5.17 UTILITIES AND SERVICE SYSTEMS

This section of the Environmental Impact Report (EIR) addresses the proposed project’s potential impacts on certain utilities and services: water, wastewater, stormwater, and solid waste. The analysis in this section is partially based on information provided in the Water Demand Evaluation prepared for this project prepare by Tully & Young (April 2017) which is provided in Appendix 15.10, WATER DEMAND EVALUATION, and the Tierra Robles Wastewater Management Plan (May 2016) which is provided in Appendix 15.2, TIERRA ROBLES COMMUNITY SERVICES DISTRICT, and incorporated by reference herein. Refer to Section 5.18, ENERGY CONSUMPTION, for an assessment of anticipated project electrical and natural gas demands. The following analysis of the potential environmental impacts related to utilities and service systems is also derived from the following sources and agencies:

- Available literature and other publicly available information from affected utility providers.
- Shasta County. Shasta County Grading Ordinance, Section 12.12.

The following section provides baseline information on, and evaluates potential impacts on, public utilities practices and policies related to the proposed project. Environmental, regulatory settings and mitigation measures to reduce significant impacts, where applicable, are provided.

5.17.1 ENVIRONMENTAL SETTING

This section discusses the existing conditions related to utilities and service systems in the project area.

WATER SERVICE

The proposed project is located within the established service area of Bella Vista Water District (BVWD). BVWD is located northeast of the City of Redding in western Shasta County (County). BVWD encompasses approximately 34,360 acres (54 square miles) generally extending from Churn Creek Road on the west, the community of Palo Cedro on the southeast, the community of Mountain Gate on the northwest, and Salt Creek at State Route 299 (SR-299) on the northeast.

BVWD was formed on June 4, 1957 to provide agricultural and domestic water to the area northeast of the City of Redding. BVWD’s water supply comes from two sources, the Sacramento River (under a water service contract with the United States Bureau of Reclamation [USBR]) and five deep groundwater wells that draw from the Redding Area Groundwater Basin, Enterprise Sub-Basin located along the southerly boundary of BVWD. The water system consists of five tanks, nine pumping plants, the main treatment plant, five wells, and over 200 miles of pipeline from 4-inch to 54-inch in diameter. All of the water is pumped at least once, and much of it is pumped through at least two pumping stations.
All water delivered by BVWD to its customers is treated to the same standards, regardless of whether the water is used for domestic or agricultural purposes. BVWD currently operates under Domestic Water Supply Permit No. 01-02-08(P) 002 through the California Division of Drinking Water (DDW), formerly California Department of Public Health (CDPH).

Surface water is pumped from the Sacramento River at the Wintu Pumping Plant, which is outside of BVWD's boundary on the north side of the river below Hilltop Drive. From the Wintu Pumping Plant water is sent to a surge tank and then to the Water Treatment Plant (WTP) located on Canby Road immediately northeast of the Mount Shasta Mall. River water is first treated with chlorine at the Wintu Pumping Plant and then filtered at the WTP utilizing in-line pressure filters. Polymer is used at the WTP to aid the filtration process.

Treatment of groundwater at BVWD's five wells consists of oxidation of iron and manganese using chlorine, followed by absorption of the iron and manganese oxides in pressure filters.

BVWD contains Shasta College and Simpson University, four elementary schools, Foothill High School, and Mountain View Middle School. In addition to residential, rural, commercial, and public institutional customers, BVWD serves water to agricultural and aquaculture customers, which use the water for growing strawberries, grapes, fruit and nut trees, alfalfa, pasture, vegetables, and a few fish farms.

Surface Water

As discussed above, surface water is provided by the Sacramento River. BVWD entered into a long-term renewal contract with the USBR that authorizes BVWD to divert from the Sacramento River a specified quantity of the water supply created by the Central Valley Project (CVP). The contract allows BVWD to divert up to 24,578 acre-feet per year (AFY) of CVP water for agricultural (irrigation) and municipal and industrial (M&I) purposes, subject to shortages pursuant to USBR’s M&I Shortage Policy. The percent reduction is applied to the historical average of BVWD’s actual M&I water usage over the prior three unconstrained water years. Agricultural use can be reduced by as much as 100 percent in shortage years. The contract is effective through February 28, 2030. The contract includes a permanent assignment of 578 acre-feet (AF) of CVP water from Shasta County Water Agency.

BVWD has a long-term transfer agreement with the Anderson-Cottonwood Irrigation District Transfer Agreement for 1,536 AFY of CVP water, subject to shortage curtailment. The agreement is effective through February 28, 2045. Anderson-Cottonwood Irrigation District sells and transfers the water under its USBR Sacramento River Settlement Contract for diversion of CVP water from the Sacramento River. This transfer is available to BVWD between April 1 and October 31.

The McConnell Foundation has a USBR contract to receive 5,100 AFY of CVP water each year, without any shortage provision curtailment. The District could request to purchase water from the McConnell Foundation in the future if needed to supplement its supply. However, BVWD does not presently plan to purchase water from the McConnell Foundation in non-shortage years.

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1 Letter from Bella Vista Water District (BVWD), dated March 24, 2016.
Redding Groundwater Basin

BVWD is located in the northern area of the Redding Area Groundwater Basin, Enterprise Sub-Basin (Groundwater Basin Number 5-6.04) and Millville Sub-Basin (Groundwater Basin Number 5-6.05), which contains the main water-bearing geologic units in the northern Sacramento Valley.

BVWD joined the Shasta County Water Agency, City of Redding, City of Shasta Lake, and several other local agencies as a member of the Redding Area Water Council (RAWC). The RAWC is a consortium of public agencies. The RAWC prepared the Coordinated AB 3030 Groundwater Management Plan (GMP) for the Redding Area Groundwater Basin in 1998 and updated it in 2007. The California Department of Water Resources (DWR) does not identify the Redding Area Groundwater Basin as being over-drafted nor expected to become over-drafted. The purposes of the GMP are to avoid or minimize conditions that adversely affect groundwater availability and quality in the Plan area and to develop a management program that addresses data collection and protects and enables reasonable use of the groundwater resources of the Redding Area Groundwater Basin. The Redding Area Groundwater Basin is 510 square miles with a usable capacity of 5.5 million AF.

The Enterprise Sub-basin is 95 square miles and has a safe yield of 332 AFY. The Enterprise Sub-basin comprises the portion of the Redding Area Groundwater Basin bound on the west and southwest by the Sacramento River, on the north by the Klamath Mountains, and on the east by Little Cow Creek and Cow Creek. Annual precipitation within the Basin ranges from 29 to 41 inches, increasing to the north. Recharge to the principal aquifer formation is mostly by infiltration of stream flows. Infiltration of applied water and stream flows, and direct infiltration of precipitation are the main sources of recharge in the sub-basin.

Groundwater levels fluctuate seasonally approximately 5 to 10 feet, and for the semi-confined wells, between 10 and 15 feet for normal and dry years. Measurements of groundwater have shown levels start dropping in early spring and continue to decline through the summer until early September. Groundwater levels rise during the rainy season, reaching maximum levels typically in February.

Groundwater Production

BVWD currently has five groundwater wells located along the southerly boundary of BVWD. There is a wide variation in quantity pumped year to year due to variable operation. Operation of these wells has been limited to drought periods when surface water (CVP water) turbidity exceeds economically feasible treatment parameters, periods when either the Wintu Pump Station or BVWD’s WTP have been down for maintenance and/or construction, and during peak demands in the summer when BVWD has difficulties maintaining water levels in the four million-gallon (MG) tank. Overall, when all five wells are in operation, they can collectively produce up to 4,200 AF annually. The BVWD plans to expand groundwater production into the future, constructed a new well every 10 years starting in 2020. Each well is expected to increase groundwater by 810 AF annually per well.

