

## 4.10 UTILITIES AND SERVICE SYSTEMS

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### 4.10.1 INTRODUCTION

This section describes existing utilities including water supply and the water distribution system, and wastewater collection, conveyance, and treatment systems that serve the project site and its vicinity and analyzes the potential for the proposed Green Valley II Mixed-use project to affect these utilities. Information on utilities and service systems was obtained from Fairfield Municipal Utilities (FMU) and the City of Fairfield's 2015 Urban Water Management Plan (UWMP). Impacts from the proposed project as well as related mitigation measures are also included in this section.

The City of Fairfield (City) received one general comment related to utilities and service systems in response to the Notice of Preparation (NOP) issued for this EIR. Several commenters stated that additional residential development on the project site would put a strain on existing infrastructure in the area. This issue is addressed in the analysis below.

### 4.10.2 ENVIRONMENTAL SETTING

#### 4.10.2.1 Water

The City of Fairfield lies on the eastern edge of the San Francisco Bay hydrologic region and operates its own municipal water utility (FMU). FMU receives water from the Solano County Water Agency (SCWA), which, in turn, obtains its water through the Solano Project, the State Water Project (SWP), and recycled water. The SCWA considers the Solano Project to be a reliable source, even during periods of drought; however, water from the SWP is not reliable, even in certain non-drought periods. The City of Fairfield's Municipal Water System operates within the corporate limits of the City and serves a population of approximately 102,809 over an area of approximately 22 square miles (Fairfield UWMP 2015).

#### *Existing and Projected Water Supply*

Surface water constitutes a majority of FMU's water supply with the remaining supply provided by recycled water. Groundwater in the area is brackish and its quality is unsuitable for use by the City of Fairfield. A description of FMU's surface and recycled water supply is provided below.

#### **Surface Water**

The majority of surface water in the City of Fairfield is sourced from Lake Berryessa and the Sacramento River, via the Solano Project and the SWP, respectively. The Solano Project was developed in the 1950's to meet the water demands of agriculture and municipalities throughout Solano County. Water is stored in

Lake Berryessa (Napa County) and is delivered to the City by way of Putah Creek and the Putah South Canal, as needed. Water from the Sacramento River is transported to the City via the North Bay Aqueduct, a component of the SWP. The aqueduct runs approximately 27 miles from the Delta to Napa County and consists of pipes that are 72 to 54 inches wide. Although its original flow design was intended for 175 cubic feet per second (cfs), the aqueduct delivers only approximately 142 cfs to Solano County agencies (City of Fairfield 2016).

Additionally, “settlement water<sup>1</sup>” from the SWP is delivered to the City via the North Bay Aqueduct. This water is available during delta “excess” conditions, which occur when the SWP and the Central Valley Project cannot control flows to the Sacramento-San Joaquin Delta. This source is considered a reliable supply by the City because it can be fully utilized at least nine out of ten years (City of Fairfield 2016).

The City is not currently pursuing any future water supply projects, as improved supply and conservation efforts have succeeded in offsetting the need for increased or expanded water supply within the area. A summary of FMU’s existing potable water supplies during normal, single-dry, and multiple dry years is provided in **Table 4.10-1, FMU Projected Supply**.

**Table 4.10-1  
FMU Projected Supply**

Wholesale Sources	Projected Volume, AFY				
	2020	2025	2030	2035	2040
Normal Year	9,808	11,014	12,578	13,783	13,783
Single-Dry Year	11,646	11,646	11,646	11,646	11,646
Multiple Dry Years	11,001	11,001	11,001	11,001	11,001
First Year	11,001	11,001	11,001	11,001	11,001
Second Year	11,001	11,001	11,001	11,001	11,001
Third Year	11,001	11,001	11,001	11,001	11,001

Source: FMU 2015 UWMP, Tables 7-2 through 7-4

## Recycled Water

The City of Fairfield currently uses small amounts recycled water, however its continued use is planned, in limited amounts, through the end of the 2015 UWMP planning window (2040). It is expected that recycled water use would begin in 2025, with 200 million gallons sourced from effluent from the local

<sup>1</sup> In 2008, the City of Fairfield filed a Sacramento River Watershed Area of Origin water rights claim (lawsuit) that resulted in a “Settlement Agreement” with the California Department of Water Resources.

wastewater treatment plant (WWTP) for non-potable uses throughout the City. As recycled water supply is not subject to climatic limitations as much as surface water supplies, it is expected to be available in all hydrologic year types. Recycled water supplies during dry years are assumed to be the same as normal year supplies and its implementation for non-potable uses could help alleviate water demand in dry years or multiple dry years. Due to this convenience, it is possible that recycled water could grow into a significant supply in the future (City of Fairfield 2016).

