## I. UTILITIES AND INFRASTRUCTURE

This section describes existing utility systems serving the project site and evaluates the effects of the proposed project on utilities. Potential impacts to utilities that could result from implementation of the proposed project are identified, and mitigation measures are recommended, as appropriate. The analysis examines water supply, wastewater, solid waste, energy and telecommunications. Stormwater and storm drain-related impacts are discussed in Section IV.G., Hydrology and Water Quality.

## 1. Setting

This section describes existing conditions, as they relate to the proposed project, of the water supply, treatment, and distribution system; the wastewater treatment and collection system; solid waste collection and disposal; telecommunications services; and natural gas and electric utilities in the City of Vallejo. The utilities analyzed here were selected on the basis of discussions with City staff.

**a.** Water Supply System. The following discussion provides background information on the City's sources of water, water treatment facilities, and water distribution system. It also summarizes the City's General Plan policies related to water supply.

(1) Water Sources. Water is supplied to City residents by the City of Vallejo Water Department. The City obtains almost all of its water from three major sources: the Solano Water Project, the State Water Project, and Vallejo Delta Permit Water.<sup>1</sup> Water from the Solano Water Project is delivered from Lake Berryessa and transported to Cordelia by the Putah South Canal. State Water Project water is conveyed from Lake Oroville to the North Bay Aqueduct pumping facility at Barker Slough. Vallejo Permit Water is delivered from Barker Slough to Cordelia. The City of Vallejo also has three sources of water for the Lakes System (Lake Curry, Lake Frey, and Lake Madigan). Lakes Frey and Madigan are located in northern Solano County and divert water to the Green Valley Water Treatment Plant (WTP). Lake Curry, located in Napa County, serves as a standby source for the City and as of 2004, is not available as a water source due to a lack of conveyance systems.<sup>2</sup> The City is actively seeking an agreement under the Warren Act with the Bureau of Reclamation to transport Lake Curry water through the Putah South Canal Project facilities to allow transportation to the

Fleming Hill Treatment Plant for use in Vallejo. Since the systems are isolated, the Lakes System service area and the Green Valley WTP cannot be used to supplement the City's water supply in an emergency water situation.<sup>3</sup>

Currently, as presented in Table IV.I-1, the City holds contract rights to a permanent water supply from the State Water Project, the Solano Water Project and the Vallejo Delta Permit in the amount of approximately 42,600 acre-feet per year.<sup>4</sup>

## Table IV.I-1: Current Water Entitlements

	Acre-
Source	feet/year
State Water Project	5,040 <sup>a</sup>
Solano Water Project	14,256
Vallejo Delta Permit Water	22,600
Total	41,896

A10 percent reduction in the existing entitlement (5,600 acre feet/year) is identified to account for potential reductions in real water supplies distributed by the State Water Project.

Source: City of Vallejo 2005 Urban Water Management Plan, 2006 and Nugteren, Erik, 2010.

<sup>&</sup>lt;sup>1</sup> Vallejo, City of, 2006. City of Vallejo 2005 Urban Water Management Plan. February.

<sup>&</sup>lt;sup>2</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 13.

<sup>&</sup>lt;sup>3</sup> Ibid.

<sup>&</sup>lt;sup>4</sup> Ibid.

Approximately 90 percent of all surface water sources supply the City, and barring a return of drought conditions and severe cutbacks in entitlements, the City should be able to meet increasing demands for water through 2010.<sup>5</sup> The 2015 total projected water demand for the Vallejo Water System, Vallejo Lakes System, and wholesale customers (Travis Air Force Base, City of Benicia, and City of American Canyon) is 33,220 acre-feet per year and is projected to increase by 7.2 percent to 35,610 acre-feet per year in 2025.<sup>6</sup> Additional sources of future water could include 3,750 acre-feet per year from Lake Curry.<sup>7,8</sup> This additional 3,750 acre-feet is not included in the 42,600 acre-feet of permanent water supply previously discussed.