Water Use

Water demands served by BVWD are primarily agricultural and domestic (residential, rural, commercial, and public institutional). Residential connections comprise the majority of customers for BVWD. It is assumed that the number of residential and rural connections will continue to increase over time.
Although these categories make up the majority of connections, agricultural properties cover more land and typically consume more water per connection. It is assumed that as development encroaches on agricultural properties and water deliveries become more expensive and less reliable, agricultural connections will decrease over time, being replaced by single-family residential and rural customers. The number of active connections in 2015 is summarized in Table 5.17-1, ACTIVE CONNECTIONS, below.

<table>
<thead>
<tr>
<th>Use</th>
<th>Connections</th>
<th>% of Total Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>3,931</td>
<td>64.3%</td>
</tr>
<tr>
<td>Aquacultural</td>
<td>5</td>
<td>0.1%</td>
</tr>
<tr>
<td>Agricultural</td>
<td>194</td>
<td>3.2%</td>
</tr>
<tr>
<td>Rural</td>
<td>1,637</td>
<td>26.8%</td>
</tr>
<tr>
<td>Commercial</td>
<td>291</td>
<td>4.8%</td>
</tr>
<tr>
<td>Public Institutional</td>
<td>57</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,115</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>


Water Supply

TABLE 5.17-2, SUMMARY OF WATER SUPPLY SOURCES, shows the available water supplies for BVWD during normal water years.

<table>
<thead>
<tr>
<th>Water Supply Sources</th>
<th>Projected Supply (AFY)</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Bureau of Reclamation¹</td>
<td>24,578</td>
<td>24,578</td>
<td>24,578</td>
<td>24,578</td>
<td>24,578</td>
<td></td>
</tr>
<tr>
<td>Groundwater²</td>
<td>5,010</td>
<td>5,010</td>
<td>5,820</td>
<td>5,820</td>
<td>6,630</td>
<td></td>
</tr>
<tr>
<td>Anderson-Cottonwood Irrigation District</td>
<td>1,536</td>
<td>1,536</td>
<td>1,536</td>
<td>1,536</td>
<td>1,536</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31,124</strong></td>
<td><strong>31,124</strong></td>
<td><strong>31,934</strong></td>
<td><strong>31,934</strong></td>
<td><strong>32,744</strong></td>
<td></td>
</tr>
</tbody>
</table>


Notes:
1. BVWD’s contract with USBR provides up to 24,578 AFY of CVP water. Actual supplies are subject to restrictions for environmental flows, drought and the CVP M&I Shortage Policy.
2. Groundwater wells are currently only used to supplement surface water in short and long-term shortages. 4,200 AFY is estimated to be the maximum capacity of the existing wells. Additional groundwater wells are planned for construction every 10 years starting in 2020 increasing groundwater by 810 AFY per well.

Normal and Dry-Year Supply Reliability

BVWD depends on its long-term contract to purchase water from the USBR and their groundwater wells. As a water provider that is predominantly reliant upon the CVP, BVWD is subject to significant water supply uncertainty and shortages due to dry hydrologic conditions, compounded by operational and regulatory constraints both directly and indirectly related to the Federal Endangered Species Act (FESA). The water supply reliability goal of BVWD is to meet 100 percent of demand in normal years.

Table 5.17-3, NORMAL YEAR SUPPLY AND DEMAND, shows the anticipated supply and demand for BVWD during an average year through year 2040. As indicated in Table 5.17-3, BVWD is shown to have a surplus of over between 7,847 AF and 9,204 AF through 2040. The supply and demand totals in Table 5.17-3 includes agricultural use.
Table 5.17-3
NORMAL YEAR SUPPLY AND DEMAND

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Totals</td>
<td>24,290</td>
<td>24,960</td>
<td>26,470</td>
<td>27,203</td>
<td>28,779</td>
</tr>
<tr>
<td>Demand Totals</td>
<td>16,363</td>
<td>17,113</td>
<td>17,897</td>
<td>18,718</td>
<td>19,575</td>
</tr>
<tr>
<td>Difference</td>
<td>7,927</td>
<td>7,847</td>
<td>8,573</td>
<td>8,485</td>
<td>9,204</td>
</tr>
</tbody>
</table>


During single dry year conditions, BVWD’s water supplies are projected to be insufficient to meet demand. As shown in Table 5.17-4, SINGLE DRY YEAR SUPPLY AND DEMAND, this shortfall is projected to exceed 7,000 AF. The agricultural amounts were maintained to show the impact of a multiple-dry year for the consideration of the supplemental supply program BVWD offers to agricultural customers. Groundwater would be used during water shortage years to make up a portion of the difference.

Table 5.17-4
SINGLE DRY YEAR SUPPLY AND DEMAND

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Totals</td>
<td>10,122</td>
<td>10,246</td>
<td>11,185</td>
<td>11,320</td>
<td>12,271</td>
</tr>
<tr>
<td>Demand Totals</td>
<td>16,363</td>
<td>17,113</td>
<td>17,897</td>
<td>18,718</td>
<td>19,575</td>
</tr>
<tr>
<td>Difference</td>
<td>-6,241</td>
<td>-6,867</td>
<td>-6,712</td>
<td>-7,398</td>
<td>-7,304</td>
</tr>
</tbody>
</table>


During a multiple-dry year period, USBR allotments for Manufacturing and Industrial (M&I) use can be reduced by 50 percent or more and agricultural allotments can be reduced to zero percent. Table 5.17-5, SUPPLY AND DEMAND COMPARISON – MULTIPLE-DRY YEAR, provides an estimate of the projected multiple-dry year supply and demand totals.

Table 5.17-5
SUPPLY AND DEMAND COMPARISON – MULTIPLE-DRY YEAR

<table>
<thead>
<tr>
<th>Water Use</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple-Dry Year First Year Supply</td>
<td>Supply Totals</td>
<td>16,652</td>
<td>16,995</td>
<td>18,164</td>
<td>18,540</td>
</tr>
<tr>
<td></td>
<td>Demand Totals</td>
<td>16,363</td>
<td>17,113</td>
<td>17,897</td>
<td>17,718</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>289</td>
<td>-118</td>
<td>267</td>
<td>-178</td>
</tr>
<tr>
<td>Multiple-Dry Year Second Year Supply</td>
<td>Supply Totals</td>
<td>17,189</td>
<td>17,677</td>
<td>18,997</td>
<td>19,530</td>
</tr>
<tr>
<td></td>
<td>Demand Totals</td>
<td>16,363</td>
<td>17,113</td>
<td>17,897</td>
<td>18,718</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>826</td>
<td>564</td>
<td>1,100</td>
<td>812</td>
</tr>
<tr>
<td>Multiple-Dry Year Third Year Supply</td>
<td>Supply Totals</td>
<td>16,617</td>
<td>17,078</td>
<td>18,371</td>
<td>18,875</td>
</tr>
<tr>
<td></td>
<td>Demand Totals</td>
<td>16,363</td>
<td>17,113</td>
<td>17,897</td>
<td>18,718</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>245</td>
<td>-35</td>
<td>474</td>
<td>157</td>
</tr>
</tbody>
</table>


Drought Condition Conservation and Contingencies. As mentioned above, the USBR contract allows BVWD to divert up to 24,578 AFY of CVP water for agricultural (irrigation) and M&I use; however, the water allocation is subject to shortages pursuant to USBR’s M&I Shortage Policy (herein referenced as “Shortage Policy”). When a “Condition of Shortage” is issued by the USBR, CVP water allocation to BVWD is reduced based on the historical average of BVWD’s actual municipal and industrial water usage. This percent reduction in CVP contract water available to BVWD is calculated based on BVWD’s prior three years of receiving 100 percent CVP contracted water allocation. Regarding agricultural allocations, such

3 “Condition of Shortage” is defined in the USBR water service contract as “...a condition respecting the CVP during any year (March 1 through February of the following year) such that the USBR Contracting Officer is unable to deliver sufficient water to meet the contract total.”
water can be reduced by as much as 100 percent during a “Condition of Shortage” period. The “Condition of Shortage” associated with the CVP water supply has also been influenced by regulatory actions and court rulings associated with Biological Opinions issued under FESA. These regulatory actions and court rulings have reduced the water supply available to CVP water service contractors, which includes BVWD.