### ***Water Treatment and Distribution***

Surface water is treated at the Waterman Treatment Plant and the North Bay Regional (NBR) Treatment Plant, which have design capacities of 30 million gallons per day (mgd) and 26.7 mgd, respectively, for a total treatment capacity of 56.7 mgd. On average, the Waterman Treatment Plant treats 9 mgd (Cavalero 2018) and the NBR Treatment Plant treats 17.3 mgd (Smith 2018). The FMU has a treated water storage capacity of 78 million gallons (City of Fairfield 2016).

In addition to the two treatment plants, the City of Fairfield's Municipal Water System includes 12 treated storage reservoirs, 15 pump stations and over 350 miles of distribution lines, allowing it to treat and deliver an average of 21 mgd. Potable water would be delivered to the project site via an existing 24-inch water main located in Business Center Drive.

#### **4.10.2.2 Wastewater**

##### ***Wastewater Treatment***

Wastewater generated on the project site would be collected and treated by Fairfield-Suisun Sewer District (FSSD). The FSSD operates a 150-acre tertiary treatment facility at 1010 Chadbourne Road in Fairfield, approximately three miles east of the project site. The WWTP is served by a collection system consisting of 12 pump stations and a network of sewers spanning approximately 70 miles throughout the area (FSSD 2018). The facility has a permitted dry weather capacity of 23.7 mgd and a peak hour wet weather capacity of 55 mgd (FSSD 2018). The WWTP currently treats an average of 12 mgd and has a maximum daily flow of 45 mgd (Carver 2018). Approximately 10 percent of treated effluent is recycled, while the rest is discharged into Boynton Slough, southeast of the treatment plant.

##### ***Sewage Collection and Conveyance***

The FSSD also provides sanitary sewer collection services to the area within its jurisdiction. Wastewater on the project site would be conveyed to the WWTP via a new 8-inch sewer line extending from the

project site to an existing 8-inch sewer stub located about 1,000 feet south of the project site, refer to **Figure 3.0-14**.

#### **4.10.2.3 Stormwater**

The project site is served by storm drainage facilities that are owned and maintained by the City. The storm drain system consists of pipelines from 12 inches to 102 inches wide, box culverts, earthen, concrete, and rip rap lined channels running approximately 160 miles in length. The drainage system directs flows north-to-south, through various creeks, 3,000 drain inlets and 126 acres of detention basins, before ultimately emptying into Suisun Marsh. The project site would be served by an existing 72-inch storm drain located in Business Center Drive.

#### **4.10.2.4 Solid Waste**

Solid waste in the City of Fairfield is managed by Republic Services of Fairfield, which hauls solid waste, recyclables, and green waste. The majority of waste is transported to Solano County's two landfills – Potrero Hills and Hay Road. The Potrero Hills landfill is located in Suisun City and has a permitted capacity of 83.1 million cubic yards (cy) and a maximum daily throughput of 4,330 tons. The facility currently has a remaining capacity of 54.6 million cy and processes 3,400 tons daily. The Potrero Hills landfill has an expected closure date of 2048. The Recology Hay Road Landfill is located in Vacaville with a permitted capacity of 37 million cy and a maximum daily throughput of 2,400 tons. The facility currently has a remaining capacity of 24.9 million cy and processes 1,700 tons daily. The Recology Hay Road landfill has an expected closure date of 2053 (Hannum 2018).

#### **4.10.2.5 Electricity**

Approximately 67 percent of electricity used within California in 2015 was generated within the state from natural gas (40 percent), nuclear (6 percent), large hydroelectric (4 percent), renewable resources (16 percent), and coal (<1 percent) (CEC 2016a). The remaining portion of electricity was generated in the southwest United States (21 percent) and within the Pacific Northwest (12 percent). The State of California power mix, including in-state generation and out of state purchase in 2015, comprised natural gas (44 percent), renewable resources (22 percent), large hydroelectric (5 percent), coal (6 percent), nuclear (9 percent), and additional unspecified sources of power (14 percent) (CEC 2016a). In 2015, the total system power for California was 295,405 gigawatt-hours (GWh), which is almost 4 percent higher than 2014 (CEC 2016a).

Pacific Gas and Electric (PG&E) currently provides electricity to the City of Fairfield. In 2018, customers within the City demanded 48,370,319 kilowatt hours per year (kWh/year).

#### 4.10.2.6 Natural Gas

PG&E supplies natural gas to the City of Fairfield. In 2018, the total natural gas consumption by residential and retail uses in the City of Fairfield was about 2,028,300 MBTU/year.

In 2012, natural gas used within California was extracted in the State of California (9 percent), Canada (16 percent), the Rocky Mountain region of the United States (40 percent), and in the southwest United States (35 percent) (CPUC 2017). In 2012, natural gas was used in California to produce electricity (45.6 percent), in residential uses (21 percent), in industrial uses (25 percent), and in commercial uses (8.6 percent). The total natural gas usage in 2012 was 2,313,000 MBTU/year (CEC 2016a).