The City's *Urban Water Management Plan* includes a Water Shortage Contingency Plan. The Contingency Plan addresses the short-term or emergency water management practices required during a drought or other shortage conditions. It includes a five staged response program. Each stage consists of specific prohibitions, regulations, fines, penalties and a rate structure to encourage the appropriate level of conservation. Each stage and set of prohibitions are tied to a water use reduction goal (Stage 1= zero percent reduction, Stage II=10 percent, Stage III=20 percent, Stage IV=35 percent, Stage V=up to and above 50 percent) to be reached by prohibiting certain behaviors (e.g., washing paved areas, landscape irrigation, etc). Though all five stages have both voluntary and mandatory components, none can be considered a rationing program because they do not strictly limit (i.e., "ration") water use. However, stages IV and V are the most restrictive as they would prohibit landscape irrigation. The City has always been in Stage I and has never implemented Stages II to V.<sup>9</sup>

The City does not anticipate any unusual short-term water shortages. Short-term surface water supplies are accounted for in supply planning and at key locations, the City's pumps have emergency diesel-powered generators in case of power outages.<sup>10</sup> The City is also able to rely on voluntary reductions in water consumption during times of temporary water treatment plant shutdowns, reduced raw water availability, or potentially insufficient storage.<sup>11</sup>

(2) Water Treatment Facilities. Most of the City's water is treated at the Fleming Hill WTP. The Fleming Hill WTP underwent a comprehensive upgrade that was completed in April 1996. The project upgrade increased the plant's capacity to 42 million gallons of water a day (mgd), incorporated water treatment technology that utilizes fewer chemicals, and brought the plant up to the standards mandated by the Safe Drinking Water Act. The processing flow at the plant is well within the Fleming Hill WTP's capacity. On average, the current maximum amount of water that the plant processes is 33 mgd. During the summer months, the flow rate is about 25 mgd while in the winter

<sup>9</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 22.

<sup>10</sup> Ibid.

<sup>&</sup>lt;sup>5</sup> Vallejo, City of, 2006. City of Vallejo 2005 Urban Water Management Plan. February.

<sup>&</sup>lt;sup>6</sup> Ibid.

<sup>&</sup>lt;sup>7</sup> Vallejo, City of, 2006. op. cit.

<sup>&</sup>lt;sup>8</sup> 1,500 ac-ft/yr of entitlement and safe yield from Lake Curry was used for in-stream flow. The full Lake Curry supply of 3,750 ac-ft/yr entitlement and safe yield become available beginning in 2010, when Lake Curry is returned to service by 2009.

<sup>&</sup>lt;sup>11</sup> Vallejo, City of, 1999. In cooperation with City of Fairfield, Solano County Water Agency, Suisun/Solano Water Authority, City of Vacaville City of Vallejo. *Water Management Plan.* January.

months, the rate decreases to about 15 mgd.<sup>12</sup> In 2009, water production from the Fleming Hill water system (included all water delivered to residential, commercial, public authority connections, and unaccounted-for water) was 17,500 acre-feet per year. Approximately 10 percent of the total is unaccounted for only within the City.<sup>13</sup> The Lakes System water is treated at the Green Valley WTP.

(3) Water Distribution Systems. The existing water distribution system service for the City originates at the Fleming Hill WTP. Distribution facilities consist of pumping, pressure regulation, storage and transmission lines. The area served by the Fleming Hill WTP varies in elevation between 0 and 636 feet, City elevation datum.<sup>14</sup> To accommodate this range in elevation, the system is divided into 20 pressure zones. Pump stations are needed within the distribution system to convey water from lower to higher zones. Pressure reducing stations are used in the transfer of water from higher to lower zones. As water demand is not constant over a 24-hour period, water storage reservoirs are used to equalize the distribution systems.

The 292 elevation zone provides service to the project area. There are four 200 horsepower natural gas booster pumps serving the 292 elevation zone as part of the water delivery system to ensure that water storage is available when needed. The pump stations are located at the Fleming Hill WTP with propane backup if natural gas is lost.<sup>15</sup>

Water is delivered to the project site through the pumping system and travels through a 24-inch South Trans Vallejo pipeline, which connects to a 24-inch water line west of I-80 and then runs diagonally across the center of the project site.<sup>16</sup> Additional water infrastructure adjacent to the site includes 8-inch water mains at Redwood Parkway and Admiral Callaghan Lane (west).

(4) Vallejo General Plan Policies Related to Water Source. One General Plan goal and three key policies that address the City's water supply are applicable to the proposed project.