All BVWD customers, both existing and any new development within BVWD’s service area, are subject to BVWD’s rules, regulations and policies which include adopted shortage measures. BVWD adopted a Water Shortage Contingency Plan (WSCP), by Resolution 15-04, on March 23, 2015. The purpose of Resolution 15-04 was to establish a municipal and industrial WSCP in order to conserve the available water supply and protect the integrity of water supply facilities with particular regard for domestic water use, sanitation, and fire protection while at the same time protecting and preserving public health, welfare, and safety. Resolution 15-04 identifies five “stages” of water shortages; each stage contains 19 customer actions that apply to all customers. Table 5.17-4, WATER SHORTAGE CONTINGENCY PLAN STAGES, defines theses stages and provides a synopsis of outdoor watering reductions and construction related watering reductions.

### Table 5.17-4  WATER SHORTAGE CONTINGENCY PLAN STAGES

<table>
<thead>
<tr>
<th>Stage</th>
<th>Water Supply</th>
<th>Percent of Normal</th>
<th>Outdoor Watering Reductions</th>
<th>Construction Watering Reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Normal Supply</td>
<td>85% - 100%</td>
<td>1. Limited to between one hour before sunset and one hour after sunrise.</td>
<td>No restrictions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. “Smart” irrigation systems set to specified percent of evapotranspiration rate.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Limited to efficient irrigation systems (i.e., drip irrigation, rain sensors).</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>Moderate Shortage</td>
<td>70% - 85%</td>
<td>Construction meters monitored for efficient use.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No restrictions</td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td>Severe Shortage</td>
<td>50% - 70%</td>
<td>1. Reductions listed from Stages 1 and 2.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Limited to specified number of days allowed for outdoor watering.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. No potable water to be used within 48 hours after measurable rainfall.</td>
<td></td>
</tr>
<tr>
<td>Stage 4</td>
<td>Extreme Shortage: Short-Term(^1)</td>
<td>30% - 70%</td>
<td>No outdoor watering allowed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extreme Shortage: Long-Term(^2)</td>
<td>30% - 50%</td>
<td>No construction watering allowed</td>
<td></td>
</tr>
<tr>
<td>Stage 5</td>
<td>Critical Shortage: Short-Term(^2)</td>
<td>Less than 30%</td>
<td>No outdoor watering allowed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Critical Shortage: Long-Term(^3)</td>
<td>Less than 30%</td>
<td>No construction watering allowed</td>
<td></td>
</tr>
</tbody>
</table>


Notes:
1. This table focuses on stage definition and summarized outdoor and construction watering restrictions. Refer to Appendix 15.10 of this Draft EIR for details regarding outdoor and construction water use and the complete list of water shortage customer actions.
2. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.
3. A long-term declaration is for water shortage conditions expected for a duration of more than 45 days.

In accordance with the adopted WSCP, the BVWD Board amended the shortage level from Stage 3 to Stage 1 on April 25, 2016. Stage 1 requires public institutional customers to reduce water use by 5 to 15 percent and reduce the amount of water used for landscape irrigation by 10 to 20 percent. As noted, previously, BVWD was in a Stage 3 – Severe Water Shortage. Stage 3 requires public institutional customers to reduce water use by 5 to 15 percent and reduce the amount of water used for landscape irrigation by 10 to 20 percent. As noted, previously, BVWD was in a Stage 3 – Severe Water Shortage. Stage 3 requires public institutional

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\(^4\) Bella Vista Water District. Urban Water Management Plan. May 2015. Note: Copy of the 2015 Urban Water Management Plan is available at the Shasta County Department of Resource Management during normal business hours (M-F, 8:00 am – 5:00 pm).

\(^5\) Letter from BVWD, dated March 24, 2016.
customers to reduce water use by 25 percent, reduce landscape irrigation to 3 nights per week, and reduce the amount of water used for landscape irrigation by 25 percent.\textsuperscript{6} Conservation efforts are still in effect as identified in “Consumer Actions by Shortage Stage” table that identifies water conservation measures. Resolution 15-04 and all 19 customer actions applicable to each stage are provided in Appendix 15.10, WATER DEMAND EVALUATION, of this Draft EIR.

WASTEWATER SERVICE

The County of Shasta runs three County Service Areas (CSAs) which include wastewater systems: CSA No. 13 Alpine Meadows Water and Wastewater System; CSA No. 17 Cottonwood Sewage Disposal System; and CSA No. 8 Palo Cedro Water and Sewage Disposal System. The County operates and maintains approximately 37 miles of sanitary sewer pipeline. Outside of the CSAs, individual properties are served by individual septic systems. The proposed project is located outside the three CSAs for wastewater. There are no sewer lines currently serving the project site; therefore, there is no existing sewage flow.

STORMWATER AND DRAINAGE

The County Roadside Maintenance includes drainage maintenance such as cleaning and shaping of roadside ditches in conjunction with blading roadside shoulders, cleaning gutters, mechanical sweeping of areas with curb and gutter and cleaning, repairing and replacing culverts.\textsuperscript{7} Natural storm water drainage within the project site includes: Clough Creek which flows southwest across the northwest corner of the project site; an unnamed stream the flows south across the east central portion of the project site; and a major unnamed drainage that flows from north to southeast across the eastern side of the project site. In addition, there are two small streams with attached tributaries which drain the central portion of the project site. Storm drainage facilities do not currently serve the proposed project.

SOLID WASTE

Solid Waste pickup for Shasta County is provided by Waste Management (Anderson-Cottonwood Disposal) and Burney Disposal. Solid waste generated in the project area will be picked up by Waste Management. Waste Management operates curbside pickup, which includes recycling materials and household waste.\textsuperscript{8} In addition, electronic waste is accepted at the Anderson Landfill. Waste Management has invested in equipment, facilities, and staffing and has worked with the local community (Shasta County) to meet and exceed the State’s mandated recycling and solid waste requirements. Recycling efforts within the County, and with cooperation from Waste Management, currently focus on the collection of residential, curbside recyclables and green waste, community education, and operation of a voluntary drop-off facility at the Solid Waste Transfer/Recycling Facility.

Solid waste would be disposed of at Shasta County’s Richard W. Curry/West Central Sanitary Landfill located south of the community of Igo, 9.2 miles west of State Route 273 (SR-273). The landfill is permitted to accept 700 tons of waste per day throughout with a maximum capacity of 13,115,844 cubic yards. As of December 2013, the landfill had approximately 6,589,044 cubic yards of remaining capacity. The County will begin the process of seeking permits to expand the landfill around 2017, 15 years prior to the

\textsuperscript{6} Ibid.
estimated fill date. The landfill currently has additional capacity. Although Shasta County owns the landfill, it has contracted with the City of Redding for the operation and management of the facility. West Central Landfill accepts tires, with the exception of tires with rim, and appliances. The landfill does not accept paints, oils, gasoline, antifreeze, hazardous waste, friable asbestos, liquids, and pesticides.

The Anderson Landfill, located at 18703 Cambridge Road in Anderson, provides additional services, and is operated by Waste Management. The landfill is permitted to accept 1,850 tons of waste per day throughput with a maximum capacity of 16,840,000 cubic yards. As of March 2008, the landfill had approximately 11,914,025 cubic yards of remaining capacity. The Anderson Landfill accepts asbestos – non-friable, construction and demolition debris, industrial and special waste, municipal solid waste, tires, and yard waste. It does not accept hazardous waste. However, Shasta County holds household hazardous waste round-ups throughout the calendar year to allow residents to dispose of household hazardous waste properly at no charge.