#### 4.10.2.7 Telecommunications

Regional telecommunications providers include: AT&T, Comcast, DirecTV, DISH Network, Excede, and Verizon.

### 4.10.3 REGULATORY FRAMEWORK

#### 4.10.3.1 State Laws and Regulations

##### *Urban Water Management Planning Act*

California State Assembly Bill 797 (California Water Code Section 10610, et seq.), adopted in 1983, requires every urban water supplier providing water for municipal purposes to more than 3,000 customers or more than 3,000 acre-feet of water on an annual basis to prepare an Urban Water Management Plan (UWMP). The intent of the UWMP is to assist water supply agencies in water resource planning given their existing and anticipated future demands. UWMPs must be updated every five years, in years ending in zero and five.

The City has complied with the Urban Water Management Planning Act through the adoption of the FMU's 2015 UWMP in July 2016.

##### *Senate Bills 610 and 221*

In 2001, the California Legislature passed Senate Bill 610 (Water Code Section 10910 et seq.) and Senate Bill 221 (Water Code Section 66473.7) to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures, which sought to promote more collaborative planning between local water suppliers and cities and counties.

SB 610 requires the preparation of a Water Supply Assessment (WSA) for certain large developments, including residential projects with more than 500 dwelling units. SB 221 prohibits approval of subdivisions consisting of more than 500 dwelling units unless there is verification of sufficient water supplies for the project from the applicable water supplier(s). Since the proposed project includes less than 500 dwelling units, neither preparation of a WSA pursuant to SB 610 nor a water supply verification pursuant to SB 221 is required.

Although the proposed project is not subject to either SB 610 or SB 221 because of its size, a water supply evaluation using data published by the EID and consistent with WSA requirements was prepared to demonstrate the existence of sufficient water supplies for the project.

### ***Water Conservation Act of 2009 (SBX7-7)***

The Water Conservation Act of 2009 (also known as Senate Bill X7-7) established a statewide water conservation target of 20 percent reduction in water use by 2020 compared to the State's 2005 baseline use. The Act requires that retail water suppliers define in their 2010 urban water management plans the gallons per capita per day (gpcd) targets for 2020, with an interim 2015 target. The legislation also requires the California Department of Water Resources, in consultation with other state agencies, to develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies. The City's 2015 UWMP, adopted in June 2016, complied with these requirements.

### ***Assembly Bill 939 and Senate Bill 1016***

The California Integrated Waste Management Act of 1989, or Assembly Bill 939, established the Integrated Waste Management Board, which requires the implementation of integrated waste management plans, and mandates that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent of all generated solid waste by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less-than-significant levels. With the passage of Senate Bill 1016 (the Per Capita Disposal Measurement System) in 2006, only per capita disposal rates are measured to determine if a jurisdiction's efforts are meeting the intent of Assembly Bill 939. Therefore, the 50 percent diversion requirement should be measured in terms of per-capita disposal expressed as pounds per person per day.

### 4.10.3.2 Local Plans and Policies

#### *City of Fairfield General Plan*

The Fairfield General Plan contains the following objectives and policies that pertain to public utilities.

**Objective PF 1:** Provide superior levels of facilities and services prior to or concurrent with planned development (see Objective LU 4).

**Policy PF 1.1:** New development shall be phased according to the capacity of public facilities and services to serve new development (see Policy LU 4.2).

**Objective PF 2:** New development shall pay such fees and taxes as necessary to meet all identified costs associated with that development (see Policy ED 7.4).

**Policy PF 2.1:** New development shall be responsible for the public costs attached to each development project, which include, but are not limited to, the acquisition of permanent open space, the provision of adequate school facilities, and the provision of streets, street lighting, sidewalks, landscaping, storm drains, and other infrastructure needs.

**Policy PF 2.2:** New development shall be responsible for paying a financial contribution to mitigate the effect of the development on the provision of such public services as police and fire protection, public education, water, and sewer.

**Policy PF 2.3:** Construction permits shall not be granted until the developer provides for the installation and/or financing of needed public facilities.

**Objective PF 4:** Provide an adequate supply of quality water to support the General Plan level of development.

**Policy PF 4.3:** The City shall acquire water supplies to serve all foreseeable needs in the General Plan with a minimum 90 percent reliability (e.g. water supplies may be deficient in no more than 10 percent of the years).