- <u>Other Services Goal</u>: To provide an efficient and financially sound system of urban services to protect the health, safety and general welfare of Vallejo area residents.
  - <u>Policy 2</u>: New development should bear the cost to extend or upgrade public services and/or provide or upgrade public facilities to serve the new development proportionately to the demand generated by the new development. It is recognized that in some instances the City may also participate in the cost to extend public services and/or public facilities to areas in which such services/facilities do not currently exist when the City makes a specific finding that such an extension will benefit the community.
  - <u>Policy 7a</u>: Landscaping of public facilities should feature drought tolerant species.

<sup>&</sup>lt;sup>12</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 8.

<sup>&</sup>lt;sup>13</sup> Ibid

<sup>&</sup>lt;sup>14</sup> The City uses an elevation datum 6 feet lower than the U.S. Geological Survey's mean sea level datum.

<sup>&</sup>lt;sup>15</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 13.

<sup>&</sup>lt;sup>16</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 8.

- <u>Water Resources Goal</u>: To protect the city's water resources against pollution and wasteful use so that it will be available for the city's future needs.
  - <u>Policy 3</u>: The City should actively encourage conservation of water through reduced per capita consumption.

**b.** Wastewater (Sanitary Sewer) System. The Vallejo Sanitation and Flood Control District (VSFCD) provides wastewater treatment, collection, and disposal of wastewater to the City of Vallejo and outlying areas. The current population served by the VSFCD is 125,731, which includes both Vallejo residents (121,055) and residents who live in the unincorporated areas within VSFCD's service area (4,676).<sup>17</sup>

(1) **Collection System.** The wastewater collection system in Vallejo consists of a 370-mile network of pipes that carry wastewater from homes and businesses to the Ryder Street Wastewater Treatment Plant (WWTP). The pipes of the collection system range in diameter from 4 to 6 inches for lateral pipes to 12 to 54 inches for interceptor pipes.<sup>18</sup> Wastewater in the pipes is conveyed by collection system pump stations that range in age and capacity.

In the project area, there is an 8-inch sanitary sewer line in Redwood Parkway, an 8-inch sanitary sewage line in an easement along the northern boundary of the property, and an 18-inch sanitary sewer line located at the eastern property line. The VSFCD is not aware of any problems with these sewer lines and based on service records, they are in fair to good condition.<sup>19</sup> Wastewater from the project area flows in a combination of gravity and forced systems to the Ryder Street WWTP. There are no sanitary sewage pump stations serving the immediate project area; however, the nearest pump station is the Sears Point pump station, which is located on Sacramento Street between Redwood Street and SR 37, approximately 4½ miles from the project site.<sup>20</sup>

During high rainfall events, stormwater enters the VSFCD wastewater collection network through cracks and fissures in the pipes, resulting in capacity overload of the system. This condition, in turn, has historically led to the release of untreated wastewater through manhole surcharges and overflows at pump stations. A sanitary sewage overflow (SSO) has not occurred on the project site. Two SSOs occurred near the project area in the winters of 2001-2002 and 2002-2003. In the winter of 2001-2002, the SSO occurred upstream of the project site, 1,300 feet east of the southeast corner of the project site near Hann's Park. In the winter of 2002-2003, there was an SSO 1,200 feet west of the western boundary of the project area. The 2002-2003 SSO occurred on the other side of the I-80 freeway and was in a different drainage basin than the project site.<sup>21</sup> Many of these system overflows are not authorized by VSFCD's National Pollutant Discharge Elimination System Permit (NPDES). The NPDES Permit is issued by the California Regional Water Quality Control Board (RWQCB) and limits the amount and type of effluent that can be released by sanitary sewer facilities. Under a

<sup>&</sup>lt;sup>17</sup> Monahan, Mike, 2010. Associate Engineer, Vallejo Sanitation and Flood Control District. Personal communication with LSA Associates, Inc. September 14.

<sup>&</sup>lt;sup>18</sup> Monahan, Mike, 2010. Associate Engineer, Vallejo Sanitation and Flood Control District. Personal communication with LSA Associates, Inc. September 8.

<sup>&</sup>lt;sup>19</sup> Ibid.