There are ten transfer stations with the Shasta County unincorporated area. The Buckeye Transfer Station in located within the City of Shasta Lake but is owned and operated by Shasta County and is utilized by Shasta Lake, Redding, and the surrounding unincorporated areas. The Old Shasta Transfer Station is utilized by the City of Redding and unincorporated Shasta County. The other eight transfer stations are utilized almost exclusively by the unincorporated areas of Shasta County. The transfer stations closest to the proposed project site include the Buckeye Transfer Station, Old Shasta Transfer Station, and Whitmore Transfer Station.

While the City of Redding Transfer Station is in close proximity to the proposed project, the City of Redding operates its own Solid Waste Transfer Station/Material Recovery Facility (MRF) for the transfer of County-wide collected residential, commercial, and industrial refuse and the transfer of self-haul public refuse. This facility also collects household wastes and is available for use by all County residents.

**UTILITIES**

Electricity and natural gas service in the project area is provided by Pacific Gas & Electric Company (PG&E). PG&E is regulated by the California Public Utilities Commission (CPUC) and is required to update existing systems to meet any additional demand. The following provides a brief summary of existing facilities within the project area. Refer to Section 5.18, ENERGY, for an assessment of anticipated project electrical and natural gas demands.

**Pacific Gas & Electric**

Pacific Gas and Electric (PG&E) provides electric and natural gas services to 70,000 square miles within California. The proposed project area is serviced by the PG&E North Valley Division, a service area of approximately 12,500 square miles with approximately 500,000 residents in five counties, including Shasta County. Currently, there are no natural gas lines that serve the proposed project site; however, there are lines that serve the surrounding area. Existing electrical lines are adjacent to the proposed project site

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along Boyle Road, Northgate Drive, Seven Lakes Road, and Old Alturas Road. Natural gas would be provided by “trucked” propane services.

OTHER SERVICE SYSTEMS

Telephone Service

AT&T provides telephone, internet, and television services to the majority of the Redding area and areas south of Boyle Drive, while Frontier Telephone provides service to Palo Cedro, Bella Vista, Millville, and areas north of Boyle Drive. The proposed project is located within the Frontier local service area. Currently, the proposed project has no telephone landline infrastructure or services; however, existing Frontier facilities are located along Boyle Drive. Extension of service infrastructure from Boyle Drive would occur below ground and implemented concurrent with project implementation.

Internet Services

AT&T or a wireless internet service provider such as HughesNet, have the existing infrastructure to provide internet access to the proposed project. Internet would be provided via DSL or wireless, and television service is expected to be provided by a satellite provider. Currently, there are no cable services located within the proposed project boundaries and there does not appear to be any existing cable service to nearby residences.

5.17.2 REGULATORY SETTING

FEDERAL

Federal Clean Water Act

The federal Clean Water Act (CWA) 33 USC§ 1251 et seq. places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states. Although the Act does establish certain guidelines for the states to follow in developing their programs, it also allows the EPA to withdraw control from states with inadequate implementation mechanisms.

The CWA requires National Pollutant Discharge Elimination System (NPDES) permits for discharges of pollutants from a point source to navigable waters of the United States (Section 402; (33 USC §1342 et seq.). A "discharge" can include any addition of a pollutant to navigable waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. (33 USC§ 1362 et seq.)

STATE

California Department of Water Resources (DWR)

DWR is responsible for the preparation of the California Water Plan and the management of State’s surface water and groundwater resources. DWR also oversees the California Water Project and the regulation and protection of dams, other DWR functions include: assisting local agencies in preparation
of their Urban Water Management Plans (UWMPs) and reviewing the plans to ensure compliance with the Urban Water Management Act.

**State Water Resources Control Board (SWRCB)**

The State Water Resources Control Board (SWRCB) was established in 1967 to administer state water rights and water quality functions. The SWRCB and its nine Regional Water Quality Control Boards administer water rights and enforce pollution control standards throughout the state. The SWRCB is responsible for granting water rights through appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water rights permits, the SWRCB must consider all beneficial uses, including water for downstream human and environmental needs. In addition to granting water rights, the SWRCB also issues water quality related certification to developers of water projects under Section 401 of the Federal Clean Water Act.

The SWRCB and RWQCBs issue NPDES permits in lieu of direct issuance by the U.S. Environmental Protection Agency (USEPA), subject to review and approval by the USEPA Regional Administrator (USEPA Region 9). The terms of these NPDES permits implement pertinent provisions of the federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable waters. All NPDES permits issued by the RWQCBs include Waste Discharge Requirements (WDRs) issued under the authority of the California Porter-Cologne Water Quality Control Act, discussed below.

**California Water Code**

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (California Water Code § 13000 et seq.) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and each of the nine RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt water quality control plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unauthorized discharges of soils, hazardous substances, sewage, and oil or petroleum product, among others.

Each RWQCB must formulate and adopt one or more water quality control plans (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The California Water Code also requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to DWR. The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983, including amendments that have been made to the Act and other applicable regulations. The UWMPA requires urban water suppliers servicing more than 3,000 connections or supplying more than
3,000 acre-feet (AF) of water annually, to prepare a UWMP. The proposed project is within the area governed by Bella Vista Water District’s 2015 UWMP.

**Senate Bill 610 – Water Supply Assessment**

Senate Bill (SB) 610 and SB 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessments occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project’s demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year’s water deliveries. SB 610 applies to projects that meet the following criteria:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified above.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

SB 610 amended Public Resources Code Section 21151.9 to provide that whenever a city or county decides that a project meets any of the above criteria, it must comply with Section 10910 et seq. of the Water Code. Section 10910 et seq. of the Water Code was also amended by SB 610 to require a city or county to coordinate the CEQA analysis with the water agency proposed to serve the project. Section 10910 et seq. requires a city or county to identify any public water system that may supply water to a proposed project. The city or county must ask each of these water providers to indicate whether its “total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system’s existing and planned future uses, including agricultural and manufacturing uses.” If the city or county does not receive this information from the water provider, it must provide the water supply assessment itself. The proposed project is not subject to SB 610 and therefore a water supply assessment is not required.

**Sustainable Groundwater Management Act of 2014**

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA; Water Code Section 10720 et seq.). SGMA, and related amendments to California law, require that all groundwater basins designated as high or medium priority in the DWR California Statewide Groundwater Elevation Monitoring (CASGEM) Program, and that are subject to critical overdraft conditions, must be managed under a new Groundwater Sustainability Plan (GSP) or a coordinated set of GSPs, by January 31, 2020. High or medium priority basins that are not subject to a critical overdraft must be regulated under one or more GSPs by...
2022. Almost all of the southern San Joaquin Valley basin, including portions of the project area, have been designated as high priority under the CASGEM program. Where GSPs are required, one or more local Groundwater Sustainability Agencies (GSAs) must be formed to implement applicable GSPs. A GSA has the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and to request revisions of basin boundaries, including establishing new subbasins. GSAs must be formed for high and medium priority basins by June 2017.

Each GSP must include a physical description of the covered basin, such as groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans. The DWR must adopt regulations for the preparation of a GSP by January 2016. As defined by the Act, “sustainable groundwater management” means that groundwater use within basins managed by a GSP will not cause any of the following “undesirable results:” (a) chronic lowering of groundwater levels (not including overdraft during a drought, if a basin is otherwise managed); (b) significant and unreasonable reductions in groundwater storage; (c) significant and unreasonable seawater intrusion; (d) significant and unreasonable degradation of water quality; (e) significant and unreasonable land subsidence; and (f) surface water depletions that have significant and unreasonable adverse impacts on beneficial uses (Water Code Section 10721(w)).