**Policy PF 4.8:** New development shall include water conservation features and drought resistant landscaping.

**Objective PF 5:** Provide adequate water infrastructure.

- Policy PF 5.1** Treatment facilities shall meet or exceed current standards set by federal, state, or local regulatory agencies.
- Policy PF 5.2** Treatment capacity should be maintained at 1 maximum day of demand plus 20 percent.
- Policy PF 5.6** Pipes should be sized to provide minimum operating pressure of 45 pounds per square inch (psi) under normal conditions and 20 psi under emergency conditions (e.g. fires).
- Objective PF 8:** Provide a flood control and drainage system that serves the General Plan level of development in a planned and orderly manner, minimizes flood-related hazards, and protects natural resources. (See Objective HS 3)
- Policy PF 8.1:** The City shall condition approval of new development projects on the provision of adequate storm drainage improvements.
- Objective PF 9** Maintain flood control and drainage facilities to preserve their function and capacity
- Policy PF 9.2:** Continue to require new development to discharge storm runoff at volumes no greater than the capacity of any portion of the existing downstream system by utilizing detention or retention or other approved methods, unless the project is providing drainage pursuant to an adopted drainage plan.
- Policy PF 9.3:** All drainage improvements shall comply with the City of Fairfield Standard Specifications and Details, Engineering Design Standards.
- Objective PF 12:** Provide adequate public utilities.
- Policy PF 12.2:** The City shall continue to circulate development proposals to local utility providers, including Pacific Gas and Electric, Pacific Bell, and local cable television providers, for their review and comment and to ensure that they can and will provide service to development.
- Objective PF 13:** Support adequate solid waste disposal capacity.



**Policy PF 13.1:** Reduce the amount of waste disposed of at the landfill by reducing 25 percent of the solid waste stream by the year 1995 and 50 percent by the year 2000 as mandated by State law.

**Objective PF 17:** Assist in the adequate provision of County services.

**Policy PF 17.1:** Continue to collect fees from new development to fund its share of County provided facilities and services (e.g. library, health, welfare, and justice system).

### ***Municipal Regional Stormwater Permit***

The Municipal Regional Stormwater Permit is designed to simplify formerly separate municipal stormwater permits within the San Francisco Bay RWQCB. In 2011, the Municipal Regional Stormwater Permit went into effect, thereby ending the former NPDES permit, shared by the cities of Fairfield and Suisun City (together the Fairfield-Suisun Urban Runoff Management Program). The prior permit allowed the cities to discharge stormwater runoff from storm drains and water courses within their jurisdiction. The Municipal Regional Stormwater Permit ends exclusive rights by creating a regional permit for 76 Bay Area municipalities.

## **4.10.4 IMPACTS AND MITIGATION MEASURES**

### **4.10.4.1 Significance Criteria**

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impact of the proposed project related to utilities and service systems would be considered significant if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications the construction or relocation of which could cause significant environmental effects.
- Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years
- 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.
- Generate solid waste in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

- Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

#### 4.10.4.2 Methodology

Project impacts related to water and water treatment are evaluated by using information provided by the FMU. The project's effect on wastewater conveyance and treatment systems was evaluated by using the information provided by the FSSD. The project impacts on storm water conveyance are evaluated by using information projected by the City's Public Works Department. Finally, the project's effect on solid waste disposal capacity was evaluated by using the information provided by the Solano County Department of Resource Management.

#### 4.10.4.3 Project Impacts and Mitigation Measures

**Impact UTL-1:**            **The project could require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, but the construction or relocation would not cause significant environmental effects. (*Less than Significant*)**

##### *Wastewater*

The proposed project would generate approximately 0.25 mgd of wastewater.<sup>2</sup> Wastewater generated by the proposed project would be conveyed to the WWTP. As described above in Section 4.10.2.2, the treatment plant is currently operating at approximately half of its capacity and, although the proposed land uses on the project site would generate more wastewater than the land uses previously planned for the site, the FSSD has indicated that the plant would be capable of handling increased flows anticipated with the proposed project and future growth in the City (Herston 2018). Therefore, development of the proposed project would not require the relocation or construction of new or expanded wastewater treatment facilities, nor would it result in a discharge that would cause the water treatment facility to exceed the wastewater treatment requirements of the Regional Water Quality Control Board. This impact would be less than significant.

Wastewater generated on site would be collected through an on-site collection system and then conveyed off site via a new 8-inch sewer line to an existing 8-inch sewer stub located about 1,000 feet south of the project site. The environmental impacts of this extension to the existing sewer stub are analyzed in other sections of this Draft EIR. Impacts on biological resources are evaluated in **Section 4.2** and mitigation measures are set forth in that section to address potentially significant impacts to special-status species. In

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<sup>2</sup> Based on 90 percent of potable water demand ( $[314 \text{ AFY} = 102.3 \text{ mgy}] / 365 \text{ days} = 0.28 \text{ mgd}$ )

addition, impacts on cultural resources are evaluated in **Section 4.3**, and mitigation measures are set forth in that section to address potentially significant impacts to archaeological resources that could be encountered during construction. Similarly, impacts associated with construction-phase air pollutant emissions and noise and vibrations are analyzed in **Section 4.1** and **Section 4.7**, respectively. All impacts would be less than significant with implementation of the proposed mitigation measures. The environmental effect associated with off-site wastewater conveyance improvements would be less than significant.