<sup>&</sup>lt;sup>20</sup> Ibid.

<sup>&</sup>lt;sup>21</sup> Monahan, Mike, 2010. Associate Engineer, Vallejo Sanitation and Flood Control District. Personal communication with LSA Associates, Inc. September 14.

November 2000 court-approved settlement agreement stemming from unauthorized discharges, VSFCD was required to implement a plan that would eliminate rain-related sanitary sewer system overflows by 2005.<sup>22</sup> The VSFCD implemented the Sanitary Sewer Overload Elimination Program, which upgraded strategic portions of the sanitary system by the end of 2005 and included a three-year demonstration after its completion.<sup>23</sup>

Wastewater Treatment Facilities. All wastewater collected in the area served by VSFCD. (2) is routed to the Ryder Street Wastewater Treatment Plant (WWTP) where it is processed. The Ryder Street WWTP, which was constructed in 1957, discharges treated wastewater through two export pipelines, the Mare Island Strait outfall and the Carquinez Strait outfall. Only secondary-treated wastewater can be discharged into Mare Island Strait; both primary and secondary-treated wastewater can be discharged in the Carquinez Strait. The Ryder Street WWTP has a permitted capacity of 15.5 million gallons per day (mgd). Average daily dry weather flows are less than 10 mgd. The short-term wet weather capacity of the Ryder Street WWTP is 60 mgd. During the rainy season the Ryder Street WWTP has a capacity of 35 mgd for full secondary treatment and an additional 25 mgd for primary treatment. During periods of high precipitation in the winter months from late November to early March, surplus flow is diverted to the Ryder Street Storage Basin when the Ryder Street WWTP's 60 mgd capacity has been exceeded.<sup>24</sup> There has only been one minor occurrence in early March 2009 where excess flow was required to be diverted towards the basin.<sup>25</sup> Surplus sewage in Vallejo is due to infiltration of ground water into the sanitary sewer collection system.<sup>26</sup> The Ryder Street WWTP does not experience capacity overloads during the dry season.<sup>27</sup> In late 2005, the Ryder Street WWTP underwent a system upgrade that increased its wet-season primary and secondary-treatment capacities to 35 mgd each. VSFCD acquired land from the City adjacent to the Ryder Street Plant, and in 2007, completed the construction of the Ryder Street Storage Basin. The VSFCD also has another wet weather storage facility, the Sears Point Storage Basin, which is an underground tank in the northwest part of the District.<sup>28</sup>

Water recycling is not currently performed by VSFCD facilities but is under evaluation. The VSFCD has already recommended a recycled water program for the City that would require the construction of a treatment facility at the Ryder Street WWTP. However due to a lack of cost-effectiveness found in the 2003 Reclaimed Water Study, there are no current plans to construct a transmission line and pumping station, which are needed to return treated wastewater to the water utility service area for distribution.<sup>29</sup>

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Monahan, Mike, 2010 Associate Engineer. Vallejo Sanitation and Flood Control District, 2010. Personal communication with LSA Associates, Inc. September 28.

<sup>29</sup> Vallejo, City of, 2006. City of Vallejo 2005 Urban Water Management Plan. February.

<sup>&</sup>lt;sup>22</sup> Environmental Science Associates, 2000. Sanitation Sewer Overflow Elimination Program Draft Environmental Impact Report. August 18.

<sup>&</sup>lt;sup>23</sup> Monahan, Mike, 2010. Associate Engineer. Vallejo Sanitation and Flood Control District, 2010. Personal communication with LSA Associates, Inc. September 14.

<sup>&</sup>lt;sup>24</sup> Ibid.

<sup>&</sup>lt;sup>25</sup> Monahan, Mike, 2010. Associate Engineer. Vallejo Sanitation and Flood Control District, 2010. Personal communication with LSA Associates, Inc. September 28.

(3) Vallejo General Plan Policies Related to Wastewater. One key General Plan goal and one policy that address wastewater are applicable to the proposed project.

- <u>Other Services Goal</u>: To provide an efficient and financially sound system of urban services to protect the health, safety and general welfare of Vallejo area residents.
  - <u>Policy 2</u>: New development should bear the cost to extend or upgrade public services and/or provide or upgrade public facilities to serve the new development proportionately to the demand generated by the new development. It is recognized that in some instances the City may also participate in the cost to extend public services and/or public facilities to areas in which such services/facilities do not currently exist when the City makes a specific finding that such an extension will benefit the community.

