ana GPU, which may contribute to reduce potential impacts to electricity and natural gas utilities as a result of implementation of the proposed project.

Conservation Element

- **Policy 1.4. Development Standards.** Support new development that meets or exceeds standards for energy-efficient building design and site planning.
- **Policy 3.1. Interagency Coordination.** Consult with regional agencies and utility companies to pursue energy efficiency goals and expand renewable energy strategies.
- **Policy 3.2. Education Programs.** Support education programs to provide information on energy conservation and alternatives to non-renewable energy sources.
- **Policy 3.5. Landscaping.** ~~Encourage~~ Promote and encourage the planting of native and diverse tree species to improve air quality, reduce heat island effect, reduce energy consumption, and contribute to carbon mitigation with special focus in environmental justice areas.
- **Policy 3.7. Energy Conservation Design and Construction.** Incorporate energy conservation features in the design of new construction and rehabilitation projects.

- **Policy 3.8. Energy-Efficient Public Facilities.** Promote and encourage efficient use of energy and the conservation of available resources in the design, construction, maintenance, and operation of public facilities, infrastructure, and equipment.

- **Policy 3.10. Energy Conservation in Public Projects.** Work with businesses and contractors that use energy-efficient practices in the provision of services and equipment for city construction projects.

Economic Prosperity Element

- **Policy 2.9. Energy Conservation.** Collaborate with utility providers and regional partners to encourage business and industry to improve performance in energy efficiency, water conservation, and waste reduction.

Land Use Element

- **Policy 4.3. Sustainable Land Use Strategies.** Encourage land uses and strategies that reduce energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution.

- **Policy 4.4. Natural Resource Capture.** Encourage the use of natural processes to capture rainwater runoff, sustainable electric power, and passive climate control.

~~*Open Space Element*~~

- ~~**Policy 1.6. Sustainable Landscape.** Promote citywide use of drought tolerant landscape and development practices for wise water use and energy consumption.~~

Public Services Element

- **Policy 1.7. Sustainable and Resilient Practices.** Require ~~Use sustainable and energy efficient building and maintenance practices as part of~~ the development or rehabilitation of any public facility or capital improvement to incorporate site design and building practices that promote sustainability, energy efficiency, and resiliency.

Urban Design Element

- **Policy 2.11. Sustainable Practices.** Encourage sustainable development through the use of drought tolerant landscaping, permeable hardscape surfaces, and energy efficient building design and construction.

5.18.5.4 ENVIRONMENTAL IMPACTS

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.18-7: Development pursuant to the GPU would require or result in the relocation or construction of new or expanded electric power and natural gas. [Threshold U-1]

Forecasted Electricity Demands

The net increase in forecast electricity demand at GPU buildout compared to existing conditions is about 256 million kWh per year, or 256 GWh per year. Total forecast electricity demands for the plan area are shown in Table 5.18-24. The total mid-electricity consumption in SCE's service area is forecast to increase by approximately 12,723 GWh between 2015 and 2027 (CEC 2016). Therefore, the forecast increase in electricity demand for the plan area is well within the forecasted demand in SCE's service area. GPU buildout would not require SCE to obtain additional electricity supplies and impacts would be less than significant.

Table 5.18-24 Estimated Full Buildout Electricity Demand

Area	Households	Residential Electricity Usage, kWh per year (Subtotal)[1,2]	Employment	Non-Residential Electricity Usage, kWh per year (Subtotal)[1,3]	Electricity Usage, kWh per year (Total)
City of Santa Ana	115,053	555,787,557	170,416	1,275,425174	1,831,212,730

[1] Electricity usage utilizes a seven-year (2012-2018) average annual electricity consumption based on data provided by SCE.
[2] Based on the increase in households from 78,792 households under baseline conditions to 115,053 households under full buildout conditions.
[3] Based on the increase in employment from 158,980 jobs under baseline conditions to 170,416 jobs under full buildout conditions.

Forecasted Natural Gas Demands

The net increase in natural gas demand by full buildout of the GPU compared to existing conditions is about 12 million therms per year (see Table 5.18-25). Total natural gas supplies available to SoCalGas in the year 2019 is estimated at 3,385 million cubic feet per day (MMCF/day). Supplies are forecasted to remain constant at 3,775 MMCF/day from 2020 through 2035. Total natural gas consumption in SoCalGas' service area is forecast to decline slightly from 2,591 MMCF/day in 2019 to 2,313 MMCF/day in 2035 (CGEU 2018).

The net increases in natural gas demands due to the GPU buildout are within the amounts that SoCalGas forecasts that it will supply to its customers, and buildout would not require SoCalGas to obtain increased natural gas supplies over its currently forecast supplies. Impacts would be less than significant.

Table 5.18-25 Estimated Full Buildout Natural Gas Demand

Area	Households	Residential Natural Gas Usage, therms per year (Subtotal)	Employment	Non-Residential Natural Gas Usage, therms per year (Subtotal)	Natural Gas Usage, therms per year (Total)
City Boundary	115,053	31,807,865	170,416	29,022,456	60,830,320

[1] Natural gas usage utilizes a five-year (2014-2018) average annual natural gas consumption based on data provided by SoCalGas
[2] Based on the increase in households from 78,792 households under baseline conditions to 115,053 households under full buildout conditions.
Based on the increase in employment from 158,980 jobs under baseline conditions to 170,416 jobs under full buildout conditions.

In addition, any development pursuant to the proposed GPU would be required to comply with energy efficiency standards set forth by Title 24 of the California Administrative Code, appliance efficiency regulations set forth by Title 20 of the California Administrative Code, CALGreen, and policies of the GPU.

Furthermore, GPU policies support new development that meet or exceed standards for energy-efficient building design, support education programs to provide information on energy conservation, encourage the planting of native and diverse tree species to reduce heat island effect and energy consumption, and promote and encourage efficient use of energy and the conservation of available resources in the design, construction, maintenance, and operation of public facilities, infrastructure, and equipment. The policies also support citywide use of drought tolerant landscape and development practices for wise water use and energy consumption, and the use of energy efficient building and maintenance practices as part of the development or rehabilitation of any public facility or capital improvement project. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: With the implementation of RR U-10 and RR U-11 and Policies 1.4, ~~1.6,~~ 1.7, 2.9, 2.11, 3.1, 3.2, 3.5, 3.7, 3.8, 3.10, 4.3, and 4.4 (see Section 5.18.5.3), Impact 5.18-7 will be less than significant.

5.18.5.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and General Plan policies, Impact 5.18-7 would be less than significant.

5.18.5.6 MITIGATION MEASURES

No mitigation measures are required.

5.18.5.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impact 5.18-7 would remain less than significant.

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