#### ***Stormwater***

Drainage would be provided to the site by a proposed on-site storm drain infrastructure system. The on-site storm drain infrastructure improvements would connect to an existing 72-inch storm drain located in Business Center Drive. The existing storm drain in Business Center Drive was designed to accommodate flows resulting from buildout in the project area regardless of land use type. Further, on-site best management practices (BMPs) such as bioswales and permeable pavement, would be included in the project design to increase stormwater percolation and reduce off-site stormwater flows. Therefore, development of the proposed project would not require an upgrade or extension to the existing off-site storm drain infrastructure system, and this impact would be less than significant.

#### ***Electric Power***

The proposed project is estimated to require approximately 1,439 megawatt hours (MWh) per year of electricity.<sup>3</sup> This includes usage associated with both the residential and retail components of the project. As required by California code, all proposed buildings will meet or exceed Title 24 standards and apartments will be equipped with Energy Star certified appliances. In addition, interior and exterior lighting will utilize energy efficient LED light fixtures. A minimum of 15 percent of the roof areas will be reserved for future photovoltaic (PV) solar installation, and infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation. On-site parking will be designed as Electric Vehicle (EV) charging ready, for future installation of EV charging stations.

Project construction would require small quantities of electricity; however, diesel fuel would be the primary energy source that would power construction equipment and generators.

Therefore, the proposed project would not result in the consumption of energy resources that could not be accommodated within the electricity supply and distribution system of PG&E and no relocation or construction of new or expanded facilities would be needed. A less than significant impact would occur.

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<sup>3</sup> Calculated levels of energy use expected for the proposed project are based on CalEEMod v.2016.3.2.

### *Natural Gas*

The proposed project is estimated to require about 2,386 million British Thermal Units per year (mBTU/y) of natural gas.<sup>4</sup> This includes usage associated with residential and retail uses and also assumes that the residential natural gas usage will meet or exceed Title 24 standards and that Energy Star appliances will be installed in the residential units. Additionally, the natural gas demand associated with the proposed project is within the parameters of projected load growth, and PG&E will be able to meet the demand in this area. Therefore, the proposed project would not result in a demand of natural gas that could not be accommodated within the natural gas supply and distribution system of PG&E and no relocation or construction of new or expanded facilities would be needed. The impact would be less than significant.

### *Telecommunications*

Telecommunication services to the project site would be provided by a regional provider (AT&T, Comcast, DirecTV, DISH Network, Excede, and Verizon). Development of the project site would create an increased demand for cable television and telephone services. Operation, maintenance, and capital improvement costs would be funded through developer fees and future customer billing. In addition, the telecommunications companies would be given the opportunity to review and comment on any proposed development requiring new service. All phone and cable lines would be installed in roadway rights-of-way, so there would not be any environmental effects beyond the construction effects identified in this EIR. Telecommunication providers regularly construct cell towers to provide coverage for the continuously growing demand. The addition of the proposed residential and retail uses would be consistent with typical growth patterns and developments. A less than significant impact would occur.

**Mitigation Measures:** No mitigation measures are required.

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**Impact UTL-2:** **FMU would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. (*Less than Significant*)**

The proposed project would demand approximately 280,609 gallons per day (gpd) or 314 acre-feet per year (AFY) of water<sup>5</sup> and be served by the FMU's surface water supplies. **Table 4.10-2, Summary of Potable Water Demand versus Supply**, provides a comparison of projected water demand and supplies

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<sup>4</sup> Calculated levels of energy use expected for the proposed project are based on CalEEMod v.2016.3.2.

<sup>5</sup>  $(270 \text{ dwelling units} \times 1,000 \text{ gallons/day/dwelling unit}) + (2.77 \text{ acres of commercial} \times 3,830 \text{ gallons/day/acre}) = 280,609 \text{ gallons/day or } 314 \text{ acre-feet/year}$ . Demand Rate Source: City of Fairfield, Hawthorne Mill Project, Table 3.15-2.

during hydrologic normal, single-day, and multiple dry years for the entire FMU system over a 20 year planning period. As shown, the FMU has enough water supply available to serve its projected demand during all hydrologic conditions through 2040. If the project site is developed in accordance with the existing land use designation of Business and Industrial Park, potable water demand is estimated to be approximately 57 acre-feet per year.<sup>6</sup> However, the proposed residential and commercial uses are anticipated to use approximately 314 acre-feet per year, which is an increase of 257 acre-feet per year compared to expected demand. Although the proposed land uses on the project site would demand more water than the land uses previously planned for the site, **Table 4.10-2** shows that the City would maintain a surplus in water supply. Additionally, the City has confirmed that enough surplus water is available to serve the proposed project plus future growth in the City (Riesenberg 2018).