**Solid Waste.** Recology Vallejo, formally known as Vallejo Garbage Service, Inc. currently c. provides non-hazardous solid waste removal for the City. Recology Vallejo is located at 2021 Broadway Street and provides residential garbage, recycling and yard waste collection service for Vallejo residents. It also offers recycling service for multi-family units, debris box service, garbage and recycling collection for commercial businesses. Recology Vallejo collects an estimated 125 tons of both residential and commercial solid waste daily.<sup>30</sup> Limited quantities of recyclable household hazardous waste such as vehicle and household batteries, automobile fluids, latex paint, florescent bulbs, sharps can be dropped off at Recology Vallejo's collection station at designated drop-off hours. E-waste is also accepted at the Recology Vallejo Recycling Facility at designated times. Solid waste collected by Recology is transported to the Devlin Road Transfer Station, a regional facility operated by the Napa-Vallejo Waste Management Authority. The waste is then trucked to the Keller Canyon Landfill in Contra Costa County.<sup>31</sup> Keller Canyon, which is now closed to the public, has a permitted capacity of 75,018,280 cubic yards, and has a remaining capacity of 63,408,410 cubic yards, and an anticipated closing date of December 31, 2030. Currently, the landfill receives 3,500 tons of garbage a day. 32

Vallejo Recycling provides comprehensive recycling services for residents and businesses. For businesses, Vallejo Recycling offers to perform a waste audit, which will enable participating businesses to recycle more and spend less on garbage pick-up. The recycling service accepts office paper, bottles and cans, commercial cardboard, and newspapers.<sup>33</sup> Materials to be recycled are taken to Recology Vallejo's collection station on 2021 Broadway Street, where it is sorted and the sent to various facilities.<sup>34</sup>

The California Integrated Waste Management Act of 1989 (AB 939) required municipalities to divert 50 percent of their solid waste from landfills by the end of calendar year 2000 through the implementation of various strategies, including source reduction, composting, recycling, and yard waste pro-

<sup>&</sup>lt;sup>30</sup> Phillips, Tom, 2010. Operations Manager, Recology Vallejo. Personal communication with LSA Associates, Inc. September 21.

<sup>&</sup>lt;sup>31</sup> Phillips, Tom, 2010. Operations Manager, Recology Vallejo. Personal communication with LSA Associates, Inc. September 8.

<sup>&</sup>lt;sup>32</sup> California Integrated Waste Management Board, 2010. Website: <u>www.ciwmb.ca.gov</u>. Accessed September 15.

<sup>&</sup>lt;sup>33</sup> Solano, County of, 2010. *Recycle Guide*. Website: <u>www.recycle-guide.com/index.cfm</u>. Accessed September 14.

<sup>&</sup>lt;sup>34</sup> Phillips, Tom, 2010. Operations Manager, Recology Vallejo. Personal communication with LSA Associates, Inc. September 22.

grams. In 2006, the year for which the most current reporting data is available, Vallejo's reportingyear diversion rate was estimated at 54 percent.<sup>35</sup>

**d.** Electricity and Natural Gas. The Pacific Gas and Electric Company (PG&E) provides electricity and natural gas service to customers in the City. PG&E charges connection and user fees for all new development, in addition to sliding rates for electrical and natural gas service based on use. These services are currently available near the project site.

Regulatory requirements for efficient use of electricity and gas are contained in Title 24, Part 6, of the California Code of Regulations, entitled "Energy Efficiency Standards for Residential and Nonresidential Buildings." These regulations specify the State's minimum energy efficiency standards and apply to new construction of both residential and nonresidential buildings. The standards regulate energy consumed for heating, cooling, ventilation, water heating and lighting. Compliance with these standards is verified and enforced through the local building permit process.

One key General Plan policy that addresses electricity and gas is applicable to the proposed project.