California Model Water Efficient Landscape Ordinance

The Water Conservation in Landscaping Act was enacted in 2006, requiring the California Department of Water Resources (DWR) to update the Model Water Efficient Landscape Ordinance (MWELO). In 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required a retail water supplier or a county to adopt the provisions of the MWELO by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELO provisions.

In response to the Governor’s executive order dated April 1, 2015, (EO B-29-15), DWR updated the MWELO and the California Water Commission approved the adoption and incorporation of the updated State standards for MWELO on July 15, 2015. The changes included a reduction to 55 percent for the maximum amount of water that may be applied to a landscape for residential projects, which effectively reduces the landscape area that can be planted with high water use plants. The MWELO applies to all types of new construction with a landscape area greater than 500 square feet (the prior MWELO applied to landscapes greater than 2,500 sf). For residential projects, the coverage of high water use plants is reduced due to the new 55 percent water maximum and turf is limited. Shasta County has yet to adopt a MWELO provision but does require the planned projects submit landscaping plans. The County will require landscaping plans to comply with MWELO as required by law.

It is difficult to predict the ultimate impact of the MWELO requirements on future water demand. While the requirement is for development of a landscape design plan that uses plants and features that are

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12 Gov. Code §§ 65591-65599
13 California Code of Regulations (CCR), Tit. 23, Div. 2, Ch. 27, Sec. 492.4. The MWELO provides the local agency discretion to calculate the landscape water budget assuming a portion of landscape demand is met by precipitation, which would further reduce the outdoor water budget.
14 These updated changes have been incorporated into California Code of Regulations (CCR), Tit. 23, Div. 2, Ch. 27, Sec. 490-495.
15 CCR Tit. 23, Div. 2, Ch. 27, Sec. 490.1.
16 Shasta County Code 17.84.040 – H.
17 Copies of County Certification of MEWLO compliance of landscaping plans are a condition of service from Bella Vista Water District. March 24, 2016 Bella Vista Water District Comment Letter, Requirement 1g.
estimated to use no more than 55 percent of ETo (the MWELO’s residential landscaping requirement), some provision must be made for the inherent tendency to over-water even with irrigation controllers installed, piecemeal changes in landscape design, and reductions in irrigation efficiency through product use.\(^\text{18}\)

In addition to MWELO, BVWD also has water conservation measures it continually encourages to limit water waste and promote conservation, which will be updated to reflect the newly mandated state-wide prohibitions authorized under the Governor’s Executive Order B-37-16.\(^\text{19}\)

**California Drought Regulations**

Beginning in January 2014, Governor Jerry Brown issued three Executive Orders (EOs), B-26-14, B-28-14, and B-29-15, regarding water supply, water demand, and water use within the State during severe drought conditions. EO B-29-15, issued April 1, 2015, sets limitations not only for existing land uses and water supply systems, but also for new construction. Some of these restrictions include:

- The Water Board shall prohibit irrigation with potable water of ornamental turf on public street medians. (EO B-29-15, Save Water, Action #6)
- The Water Board shall prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems. (EO B-29-15, Save Water, Action #7)
- The California Energy Commission (CEC) shall adopt emergency regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings. (EO B-29-15, Increase Enforcement Against Water Waste, Action #16)

In addition, EO B-29-15 requires that DWR update the State Model Water Efficient Landscape Ordinance through expedited regulation by the end of 2015. This ordinance will increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and by limiting the portion of landscapes that can be covered in turf (EO B-29-15, Increase Enforcement Against Water Waste, Action #11).

On November 13, 2015, Governor Brown issued EO B-36-15, which upheld the previous EOs, and directs the SWRCB to extend of urban water use restrictions through October 31, 2016 based on drought conditions known through January 2016. The SWRCB issued Emergency Regulations on February 2, 2016, in compliance with EO B-36-15. These emergency regulations maintain the current tiers of required water reductions; however, additional adjustments in response to stakeholders; equity concerns were included in the Emergency Regulations.

In addition, DWR and the USBR have finalized the 2016 Drought Contingency Plan that outlines State Water Project and Central Valley Project operations from February through November 2016. The 2016 Drought Contingency Plan was developed in coordination with staff from State and federal agencies. The 2016 Drought Contingency Plan communicates overarching goals for 2016 water management and the potential operations needed to achieve those goals.

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\(^\text{18}\) Shasta County will be responsible for reviewing and approving the proposed project’s landscape plan as part of its authorities authorized under the MWELO provisions and as a condition of service from Bella Vista Water District.

\(^\text{19}\) Executive Order B-37-16 (issued in May 2016) includes a directive for the State Water Resources Control Board to permanently prohibit a defined set of practices that waste potable water.
On May 9, 2016, Governor Brown issued EO B-37-16, which upheld the previous EOs, and directs local agencies to provide new permanent water use targets for each urban water supplier and concrete improvements to drought preparedness. Local agencies are required to publicly disclose the projections and calculations used to determine their conservation standards, and to continue monthly water conservation reporting EO B-37-16 calls for wise water use and less water waste to become permanent changes to prepare for more frequent and persistent periods of limited water supply.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated 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 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 (SB) 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 AB 939.

In response to reducing commercial solid waste that is landfilled, the State Legislature passed AB 341 declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source separated, reduced, recycled, or composted by the year 2020. AB 341 sets forth the requirements of the statewide mandatory commercial recycling program which defines that a business, including any commercial or public entity, generating four cubic yards or more of commercial solid waste per week are required to recycle. Businesses are required to take one or any combination of the following actions in order to reuse, recycle, or otherwise divert solid waste from disposal:

- Subscribe to a source separated recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located;
- Subscribe to a mixed solid waste recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located;
- Self-recycle and certify compliance.

Additionally, AB 1826, created to drive the recycling of yard trimmings and food scraps, becomes effective April 2016. The bill requires businesses generating a specified amount of organic solid waste per week to arrange for recycling for that material. This bill will also require the contract or work agreement between a business and a gardening or landscaping service to require the organic waste generated by those services to comply with the requirements of the law.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and the Recycling Access Act of 1991 (AB 1327) is codified in Public Resources Code Sections 42900-42911. As amended, AB 1327 requires each local jurisdiction to adopt an ordinance requiring commercial, industrial, or institutional building, marina, or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The size of these storage areas are determined by the appropriate jurisdictions’ ordinance. If no such ordinance exists in the jurisdiction, the CalRecycle model ordinance shall take effect.
California Green Building Standards Code

Beginning in January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (hereafter the “CAL Green Code”) requiring the installation of water-efficient indoor and outdoor infrastructure for all new projects after January 1, 2011. The CAL Green Code was incorporated as Part 11 into Title 24 of the California Code of Regulations, and was revised in 2013 and again in 2016 with the revisions taking effect on January 1 of the following year. However, these revisions have not had substantial implications to the water use already contemplated by the 2010 Cal Green Code.20 The primary impact of the 2013 update was applicability of the Cal Green Code to remodels. The focus of the 2016 update was to address changes to the MEWLO in response to emergency regulations adopted during the drought.21

The CAL Green Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed or remodeled building or structure. The proposed project must satisfy the indoor water use infrastructure standards necessary to meet the CAL Green Code as well as the outdoor requirements described by MWELO. The proposed project will satisfy these indoor requirements through the use of appliances and fixtures such as high-efficiency toilets, faucet aerators, on-demand water heaters, or other fixtures, as well as Energy Star and California Energy Commission-approved appliances.

State CEQA Guidelines – Appendix F

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act (CEQA) requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code §21100(b)(3)). Energy conservation implies that a project’s cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. Potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. Refer to Section 5.18, ENERGY, of this EIR for an evaluation of the proposed project’s energy demands.