**Table 4.10-2**  
**Summary of Potable Water Demand versus Supply**

Hydrologic Condition	Supply and Demand Comparison, AFY					
	2020	2025	2030	2035	2040	
<b>Normal Year</b>						
Available Surface Water Supply	9,808	11,014	12,578	13,783	13,783	
Total Water Demand (with Project)	6,464	7,431	8,417	9,426	9,854	
Potential Surplus (Deficit)	3,344	3,583	4,161	4,358	3,929	
<b>Single Dry Year</b>						
Available Surface Water Supply	11,646	11,646	11,646	11,646	11,646	
Total Water Demand (with Project)	6,464	7,431	8,417	9,426	9,854	
Potential Surplus (Deficit)	5,182	4,215	3,229	2,220	1,792	
<b>Multiple Dry Years</b>						
Multiple-Dry Year First Year Supply	Available Surface Water Supply	11,001	11,001	11,001	11,001	11,001
	Total Water Demand (with Project)	6,464	7,431	8,417	9,426	9,854
	Potential Surplus (Deficit)	4,537	3,570	2,584	1,575	1,147
Multiple-Dry Year Second Year Supply	Available Surface Water Supply	11,001	11,001	11,001	11,001	11,001
	Total Water Demand (with Project)	6,464	7,431	8,417	9,426	9,854
	Potential Surplus (Deficit)	4,537	3,570	2,584	1,575	1,147

<sup>6</sup> 13.32 acres of commercial X 3,830 gallons/day/acre) = 51,016 gallons/ day or 57 acre-feet/year. Demand Rate Source: City of Fairfield, Hawthorne Mill Project, Table 3.15-2.

Hydrologic Condition		Supply and Demand Comparison, AFY				
		2020	2025	2030	2035	2040
Multiple-Dry Year Third Year Supply	Available Surface Water Supply	11,001	11,001	11,001	11,001	11,001
	Total Water Demand (with Project)	6,464	7,431	8,417	9,426	9,854
	Potential Surplus (Deficit)	4,537	3,570	2,584	1,575	1,147

Source: City of Fairfield 2015 Urban Water Management Plan, 2016  
Water demand and supply from Tables 7-2 through 7-4.

Additionally, the design of the proposed project promotes the smart use and conservation of water. The proposed project would implement a number of water saving measures, such as implementing highly efficient technologies for irrigation, water fixtures, and hot water systems. Lawns would be implemented sparingly and landscaping would consist of drought-tolerant plants with very low to medium water needs. Recycled water, provided through the two proposed recycled water mains, will be used for all landscaped areas.

In summary, water demand associated with the proposed project would be served by existing supplies under normal, single-dry, and multiple dry years, and the development of the proposed project would not result in the need for new or expanded water supply entitlements. The project's impact related to water supply would be less than significant.

Potable water service would be provided to the site by a proposed on-site water infrastructure system. The on-site water infrastructure improvements would connect to an existing 24-inch potable water main located in Business Center Drive. The water infrastructure in the area has been properly designed and sized to the project site and adjacent properties (Paluck 2018), Therefore development of the proposed project would not require an upgrade or extension to the existing off-site water infrastructure system, and this impact would be less than significant.

The City's Waterman and NBR treatment plants treat surface water prior to delivery to City water customers. The Waterman Treatment Plant has a treatment capacity of 30 mgd and currently treats an average of 9 mgd while the NBR Treatment Plant has a treatment capacity of 26.7 mgd and currently treats an average of 17.3 mgd. As identified above under **Impact UTL-1**, the total calculated water demand for the project site would be approximately 280,609 gpd or 0.28 mgd. With an excess capacity of approximately 30 mgd combined, the City has indicated that both treatment plants have adequate capacity to accommodate the water demands associated with the proposed project and future growth in the City (Riesenberg 2018). As a result, the proposed project would not require the construction or expansion of water treatment facilities, and this impact would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

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**Impact UTL-3**                    **FMU would have adequate capacity to serve the project’s projected wastewater treatment demand in addition to existing commitments. (*Less than Significant*)**

As mentioned under **Impact UTL-1** above, the proposed project would generate approximately 0.25 mgd of wastewater. Wastewater generated by the proposed project would be conveyed to the WWTP which is currently operating at approximately half of its capacity (i.e., treating an average of 12 mgd when the plant has a permitted dry weather capacity of 23.7 mgd). The FSSD has completed a Sewer System Management Plan (SSMP) pursuant to State Water Resources Control Board Order No. 2006-0003-DWQ, Statewide General Discharge Requirements for Sanitary Sewer Systems.<sup>7</sup> The SSMP covers the management, planning, design, and operation and maintenance of the District’s sanitary sewer system. The SSMP is updated on a regular basis as situations change. The goals and objectives of the plan are implemented on a continuous and ongoing basis as part of the operations and maintenance of the sewer system. Based on the current SSMP, although the proposed land uses on the project site would generate more wastewater than the land uses previously planned for the site, the FSSD has indicated that plant would be capable of handling increased flows anticipated with the proposed project and future growth in the City (Herston 2018). Therefore, FSSD would have adequate capacity to serve the project’s projected demand in addition to existing commitments. The impact would be less than significant.

