

UTILITIES & SERVICES SYSTEMS

4.9 UTILITIES & SERVICE SYSTEMS

Based on the analysis in the Initial Study (see Appendix A of this Draft EIR) and comments received during the scoping process, it was determined that construction and operation of the proposed project would not result in significant environmental impacts related to the following significance standards and, therefore, are not discussed in this chapter.

- Require or result in the construction of new water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- 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.
- Comply with federal, state, and local statutes and regulations related to solid waste.

Therefore, this chapter includes an evaluation of the potential environmental consequences associated with wastewater treatment capacity. This chapter also describes the environmental setting, regulatory framework, existing setting, and identifies mitigation measures that would avoid or reduce significant impacts.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

This section describes federal, State, and local regulations that apply to wastewater utilities, specifically the capacity of wastewater treatment systems.

Federal

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the

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NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage (i.e., wastewater) treatment plant.

State

On May 2, 2006 the State Water Resource Control Board (SWRCB) adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan (SSMP). The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the SWRCB using an online reporting system.

The SWRCB has delegated authority to the nine Regional Water Quality Control Boards (RWQCB) to enforce these requirements within their regions. The San Francisco Bay RWQCB (Region 2) issues and enforces NPDES permits in Cupertino. NPDES permits allow the RWQCB to regulate where and how the waste is disposed, including the discharge volume and effluent limits of the waste, and the monitoring and reporting responsibilities of the discharger. The RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance.

Local

Cupertino Municipal Code

The Cupertino Municipal Code (CMC) includes various directives to help ensure wastewater treatment capacity and sewer infrastructure is adequate to serve the residents and employees of Cupertino. The provisions related to potential impacts from the proposed project are included in Title 15, Water and Sewage; and Title 16, Buildings and Construction, as follows:

- **Chapter 16.58, Green Building Standards Code Adopted.** This chapter describes the California Green Building Standards adopted by the City, and any local amendments made with indications of additions or amendments to the State Standards. The Green Building Ordinance for the City of Cupertino provides minimum Green Building Requirements for new construction, and renovation and additions.
- **Chapter 15.20, Sewage Disposal Systems.** This chapter establishes standards for the approval, installation, and operation of individual onsite sewage disposal systems consistent with the California Regional Water Quality Board standards. The chapter sets regulations for connecting to public sanitary sewer system, including required permits, soil test requirements, and procedures for plan approval by the Health Officer.

Cupertino Sanitary District Operations Code

The Cupertino Sanitary District (CSD) provides sanitary sewer service to Cupertino, portions of Saratoga, Sunnyvale, Los Altos, and surrounding unincorporated Santa Clara County communities. Chapter IV of Cupertino Sanitary CSD's Operations Code requires all new buildings within the CSD to be connected to

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the CSD sewer system and all land development projects to include provisions for future buildings to connect to the CSD's sewer system. Article 3 of Chapter VI of the CSD's Operations Code requires a Wastewater Discharge Permit before connecting to or discharging into a CSD's sewer. The Wastewater Discharge Permit would be attached to a specific duration, which cannot exceed 5 years.

Cupertino Sanitary District Sewer System Management Plan

The SSMP was prepared in compliance with SWRCB Order 2006-0003: Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (GWDR), as revised by Order No. WQ 2008-0002.EXEC on February 20, 2008. The GWDR prohibits sanitary sewer overflows, requires reporting of sanitary sewer overflows using the statewide electronic reporting system, and requires the preparation of an SSMP.

The SSMP is also required by the San Francisco Bay RWQCB. Requirements are outlined in the *Sewer System Management Plan Development Guide* dated July 2005, developed by the RWQCB in cooperation with the Bay Area Clean Water Agencies.