LOCAL

Shasta County General Plan

The Water Resources subsection, of the Shasta County General Plan contains policies regarding septic systems, while the Public Facilities subsection of the Shasta County General Plan contains policies regarding public services, including public utilities such as wastewater treatment and solid waste. These policies are intended to provide guidance on operating and maintaining public utilities and service systems so as to ensure adequate water supply and prevent contamination of water resources from wastewater treatment systems, septic systems, and waste disposal sites. In addition, these policies also

20 The 2010 CAL Green Code was evaluated for updates during the 2012 Triennial Code Adoption Cycle. The State evaluated stakeholder input, changes in technology, implementation of sustainable building goals in California, and changes in statutory requirements. As such, the scope of CAL Green was increased to include both low-rise and high-residential structures, additions and alterations. Guide to the 2013 California Green Building Standards Code (Residential), California Department of Housing and Community Development, 2013.
21 The 2016 Triennial Code Adoption Cycle consisted primarily of the MWELO updates adopted in response to the drought. Indoor infrastructure changes were limited to some minor non-residential fixture changes and changes to the voluntary Tier1 and Tier2 requirements. Additionally, the Code was updated to match the new Title 20 Appliance Efficiency Regulations. 2015 Report to the Legislature, Status of the California Green Building Standards Code.
provide for compatibility with solid waste disposal sites and adjacent land uses. The following General Plan policies are applicable to the proposed project:

Section 6.6 – Water Resources

- **Policy W-b.** Septic systems, waste disposal sites, and other sources of hazardous or polluting materials shall be designed to prevent contamination to streams, creeks, rivers, reservoirs, or groundwater basins in accordance with standards and water resource management plans adopted by the County.

- **Policy W-c.** All proposed land divisions and developments in Shasta County shall have an adequate water supply of a quantity and a quality for the planned uses. Project proponents shall submit sufficient data and reports, when requested, which demonstrate that potential adverse impacts on the existing water users will not be significant. The reports for land divisions shall be submitted to the County for review and acceptance prior to a completeness determination of a tentative map. This policy will not apply to developments in special districts which have committed and documented, in writing, the ability to provide the needed water supply.

- **Policy W-d.** The potential for cumulative water quality impacts resulting from widespread use of septic systems in poorly suited soil areas shall be periodically evaluated by the County for the need to provide greater monitoring and possible changes to applicable sewage disposal standards.

Section 7.5 – Public Facilities

- **Policy PF-b.** Shasta County shall permit experimentation with “alternative” wastewater treatment technologies on a limited and carefully controlled basis, including advance provision establishing what public or private entity will be responsible in the event of failure, to determine which systems are feasible.

- **Policy PF-c.** Shasta County shall take actions required to implement plans for the management of its solid waste stream.

- **Policy Pf-h.** Public uses (e.g. schools, parks, waste disposal sites) and public utilities (e.g. substation, transmission lines) whose site-specific locations often cannot be identified in advance by the General Plan may be permitted throughout the County to serve the public need. Appropriate zoning on site-specific locations will be determined in response to the identified need as it occurs. Solid waste disposal facilities shall be conditionally permitted to ensure that the site is compatible with adjacent land uses. Surrounding land uses, to the extent feasible, shall be regulated to avoid incompatibility with the solid waste disposal facilities.
5.17.3 STANDARDS OF SIGNIFICANCE

SIGNIFICANCE CRITERIA

In accordance with State CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to utilities and service systems, if it would:

- Exceed wastewater treatment requirements of the applicable regional water quality control board. Refer to Impact 5.17-1.
- 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. Refer to Impact 5.17-2.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Refer to Impact 5.17-3.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed. Refer to Impact 5.17-4.
- Result in a determination by the wastewater treatment provider that 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. Refer to Impact 5.17-5.
- Be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs. Refer to Impact 5.17-6.
- Fail to comply with Federal, State, and local statutes and regulations related to solid waste. Refer to Impact 5.17-7.

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant” impact or a “potentially significant” impact. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a “significant and unavoidable” impact.

5.17.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The potential impacts of the proposed project were evaluated qualitatively by comparing the anticipated project effects on utilities and service systems with existing conditions. The evaluation is based on professional judgment, an analysis of project consistency with the goals and polices of the Shasta County
General Plan, and the significance criteria established by Appendix G of the State CEQA Guidelines, which the County has determined to be appropriate criteria for this Draft EIR. The findings from the Water Demand Evaluation (Tully & Young, 2017) have also been referenced when determining potential impacts of the proposed project. Further information in this section is based on, but not limited to, the County’s General Plan, available literature, and other publicly available information from the affected agencies and utility providers. In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment.

Utility and service systems are analyzed below according to topic and, as appropriate, impacts discussions are separated and evaluated under the heading of Short-Term Construction or Long-Term Operation. Mitigation measures directly correspond with an identified impact.

**Impact**

5.17-1 Implementation of the proposed project would not exceed wastewater treatment requirements of the Central Valley RWQCB.

**Significance: Less Than Significant Impact.**

**Impact Analysis:** The project site is located within the jurisdiction of Central Valley Region of the RWQCB. The proposed project would comply with all applicable construction and post-construction water quality requirements adopted by the Central Valley RWQCB (Region 5).

**Short-Term Construction**

Wastewater generated during construction of the proposed project would be composed primarily of sanitary waste, which would be managed through the utilization of portable toilets. Other sources of wastewater generated during construction may include stormwater runoff, equipment wash water, and watering of graded areas for air quality purposes. As stated in Section 5.9, HYDROLOGY AND WATER QUALITY, the proposed project would be required to meet the construction and post-construction requirements of the Construction General Permit (CGP, Order 2009-0009-DWQ). Projects disturbing more than one acre of land during construction are required to file a Notice of Intent (NOI) with the SWRCB to be covered under the State NPDES Construction General Permit for discharges of stormwater associated with construction activity. The project operator must control measures that are consistent with the State General Permit. A stormwater pollution prevention plan (SWPPP) would be required to be developed and implemented for each site covered by the General Permit to describe the best management practices (BMPs) that the discharger would use to protect stormwater runoff and reduce potential impacts on surface water quality through the construction period. The SWPPP is required to contain the following: a visual monitoring program, a chemical monitoring program for nonvisible pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

All construction-related activities required for the proposed project would adhere to a SWPPP. Site-specific BMPs would be designed by the contractor in compliance with the regulations and permit conditions of the SWPPP. Conformance with the measures of the NPDES and associated SWPPP would reduce potential short-term impacts to less than significant levels.
Long-Term Operation

The proposed project site does not currently have a water demand; subsequently no wastewater is generated from the site. Implementation of the proposed project as described in Section 3.0, PROJECT DESCRIPTION, is estimated to generate approximately 36,200 gallons per day (gpd) of wastewater based on a 200 gpd generation rate per home. This assumes 166 new single-family residential units that would average approximately 3,200 square feet, and 15 accessory dwelling units up to 1,200 square feet.

As stated above, the County oversees CSA No. 13, CSA No. 17, and CSA No. 8 related to wastewater. Outside of the CSAs, individual properties are served by individual septic systems. As noted in Section 3.0, PROJECT DESCRIPTION, the proposed project includes an onsite wastewater treatment system sized to accommodate and treat waste water generated from the proposed project only. The proposed project would provide a dual-plumbing wastewater drain system (grey water) that would allow diversion of flow from clothes washing machines, showers, and tubs to individual plant mulch basins. Each individual home would have a watertight septic tank. The proposed project would also provide a community collection system, with effluent from individual septic tanks flowing into a sewer main that would flow to a wastewater treatment facility within the project site. The dual-plumbing wastewater drain system at each residential unit would comply with Chapter 16 of the California Plumbing Code.