- <u>Energy Resources Goal</u>: To reduce the City's dependence on non-renewable energy resources through conservation and development of renewable energy sources.
  - o <u>Policy 3:</u> Encourage participation in PG&E programs for reducing energy consumption.

e. Telecommunications and Cable. AT&T provides telephone services within Vallejo. AT&T also provides or hosts a variety of other telecommunication services, including Digital Subscriber Line (DSL), Internet Service Provider (ISP), web hosting, virtual private networking, U-verse, Multi-protocol Label Switching (MPLS), and wireless/cellular paging services.

The California Public Utilities Commission requires that AT&T anticipate and serve new growth. To meet this requirement, AT&T continually upgrades its facilities and infrastructure, adding new facilities and technology to remain in conformance with California Public Utilities Commission tariffs and regulations and to serve customer demand in the City.

Additions to the City's infrastructure and proposals for development would result in a need for extending service to new development. The extension of service could require expansion or changes to AT&T's infrastructure, which could involve suitable siting for equipment placement. Suitable sites must meet requirements for the physical transmission of telecommunication services and conform to the City's guidelines. AT&T also works with the City to ensure that construction of new facilities does not interfere with any new or newly-paved streets.

## 2. Impacts and Mitigation Measures

This section discusses potential impacts to utility systems that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures, if appropriate. Less-than-significant impacts are discussed first, followed by significant impacts.

<sup>&</sup>lt;sup>35</sup> California Integrated Waste Management Board, 2010. Website: <u>www.ciwmb.ca.gov/profiles</u>. Accessed September 15.

**a.** Significance Criteria. The proposed project would have a significant impact on the City's infrastructure and utility systems if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources, such that new or expanded entitlements are needed;
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve project demand in addition to the provider's existing commitments;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Exceed the permitted capacity of the landfill serving the project's solid waste disposal needs;
- Violate applicable federal, state, and local statutes and regulations related to solid waste; or
- Result in determination by the energy and natural gas or telecommunications provider which serves or may serve the project site that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in the construction of new energy facilities or expansion of existing facilities, construction of which would cause significant environmental effects.

**b.** Less-Than-Significant Utilities and Infrastructure Impacts. The following discussion describes less-than-significant impacts to infrastructure and utilities systems that would result from development of the proposed project.

(1) **Water Supply System.** The following discussion provides potential impacts to the City's water supply, water treatment facilities, and water distribution system.

**Water Supply.** The water demand rate that the City uses for commercial developments is 0.625 gallons per minute (gpm)/10,000 square feet on an average day and 1.6 times more than the average day for the maximum day demand. Water demand associated with the proposed project is estimated to be 6,422 gallons per day for average-day conditions. Maximum day demands are projected to be 10,276 gallons per day.<sup>36</sup> The water distribution system must also be able to supply fire flows during maximum day demand periods. The proposed project's maximum increase in demand for water would be less than 0.03 percent of the City's current allocation of 42,600 acre-feet of water per year. The Water Department has indicated that there is sufficient water available to serve the proposed project at buildout and for fire services.<sup>37</sup>

In 2005, demand for water was approximately 30,000 acre feet per year.<sup>38</sup> Depending upon levels of precipitation, the City's water allocation may be reduced, but reduced water levels would trigger mandatory water use restrictions per the Water Shortage Contingency Plan to be implemented by the

<sup>&</sup>lt;sup>36</sup> Using the City's demand rate for commercial developments, water demands for the proposed project was calculated by using the total gross square feet of the project site, 71,393 square feet. Water use at the existing Elks Lodge is not currently known and was not subtracted from the projected increase in water demand in order to provide the most conservative analysis.

<sup>&</sup>lt;sup>37</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 8.

<sup>&</sup>lt;sup>38</sup> Vallejo, City of, 2006. *City of Vallejo 2005 Urban Water Management Plan*. February.

City. Depending upon the nature of the shortage, the City would institute the various stages of the conservation plan to reduce non-essential water use activities and enable household and commercial demand to be met. Additionally, there are other future sources of water that the City could pursue (i.e., State Water Project and Lake Curry) should there be a shortage in existing supplies. The City has not imposed mandatory water restrictions over the last 20 years.<sup>39</sup>

The proposed project includes a preliminary landscape plan that has selected conifer, shade, and accent trees in addition to shrubs, flowers and mulch. The range of water usage for the landscape plan would be very low to medium. The proposed project would be irrigated with an automatic underground irrigation system that would provide full head to head coverage. All new landscaping would be designed per City of Vallejo specifications. It is the responsibility of the project applicant to submit a Landscape and Irrigation Plan to the City of Vallejo per the List of Standard Conditions and in compliance with Vallejo Municipal Code Chapter 16.70 for review and approval by the City Planning Division and City Engineer. All development projects are required to follow the City's requirements for low-water using and drought-resistant plant materials.