The CSD is one of a number of stakeholder agencies within a local watershed area of Santa Clara County; each is accountable by permit to the SWRCB under the Clean Water Act. These stakeholders include:

- San José/Santa Clara Regional Wastewater Facility, Department of Environmental Services
- Santa Clara Valley Water District
- Cities of Cupertino, Saratoga, Sunnyvale, Santa Clara, Los Altos and San José
- Santa Clara County Roads and Airports and Public Works Departments

Other stakeholders include the Santa Clara County Environmental Services Department, California Department of Fish and Wildlife, and several privately organized environmental groups.

4.9.2 EXISTING CONDITIONS

4.9.2.1 CUPERTINO SANITARY DISTRICT

The CSD provides sanitary sewer services for the project site. Wastewater would be treated at the San José/Santa Clara Water Pollution Control Plant (SJ/SCWPCP).

The CSD maintains approximately 194.5 miles of sewer mains including the infrastructure in the vicinity of the project site.¹ The collected wastewater from the CSD service area is conveyed to the SJ/SCWPCP through mains and interceptor lines shared with both the cities of San José and Santa Clara. The CSD is one of five tributary agencies that have a contractual treatment allocation agreement with the SJ/SCWPCP. The CSD has a contractual treatment allocation with the SJ/SCWPCP of 7.85 million gallons

¹ Cupertino Sanitary District, 2016, Sewer Management Plan, page 23.

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per day (mgd), on average. In 2014, at the time of the General Plan EIR,² CSD wastewater flow to the SJ/SCWPCP was 5.3 mgd.³

The CSD wastewater system also flows through a portion of the City of Santa Clara's sewer system. The contractual agreement between CSD and the City of Santa Clara is 13.8 mgd during peak wet weather flows. The existing CSD peak wet weather flow into the Santa Clara system is modeled at 13.29 mgd.⁴

4.9.2.2 EXISTING ON-SITE USES

The project site is currently occupied by an approximately 71,250 square-foot shopping center that is currently in operation. Based on the May 2007 *City of Santa Clara Sewer Capacity Assessment* and the estimated wastewater generation rate 0.3 gpd per square foot of retail space, the existing uses generate approximately 21,376 gallons per day (gpd) or 0.0213 million gallons per day (mgd).⁵

4.9.3 THRESHOLDS OF SIGNIFICANCE

An Initial Study was prepared for the proposed project (see Appendix A of this Draft EIR). Based on the analysis contained in the Initial Study and comments received during the scoping process, it was determined that development of the proposed project would not result in significant environmental impacts related to the following significance standards and, therefore, are not discussed in this chapter.

- Require or result in the construction of new water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- 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.
- Comply with federal, state, and local statutes and regulations related to solid waste.

Based on the Initial Study and comments received during the scoping process it was determined that the proposed project could result in a potentially significant wastewater related impact if it would:

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

² City of Cupertino, certified General Plan Amendment, Housing Element Update, and Associated Rezoning EIR, (December 2014) and approved General Plan Amendment, Housing Element Update, and Associated Rezoning EIR Final Addendum, State Clearinghouse Number 2014032007 (October 2015).

³ City of Cupertino, General Plan (Community Vision 2015–2040), Appendix B, Housing Element Technical Report, 4.3 Environmental, Infrastructure & Public Service Constraints, page B-93.

⁴ Mark Thomas, February 20, 2019, Cupertino Sanitary District Flow Modeling Analysis Homestead Flume Outfall to City of Santa Clara.

⁵ 71,250 sf retail x 0.3 gpd per square foot = 21,376 gpd or 0.0213 mgd.

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4.9.4 IMPACT DISCUSSION

UTIL-1 The proposed project would not result in a determination by the wastewater treatment provider which serves or may serve the proposed project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments.

Based on the May 2007 *City of Santa Clara Sewer Capacity Assessment*, the estimated wastewater generation rate for residential uses is 133 gallons per day (gpd) per unit, and 0.3 gpd per square foot of retail space. Applying these generation rates, the proposed 242 residential units and the 20,000 square feet of retail space would generate approximately 38,186 gpd or 0.0382 mgd of wastewater.⁶ As described in Section 4.9.2.2, Existing On-Site Uses, the operational shopping center currently generates about 21,376 gpd or 0.0213 mgd. Therefore, the net increase for the proposed project is 16,810 gpd or 0.0168 mgd.⁷

The SJ/SCWPCP currently has a total capacity of 450 mgd. Combined, the proposed project’s net increase of wastewater generation of 0.0168 mgd and the current wastewater generated system-wide of 105 mgd, the proposed project would not exceed the SJ/SCWPCP’s current total capacity of 450 mgd.