The treatment system would also be designed to meet the reuse requirements for discharge of Title 22 Disinfected Secondary Effluent. Title 22 reuse requires daily testing for coliform. The system controls would have remote monitoring capability with automatic alarms if the effluent discharge does not meet minimum requirements. Monitored effluent constituents would include turbidity, Oxidation Reduction Potential (ORP), and Chlorine Residual. In addition, the treatment system would include flow equalization and emergency storage tankage. Secondary treatment would occur through Orenco AXMAX units installed in phases as the wastewater flow increases. Chlorine disinfection would follow, including capacity for contact time and de-chlorination prior to dispersal.

A separate Shasta County Sewage Disposal System permit would be required. Grey water diversion systems would be installed under permit with Shasta County Building Division and the Shasta County Environmental Health Department would review all plans for grey water discharge to the ground. Each individual parcel would require a sewage disposal system permit issued by Shasta County Environmental Health Department for the installation of septic tank and pump system. The community wastewater treatment and dispersal system would fall under the Central Valley RWQCB’s Waste Discharge Requirements.

The proposed project is not anticipated to exceed wastewater treatment requirements of the Central Valley RWQCB because the proposed project would provide a system of individual septic tanks, a community collection system, and a community wastewater treatment and dispersal system; would comply with local, State, and federal laws and regulations; and would obtain required permits. Impacts are therefore considered less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Impacts would be less than significant.
Implementation of the proposed project would not 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.

Significance: Less Than Significant Impact.

Impact Analysis: The proposed project would require construction of new water and wastewater infrastructure to serve the proposed project as discussed in Section 3.0, PROJECT DESCRIPTION. The potential effects caused by any physical disturbance (e.g. ground disturbance, noise, vehicle emissions) associated with the proposed improvements are addressed through mitigation measures, as appropriate, relative to such issue areas (e.g. biological or cultural resources, noise, geology and soils, hazards and hazardous materials, etc.) within this EIR.

Short-Term Construction

Wastewater generated during construction would be composed primarily of sanitary waste, which would be managed through the utilization of portable toilets temporarily installed onsite. Other sources of wastewater generated during construction may include stormwater runoff equipment wash water, and watering of graded areas for air quality purposes. Construction activities would adhere to the NPDES and associated SWPPP that would incorporate BMPs for stormwater runoff and erosion control. Site specific BMPs would be designed by the contractor for the proposed project in compliance with the regulations and permit conditions of the SWPPP.

The proposed project would also comply with applicable post-construction water quality requirements adopted by the Central Valley RWQCB (Region 5). All construction-related activities required for the proposed project would adhere to a SWPPP. Site specific BMPs would be designed by the contractor in compliance with the regulations and permit conditions of the SWPPP. Conformance with the measures of the NPDES and associated SWPPP would reduce potential short-term impacts to less than significant levels. Impacts in this regard would be less than significant.

Long-Term Operation

Wastewater. As mentioned above under Impact 5.17-1, the proposed project would require the construction of a wastewater treatment system. The proposed project wastewater would be initially collected via individual septic tanks, transferred to a community collection system, treated, and then recycled for landscape irrigation. As discussed in Section 3.0, PROJECT DESCRIPTION, the proposed wastewater collection, treatment and dispersal system would be as follows:

- **Individual Septic Tanks.** The wastewater from the plumbing fixtures in the individual home would flow by gravity to a watertight septic tank that is oversized to provide emergency storage capacity and additional treatment capacity. The septic tank system, including pressure lateral from the tank to the street right-of-way, would be installed at the time the home is constructed.

  As part of each residential unit, a partial dual-plumbing wastewater drain system would be included that complies with Chapter 16 of the California Plumbing Code. This would allow the
homeowner to operate a manual diverter valve and redirect wastewater (grey water) flow from clothes washing machines, showers, and tubs. This diverter valve would direct grey water flow to a landscape irrigation grey water system to provide irrigation for landscaping (drought tolerant trees and shrubs). During periods of rainfall, the flow would be directed to the septic tank. Operation of this valve is the responsibility of each homeowner.

- **Community Collection System.** Effluent from the individual septic tanks would flow from the pressure lateral into a small diameter (two to four inches) pressurized sewer main located within the street right-of-way (refer to Figure 3-8, INDIVIDUAL STEP SYSTEM in Section 3.0, PROJECT DESCRIPTION). Access ports would be located along the sewer main as necessary to facilitate maintenance. Air relief with carbon odor control filters would be located as necessary.

- **Community Wastewater Treatment System.** An approximate 0.25-acre fenced wastewater treatment facility would be centrally located within the project site (refer to Figures 3-9a and 3-9b, WASTEWATER TREATMENT SYSTEM, in Section 3.0, PROJECT DESCRIPTION). The facility would include a controls/storage building approximately 12 feet by 15 feet in size. This building would have a restroom and house the treatment system controls, the disinfection system, records keeping work station, safety equipment, maintenance equipment and miscellaneous storage. The treatment system would include flow equalization and emergency storage tankage. Secondary treatment would occur through Orenco AXMAX units installed in phases as the wastewater flow increases.

- **Community Wastewater Dispersal System.** Final dispersal of the system discharge to the soil would occur via shallow subsurface drip lines. Drip lines would be divided into multiple zones to minimize the effective loading rate to the receiving soil and to provide system redundancy, both of which are additional design safety factors. The drip zones would be located in wide street medians and the effluent would provide nominal irrigation to appropriate native plants (refer to Figure 3-10, DRIP DISPERSAL SCHEMATIC, in Section 3.0, PROJECT DESCRIPTION).

Each individual residential unit would have a septic tank and dual-plumbing wastewater drain system, and each septic tank would be connected to the community collection system and the wastewater treatment facility. The capacity of the wastewater treatment facility would be constructed to accommodate the proposed 166 lots only. The proposed project would be required to obtain permits including Shasta County Sewage Disposal System permit, grey water diversion systems permit with Shasta County Building Division, sewage disposal system permit issued by Shasta County Environmental Health Department for each individual parcel. In addition, the community wastewater treatment and dispersal system would be owned and operated by the Tierra Robles Community Services District (TRCSD) and would fall under Central Valley RWQCB’s Waste Discharge Requirements.

The proposed project would be constructed per local, State, and federal laws and regulations, as well as applicable permit requirements. In addition, the potential effects caused by any physical disturbance (e.g. ground disturbance, noise, vehicle emissions) associated with the wastewater treatment system are addressed through mitigation measures, as appropriate, relative to such issue areas (e.g. biological or cultural resources, noise, geology and soils, hazards and hazardous materials, etc.) within this Draft EIR. The proposed project would not result in the expansion of an existing facility. Therefore, impacts with regard to the construction of new wastewater treatment facilities or expansion of existing facilities would be less than significant.
Water Delivery. The proposed project is located within the boundaries of the BVWD; therefore, the proposed project would not require annexation into a public water district for water service. Water mains and laterals would be installed by the project applicant to connect to the BVWD lines which currently exist at the perimeter of the proposed project. The BVWD’s Welch Pump Station is located in the general vicinity of Old Alturas Road/Seven Lakes Road, approximately 810 feet west of Eden Drive.

The proposed internal water system would connect to the existing lines in the following locations: Boyle Road (existing 16-inch line); Northgate vicinity (existing six-inch line); Old Alturas Road (existing 16-inch line), with possible future water connections to Rae Lane (existing six-inch line). The new interior water lines would generally follow the layout as shown in the Bella Vista Master Water Plan, and would be 10 inches in diameter or greater, as may be required.

These infrastructure extensions and installations would ensure that infrastructure to deliver water to the proposed project would be adequately met. No new groundwater wells would be required to serve the proposed project. In addition, all new connections in BVWD’s water system require payment of capital improvement fees, when applicable. The proposed project site is in within both the Main Pressure Zone and the Welch Pressure Zone and would be subject to any applicable fees. Therefore, impacts with regard to the construction of new water treatment facilities or expansion of existing facilities would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Impacts would be less than significant.