Although development of the proposed project would lead to increased water demand, it can be accommodated by the City's existing water supply, and the City has a Water Shortage Contingency Plan to ensure that the water supplies will be sufficient to serve the project and other planned growth in normal, dry and multiple-dry years. Therefore, the proposed project's demand for additional water would be less-than-significant and no new or expanded water entitlements would be needed.

**Water Treatment.** As discussed above, the proposed project would create demand for an additional 10,276 gallons of water per day (0.010276 mgd). The Fleming Hill WTP has the capacity to treat 42 mgd. On average the plant processes about 20 mgd, with flow peaking during the summer months at about 30 mgd. The proposed project would utilize about 0.05 percent of the plant's capacity and approximately 0.03 percent of the excess capacity during the summer months. The increase in the need for treated water would be easily accommodated by the City's existing water treatment plant; therefore, increased demand on the capacity of the Fleming Hill WTP would be less than significant.

**Water Distribution System.** The proposed project would require connection into the existing 24-inch water distribution line adjacent to the site; however, no significant improvements to this existing infrastructure are necessary to serve the proposed project. The City has no concerns regarding the pipeline infrastructure to serve the project area. Additionally, water is available in sufficient quantities for fire services.<sup>40</sup> Thus, the proposed project would not adversely affect the water distribution system.

(2) **Wastewater Systems.** As previously described, an 18-inch sanitary sewer line is located at the eastern property line and an 8-inch line is located at the northern property boundary. The proposed project would connect to the 8-inch line, with a 3,000 gallon grease interceptor located at the loading area to prevent blockage of the storm drain system.

<sup>&</sup>lt;sup>39</sup> Nugteren, Erik, 2010. Water Superintendent, City of Vallejo Water Division. Personal communication with LSA Associates, Inc. September 13.

<sup>&</sup>lt;sup>40</sup> Ibid.

Estimated sanitary sewage flow from the project site would not exceed the existing wastewater collection system's capacity. The VSFCD uses a wastewater generation rate of 20 gallons per employee per day for the average daily discharge from commercial areas. The sanitary sewage flow for a grocery store such as the proposed project is categorized under this generation rate. According to the project applicant, the proposed project is projected to generate 170 jobs. Thus, a total of 3,400 gallons per day, 0.034 percent of the City's average daily dry weather capacity of 10 mgd, would be generated by its employees.

There are no requirements to increase the capacity of the sanitary sewage facilities in, or downstream of, the project area. Any wastewater system projects in or downstream of the project area will be for purposes of improving, repairing, rehabilitating or maintaining the existing facilities without increasing the capacity of the existing wastewater collection system. The VSFCD has no concerns about the ability of the main collection or treatment system to serve the proposed project.<sup>41</sup>

(3) Solid Waste. The existing buildings and other structures on the site would be demolished, and approximately 2,000 cubic yards of construction debris, such as building structures, metal, glass, wood, utilities, and other debris would be collected and off-hauled. The existing asphalt and miscellaneous concrete would be used as a base for on-site improvements, primarily the new parking lot. On-site use of crushed asphalt is a standard construction practice to reduce the amount of demolition material that would otherwise be sent to a landfill. During project operation, solid waste pick-up would occur between the hours of 4:30 a.m. and 2:00 p.m., five to six times a week and recycling and garbage areas would be located at the rear of the building. Garbage receptacles would be located at the front of the store and throughout the parking area and checked/emptied every time shopping carts are collected. Trash would be deposited into the dumpsters at the rear of the building. The project would be required to comply with the City Public Works Department's s recycling requirements which require the provision of recycling bins for customer use.