The CSD has a contractual treatment allocation of 7.85 mgd Average Daily Dry Flow with the SJ/SCWPCP. At the time of the General Plan EIR, the wastewater generation of 5.3 mgd was estimated by the CSD.⁸ The existing wastewater flow of 5.3 mgd plus the proposed project wastewater flow of 0.0168 mgd would not exceed the City’s contractual allocation limit of 7.85 mgd. The proposed project is also within the amount of development (4,421 residential units and 1,343,679 commercial square feet) evaluated in the General Plan EIR;⁹ therefore, no impact would result.

The CSD wastewater system flows through a portion of the City of Santa Clara’s sewer system. The contractual agreement between CSD and the City of Santa Clara allows 13.8 mgd during peak wet weather flows for this portion of the Santa Clara sewer system. The existing CSD peak wet weather flow into the Santa Clara system is 13.29 mgd.¹⁰ However, the estimated wastewater generation from the proposed project and from other potential projects, as established by the General Plan and other approved projects, is approximately 14.25 mgd, which is the total capacity needed to serve the General Plan buildout.¹¹

⁶ (242 units x 133 gpd = 32,186 gpd) + (20,000 sf retail x 0.3 gpd per square foot = 6,000 gpd) = 38,186 gpd

⁷ 38,186 gpd proposed generation – 21,376 gpd existing generation = 16,810 gpd (or 0.0168 mgd) net increase.

⁸ City of Cupertino, General Plan (Community Vision 2015–2040), Appendix B: Housing Element Technical Report, 4.3 Environmental, Infrastructure & Public Service Constraints, page B-93.

⁹ City of Cupertino, certified General Plan Amendment, Housing Element Update, and Associated Rezoning EIR, (December 2014) and approved General Plan Amendment, Housing Element Update, and Associated Rezoning EIR Final Addendum, State Clearinghouse Number 2014032007 (October 2015).

¹⁰ Mark Thomas, August 29, 2019, Cupertino Sanitary District Flow Modeling Analysis Homestead Flume Outfall to City of Santa Clara.

¹¹ Mark Thomas, August 29, 2019, Cupertino Sanitary District Flow Modeling Analysis Homestead Flume Outfall to City of Santa Clara. Sewage coefficients use to calculate the sewer generation rates for the various uses in the project and the General Plan buildout were taken from the San Jose - Santa Clara Water Pollution Control Plant Specific Use Code & Sewer Coefficient

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Therefore, the proposed project, and other approved and potential projects as established by the General Plan 2040 buildout, will require a reduction in sewer generation from the CSD system prior to flowing into the City of Santa Clara system, or additional capacity rights will need to be acquired from the City of Santa Clara.

CSD performed smoke testing¹² on a portion of the sewer system in 2018. The results of the smoke testing showed that certain portions of their system are being impacted by inflow from illegal connections to the system. These illegal connections include area drains, catch basins, and roof rainwater leaders from both public and private facilities within the cities of Cupertino and Saratoga jurisdictions. These illegal connections collect storm water and direct the flow to the sewer system. Calculating the flows from these illegal connections, using the Manning's flow equation¹³ and the size of the areas that flow to these connections, there is an addition of approximately 0.4 mgd to the sanitary sewer peak wet weather flow. Disconnecting these illegal connections and redirecting these storm water flows to the public storm drain system would result in a reduction of the sewer peak wet weather from 14.25 mgd to 13.85 mgd. Further investigation of the CSD system is anticipated and disconnection of additional illicit connects is expected, which would provide further potential reduction to the peak wet weather flow.