**Impact UTL-4:**                    **The proposed project would not generate solid waste in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (*Less than Significant*)**

It is estimated that the proposed project would generate approximately 3,000 pounds of solid waste per day,<sup>8</sup> which would result in 547 tons or 766 cubic yards<sup>9</sup> of solid waste per year. The Potrero Hills landfill has a permitted capacity of 83.1 permitted million cy and a maximum daily throughput of 4,330 tons, and currently has a remaining capacity of 54.6 million cy and processes 3,400 tons daily, while the Recology Hay Road Landfill has a permitted capacity of 37 million cy and a maximum daily throughput of 2,400 tons, and currently has a remaining capacity of 24.9 million cy and process 1,700 tons daily.

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<sup>7</sup> The SSMP is available for review at the District Office, 1010 Chadbourne Road, during normal business hours. Interested parties can contact Meg Herston at (707) 429-8930 or [mherston@fssd.com](mailto:mherston@fssd.com) for additional information.

<sup>8</sup>  $(270 \text{ units} \times 10 \text{ pounds/unit/day}) + ([22,600 \text{ square feet} \times 10.53 \text{ pounds/square foot/year}] / 365 \text{ days/year}) = 2,997 \text{ pounds/day}$ . Demand Rate Source: City of Fairfield, Hawthorne Mill Project, Table 3.15-5.

<sup>9</sup> 1 cubic yard of solid waste = 1.4 tons of solid waste.

Under current projected development conditions, the Potrero Hills landfill has a projected lifespan extending through 2048 and the Hay Road landfill has a projected lifespan extending through 2053. With a combined excess capacity of 79.5 million cy, both landfills have adequate capacity to accommodate the solid waste generated by the proposed project and future growth in the County and beyond (Hannum 2018). Therefore, development of the proposed project would not require the expansion of landfill capacity, and this impact would be less than significant.

In 2003, the City achieved a 65 percent waste diversion rate and has continued to meet its diversion rates ever since (City of Fairfield 2009). As detailed in **Section 3.0, Project Description**, the proposed project would include sustainable development features to minimize waste disposed in landfills, specifically, more than 55 percent of all demolition materials and construction debris will be recycled. Further, Fairfield City Code requires that all residential, industrial and commercial businesses must subscribe to garbage and recycling services. Therefore, the project would be consistent with Senate Bill 1016 and would not impair the attainment of the 50 percent per-capita diversion goal. A less than significant impact would occur.

**Mitigation Measures:** No mitigation measures are required.

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**Impact UTL-5:**            **The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. (No Impact)**

The proposed project does not propose any uses that would be recognized as having a potential to violate applicable statutes and regulations related to solid waste such as unlicensed or unapproved construction or operations. Further, the proposed project will be required to comply with all generally applicable federal, state, and local laws and regulations related to solid waste. There would be no impact with respect to this criterion.

**Mitigation Measures:** No mitigation measures are required.

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#### **4.10.4.4 Cumulative Impacts and Mitigation Measures**

The geographical context for the evaluation of cumulative impacts on water supply includes the City of Fairfield and its Sphere of Influence (SOI) while the geographic context for the evaluation of cumulative impacts on wastewater capacity is the FSSD's service area which includes the City of Fairfield and its SOI and the City of Suisun and its SOI. The geographical context for the evaluation of cumulative impacts on



the storm drain system is the City and its SOI while the geographical context for the evaluation of cumulative impacts on in the service area of the landfills that serve Solano County.

**Cumulative Impact C-UTL-1: The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in a significant cumulative impact on utilities. (Less than Significant)**

### *Water Supply*

As shown in **Table 4.10-3**, the proposed project, combined with other past, present, and reasonably foreseeable development in the FMU service area, would increase demand for water by approximately 1,924,452 gpd, or 2,156 afy.

**Table 4.10-3  
Cumulative Development Water Demand**

Land Use	Size	Conversion Factor (gpd/unit)	Water Demand (gpd)
Dwelling Unit	1,634 du	1,000/du	1,634,000
Commercial	2.57 acres	3,830/acre	9,843
		<b>Subtotal</b>	<b>1,643,843</b>
		<b>Proposed Project</b>	<b>280,609</b>
		<b>Total</b>	<b>1,924,452</b>

As shown in **Table 4.10-2** above, the FMU would have enough potable water supply available to serve this projected demand, which includes existing and proposed development as well as the proposed project. Therefore the project combined with related projects would not result in the need for new or expanded water supply entitlements, and the cumulative impact would be less than significant.