According to the California Integrated Waste Management Board, the Keller Canyon Landfill currently receives 3,500 tons of garbage a day. As mentioned above, current daily solid waste collection for the City of Vallejo is 125 tons and encompasses 3.6 percent of the daily capacity of the Keller Canyon landfill. Using the CIWMB's estimated solid waste generation rate for supermarkets, the 71,393 square foot retail grocery store would generate approximately 2,246 pounds of waste per day or 0.9 percent of the City's daily waste collection.<sup>42</sup> The anticipated life of the landfill would not be reduced by development of the proposed project. Thus, the proposed project would not exceed the capacity of the receiving landfill and would not violate any applicable statutes and regulations related to solid waste.<sup>43</sup>

In addition, Vallejo Recology would provide recycling services for the proposed project, thereby reducing the solid waste generated from the proposed project. Parking lots at the project site would be swept every other day while day porters would be hired as necessary to collect litter. The WinCo store would also sell reusable grocery bags to reduce the use of plastic bags.

<sup>&</sup>lt;sup>41</sup> Monahan, op. cit.

<sup>&</sup>lt;sup>42</sup> California Integrated Waste Management Board, 2010. *Estimated Solid Waste Generation Rates for Commercial Establishments*. Waste Generation Source: Supermarket. Website: <u>www.calrecycle.ca.gov/WasteChar/WasteGen</u> <u>Rates/Commercial.htm</u>. Accessed October 1.

<sup>&</sup>lt;sup>43</sup> CalRecycle, 2010. Website: <u>www.calrecycle.ca.gov/WasteChar/</u>. Accessed September 27.

(4) Electricity, Natural Gas and Telecommunications. Development of the proposed project would increase demand for electricity, gas and telecommunication services in order to serve the store's operations. Despite annual Statewide increases in energy consumption, the energy demand estimated for the proposed project (3,191.82 megawatts per hour per year for electricity and 1,855 million British Thermal Units for natural gas) would not contribute to a substantial increase in energy consumption within PG&E's northern and central California service area. The City of Vallejo is already served by gas and electricity infrastructure, and the net increase in energy demand from reasonably foreseeable projects, relative to the regional service area, would be minimal and would not require expanded or new energy facilities as a direct result of project development. In addition, new construction associated with the project would be serviced by existing electricity, gas and tele-communications lines. Therefore, the extension of utilities infrastructure to serve the new development would result in a less-than-significant impact to these services.

PG&E, which would provide energy to the proposed project and elsewhere in the region, produces much of its energy from renewable sources and has plans in place to increase reliance on renewable energy sources. Of the energy provided to PG&E customers in 2009, almost 15 percent came from renewable resources. In 2009, 20.5 percent of energy provided to PG&E customers came from nuclear generation; 13 percent came from large hydroelectric facilities; and 14.4 percent came from renewable resources such as wind, geothermal, biomass, and small hydroelectric sources. In addition, PG&E has plans to increase the use of renewable power. For instance, PG&E purchases power from customers that install small-scale renewable generators (e.g, wind turbines or photovoltaic cells) up to 1.5 megawatts in size.<sup>44</sup>

Because many agencies in California have adopted policies seeking increased use of renewable resources (and have established minimum standards for the provision of energy generated by renewable resources), it is expected that PG&E will continue to meet future demand for energy via a gradually increasing reliance on renewable resources, including small-scale sources such as photovoltaic panels and wind turbines, in addition to larger-scale facilities, such as wind farms. Therefore, although the proposed project and other future projects within the City of Vallejo and the region would be expected to increase the demand for energy-producing facilities, this increase in demand would likely be met through the development of renewable resources that would have a more benign environmental effect than the development of new conventional gas- or coal-fired power plants.

In addition, per City requirements, the City would review project development plans prior to project approval to ensure that California Code of Regulations Title 24 energy conservation and efficiency standards are met and incorporated into project design. Also refer to Section IV.E, Global Climate Change for a discussion of green building measures proposed as part of project design.

**c.** Significant Utilities and Infrastructure Impacts. The proposed project would not result in any significant impacts to utilities and infrastructure; therefore, no mitigation would be required.

<sup>&</sup>lt;sup>44</sup> Pacific Gas & Electric Company, 2010. Clean Energy Solutions. Website: <u>www.pge.com/mybusiness/</u> <u>environment/pge/cleanenergy/index.shtml</u>. Accessed September 22.

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