However, until such corrections to the system can occur, the operation of the proposed project would exceed the 13.8 mgd contractual limit through the City of Santa Clara sewer system resulting in a potentially significant impact.

Impact UTIL-1: Implementation of the proposed project may result in a determination by the wastewater treatment provider, which serves or may serve the proposed project, that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Mitigation Measure UTIL-1: No building permits shall be issued by the City for the proposed Westport Mixed-Use Project that would result in exceeding the permitted peak wet weather flow capacity of 13.8 mgd through the Santa Clara sanitary sewer system. The project applicant shall demonstrate, to the satisfaction of the City of Cupertino and Cupertino Sanitary District (CSD), that the proposed project would not exceed the peak wet weather flow capacity of the Santa Clara sanitary sewer system by implementing one or more of the following methods:

- 1) Reduce inflow and infiltration in the CSD system to reduce peak wet weather flows; or
- 2) Increase on-site water reuse, such as increased grey water use, or reduce water consumption of the fixtures used within the proposed project, or other methods that are measurable and reduce sewer generation rates to acceptable levels, to the satisfaction of the CSD.

table and from the City of Santa Clara Sanitary Sewer Capacity Assessment, May 2007, as well as CSD estimated flow rates based on measured water usages.

¹² Many municipalities implement smoke testing programs to assess the condition of sanitary sewer system. Smoke testing is the process of injecting artificially produced smoke into a blocked off pipeline segment to see where the smoke emerges. If the line has defects, the smoke will find the break and try to escape through the break. Smoke testing is one of the best cost-effective ways to locate defects in the main sewer line and service laterals that connects to a site.

¹³ The Mannings equation is an empirical equation that applies to uniform flow in open channels and is a function of the channel velocity, flow area and channel slope.

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The proposed project's estimated wastewater generation shall be calculated using the generation rates used by the *San Jose-Santa Clara Water Pollution Control Plant Specific Use Code & Sewer Coefficient* table in the May 2007, *City of Santa Clara Sanitary Sewer Capacity Assessment*,¹⁴ and *California Green Building Standards*, unless alternative (i.e., lower) generation rates achieved by the proposed project are substantiated by the project applicant based on evidence to the satisfaction of the CSD.

If the prior agreement between CSD and the City of Santa Clara that currently limits the permitted peak wet weather flow capacity of 13.8 mgd through the Santa Clara sanitary sewer system were to be updated to increase the permitted peak wet weather flow sufficiently to accommodate the proposed project's flows, this would also change the impacts of the project to less than significant. If this were to occur prior to the City's approval of building permits, then Mitigation Measure UTIL-1 would no longer be required to be implemented.

Significance With Mitigation: Less than significant. Implementation of Mitigation Measure UTIL-1 would guarantee that no development on the project site could occur that would exceed the 13.8 mgd peak wet weather flow contractual limit through the City of Santa Clara and CSD by ensuring that no building permit would be issued for any structures or units that result in the contractual limit being exceeded until: (1) additional capacity is available through the City of Santa Clara's sewer system; (2) improvements are made to the CSD sewer system that reduce the peak wet weather flows that enter the City of Santa Clara system; (3) improvements are made on the project site that ensure the contractual limit is not exceed; or (4) the completion of any combination of these approaches that adequately addresses potential capacity issues.

UTIL-2 The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to wastewater treatment.

The impact discussion above is based on a cumulative setting because it considers the impacts of the proposed project in conjunction with the citywide wastewater generation and demand. All development within Cupertino is bound to the same treatment allocation contractual limits and contributes to demand on the SJ/SCWPCP wastewater treatment capacity. As discussed above, Mitigation Measure UTIL-1 is required to reduce the proposed project's contribution to the City of Santa Clara's sewer system. Therefore, no further discussion on cumulative impacts is necessary.

Significance With Mitigation: Less than significant.

¹⁴ Mark Thomas and Associates, July 19, 2018, Email communication with Cupertino Public Works.

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