### *Wastewater Conveyance and Treatment*

The proposed project, combined with other past, present, and reasonably foreseeable development (listed in **Table 4.0-1**) within the service area of the WWTP, would increase the amount of wastewater that would require treatment. As shown in **Table 4.10-4, Cumulative Development Wastewater Generation**, the cumulative wastewater generation would be approximately 1.8 mgd. As previously discussed, The WWTP currently treats an average of 12 mgd and has a maximum daily flow of 45 mgd (Carver 2018), therefore there is adequate remaining capacity to treat the projected cumulative wastewater generation.

**Table 4.10-4  
Cumulative Development Wastewater Generation**

Land Use	Size	Conversion Factor (gpd/unit)	Wastewater Generation (gpd)
Dwelling Unit	1,634 du	900/du	1,470,600
Commercial	2.57 acres	3,447/acre	8,859
		<b>Subtotal</b>	<b>1,479,459</b>
		<b>Proposed Project</b>	<b>280,609</b>
		<b>Total</b>	<b>1,760,068</b>

Further, similar to the proposed project, all planned and future projects would be required to demonstrate that sewer service is available to ensure that adequate sanitation can be provided. As discussed above under **Impact UTL-1**, the FSSD has indicated that the plant would be capable of handling increased flows anticipated with the proposed project and future growth in the City. Therefore, the project combined with related projects would not result in the need for new or expanded wastewater treatment capacity, and the cumulative impact would be less than significant.

### ***Storm Drainage***

The proposed project, combined with other past, present, and reasonably foreseeable development (listed in **Table 4.0-1**) would develop new impervious surfaces that have the potential generate additional volumes of runoff that may cause flooding in downstream waterways. All planned and future projects would be required to demonstrate that storm water mains for each site have been designed to accommodate project flows. As discussed above under **Impact UTL-1**, the existing storm drain system in the vicinity of the project site has been designed to accommodate flows resulting from buildout in the project area regardless of land use type. Therefore, the cumulative impact with respect to drainage would be less than significant.

### ***Solid Waste***

The proposed project, in conjunction with reasonably foreseeable projects, and future growth in the County and beyond, would increase demand for solid waste and composting facilities. As discussed above under **Impact UTL-4**, with a combined have a remaining capacity of 38.7 million cubic yards, both landfills serving the proposed project have sufficient capacity to receive the additional waste from future growth in the City, County, and other areas nearby in the Bay Area and Sacramento Valley. Additionally,

the City will continue to maximize the diversion of solid waste and meet the SB 1016 standards. Therefore, cumulative impacts with regard to solid waste would be less than significant.

### *Electricity*

The proposed project site is within an urban area of Fairfield and related projects would be connected to the existing electricity distribution system through minor extensions, which would not result in a significant environmental impact.

The project's demand for electricity by itself would not require the construction of new power generation facilities, and as noted above under **Impact UTL-1**, the project's impact related to off-site generation facilities would be less than significant. The proposed project's demand would, however, combine with the demand for electricity associated with other proposed projects in the region and could contribute to the need for an expansion of an existing power plant or the construction of a new power plant. Approximately 67 percent of electricity used within California in 2015 was generated within the state, while the remaining portion of electricity was generated in the southwest United States and within the Pacific Northwest. Therefore, electricity needed by the cumulative projects may in fact be generated out of state. It is therefore not reasonable to predict where the new supply sources would be located or to evaluate the environmental consequences from the construction and operation of such facilities. Furthermore, if the new power generation facilities were to be located in California, they would be subject to environmental review and would be required to avoid or minimize their environmental impacts. Accordingly, the cumulative impact would be less than significant.

### *Natural Gas*

Related projects would be connected to the existing natural gas distribution system through minor extensions, which would not result in a significant environmental impact.

The project's demand for natural gas by itself would not require the construction of new power generation facilities, and as noted above under **Impact UTL-1**, the project's impact related to off-site generation facilities would be less than significant. The proposed project's demand would, however, combine with the demand for natural gas associated with other proposed projects in the region and could contribute to the need for an expansion or construction of an existing natural gas facility. As detailed in **Section 4.10.2.6** above, in 2012, natural gas used within California was extracted mainly from out of state. It is therefore not reasonable to predict where the new supply sources would be located or to evaluate the environmental consequences from the construction and operation of such facilities. Furthermore, if the new natural gas facilities were to be located in California, they would be subject to environmental review

and would be required to avoid or minimize their environmental impacts. Accordingly, the cumulative impact would be less than significant.

### *Telecommunications*

As mentioned above, telecommunication providers regularly construct cell towers to provide coverage for the continuously growing demand. The proposed project, in conjunction with reasonably foreseeable projects, and future growth in the County and beyond, would be typical of growth patterns and could be accommodated by telecommunication providers. Accordingly, the cumulative impact would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

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## 4.10.5 REFERENCES

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