Impact Analysis: The grading of the project site and introduction of impervious surfaces could result in a change in site-specific drainage patterns. All project grading would comply with County standards, ordinances, and codes, including Shasta County Code, Chapter 12.12, and any other grading and building permits issued by the County. Grading activities would be conducted in a manner that complies with County requirements along with the requirements of the State of California as mandated by the Construction General Permit, NPDES, and SWPPP. Therefore, the construction of the proposed project stormwater infrastructure would have a less than significant impact.

While the proposed project alters existing site hydrology and increases impervious surfaces, the proposed project would provide both storm drainage conveyance and detention facilities. Storm drainage facilities (grassy swales, culverts, etc.) would be constructed along roadway right-of-way by the project applicant, and owned and maintained by the TRCSD. Rooftop and hardscape drainage would be directed to landscape and turf areas prior to discharging to the natural channels as noted in the Design Guidelines. The proposed project would implement best management practices (BMPs) to incorporate low impact
developments (LIDs). As discussed in Section 5.9, HYDROLOGY AND WATER QUALITY, the implementation of the onsite LID facilities to retain stormwater runoff that would result from the proposed project, would result in no change in the pre- and post-construction flow of Clough Creek. In addition, the proposed project would be designed consistent with requirements contained within the Shasta County Code, Chapter 12.12 to minimize the flow of stormwater during project operation. The capacity of the proposed LID facilities provides sufficient runoff storage to reduce the 100-year post-project peak flows to the flows that are at or below those of existing conditions (refer to Section 5.9, HYDROLOGY AND WATER QUALITY).

Thus, the proposed project includes stormwater infrastructure that would continue to discharge in a manner consistent with existing conditions. As a result, an increase in peak runoff from the site would not occur. Implementation of BMPs would be required.

Although stormwater detention improvements would be required onsite to control stormwater flows resulting from site development, the proposed project would not require construction of new offsite stormwater drainage facilities or expansion of existing offsite facilities to manage stormwater runoff during construction or operation, the construction of which could cause significant environmental effects. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required

Level of Significance After Mitigation: No mitigation measures are required. Impacts would be less than significant.

### IMPACT

**Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed.**

Significance: Potentially Significant Impact.

**Impact Analysis:** The primary water supply for BVWD is through a 25-year renewable contract with the USBR for water supply from the CVP, which entitles BVWD to 24,578 acre-feet annually. CVP water furnished to BVWD is allocated and managed in accordance with the USBR’s Shortage Policy and BVWD has adopted Resolution 15-04, which establishes a municipal and industrial Water Shortage Contingency Plan (WSCP) in order to conserve the available water supply and protect the integrity of BVWD water supply facilities. The proposed project would generate demand for water during both short-term construction and long-term operation. The increase in water demand that could exceed BVWD’s water supply as a result of the proposed project is analyzed below.

**Short-Term Construction**

Refer to Impact 5.17-2, above. Water for construction would be supplied via water trucks. Water would be used for purposes of dust control during grading and construction, as well as for minor activities such as washing of construction equipment and vehicles.

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22 Although BVWD’s current contract (Contract 14-06-200-85A-LTR1 between the USBR and BVWD) expires March 1, 2030, the contract includes specific clauses allowing for the renewal of successive periods of 40 years each. In addition, BVWD’s current contract is an extension of prior contracts with successive service that began in April 1964.
For purposes of identifying incremental water demands, construction water is assumed to be 2 acre-feet per year (this is about 600,000 gallons – or over 150 fill-ups of a 4,000-gallon water truck per year). The proposed project is anticipated to be operating at full capacity and fully built within 15 years of breaking ground, therefore construction water is only included in the initial years of the project.

Existing water supplies would be adequate to meet the water demand needs during the construction phase and no new water infrastructure would be required for construction purposes. As such, new or expanded water supply entitlements would not be required in support of construction activities. Impacts would be less than significant.

Long-Term Operation

As stated above, SB 610 and SB 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessments occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessment must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project’s demands. They also require identification of existing water entitlements, rights, and contracts and a quantification of the prior year’s water deliveries. As stated above, the proposed project does not meet any “project” thresholds outlined in Senate Bill 610; however, a Water Demand Evaluation was prepared to estimate the additional water demands of the project and to analyze the water supply elements of Senate Bill 610 (refer to Appendix 15.10, WATER DEMAND EVALUATION).

Water Demand (Use). Residential unit demand reflects two distinct uses: indoor use and outdoor use. The design of the proposed project calls for 166 lots ranging from 1.38 to 6.81 acres, consisting of single-family homes with individual landscaping (limited to 5,000 square feet within the building envelope). The indoor and outdoor components are ultimately combined into a total unit demand factor for residential uses. Residential unit demand factors are represented as the quantity of water in acre-feet per dwelling unit (DU) per year.

- Indoor Residential Demand. The dwelling units are estimated to use 0.15 AFY for indoor water demand for primary residences, and 0.28 AFY for the 15 lots with both primary and secondary units. This indoor unit demand factor is based upon an assumed value of 55 gallons per person per day (gpcd), with an assumed average occupancy rate of 2.5 people per home for primary residences, and 2 people per home for the secondary units. The assumed per-person rate of 55 gallons per day is derived from California Water Code Section 10608.20(b)(2)(A), which states a value of 55 gallons per capita (i.e., per person) per day (gpcd) be used for estimating indoor residential use targets. When multiplied, the per-person use results in a per-dwelling unit demand of 0.15 AFY for the 166 single family homes, and 0.12 AFY for the 15 secondary units. This indoor use value has been confirmed through analyses of residential water meter data and

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24 The occupancy rate is the average single family occupancy rate for Shasta County (2.5) per the California Department of Finance census data available from “E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2016 with 2010 Census Benchmark” available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.
25 Indoor demand for primary units = 2.5 people/house x 55 gallons per person, per day x 365 days = 50,188 gallons/dwelling unit/year = 0.15 acre-feet/dwelling unit/year
is reflective of new suburban single-family dwelling units and older homes retrofitted with new water efficient fixtures and appliances.26

- **Outdoor Residential Demand.** Outdoor demands for the proposed project are calculated based on regulations defined under the County’s landscape ordinance discussed previously. The ordinance does not provide a specific calculation methodology for estimating landscape water demands, so for the purposes of this memorandum the MWEO method is used. The MWEO provides for determining the Maximum Applied Water Allowance (MAWA) where the maximum is determined as 55 percent of the reference evapotranspiration for the area.

  A primary factor in this calculation is evapotranspiration (ET). The methodology directs the use of ET from a reference crop, such as maintained grass – a value referred to as ETo. For the proposed project, the ETo value used is 56.22 inches per year.27 The landscape area is the other primary factor. As noted previously, the proposed project has specified building envelopes for each lot, and is limiting irrigated landscaping to 5,000 square feet within each envelope. This value is used to estimate the overall MAWA, which represents a conservative upper limit for outdoor residential demands. For the 15 lots that will also include a secondary unit, the 5,000 square-foot landscape area is reduced by 1,500 square feet to reflect the footprint of the secondary structure and anticipated hardscapes such as extended driveway and patio areas. Based on the MAWA, maximum permissible water demands per standard lot is 0.29 AFY.28 For the 15 lots with secondary units, the maximum demand is estimated to be 0.21 AFY.

Taking the indoor and outdoor factors into account, Table 5.17-7, RESIDENTIAL UNIT WATER DEMAND FACTORS, provides the total estimated per-lot water demand for the proposed project. Combined, each lot is estimate to use 0.45 AFY for lots with only a primary residence, and 0.48 AFY for the 15 lots with secondary units.

Table 5.17-7
RESIDENTIAL UNIT WATER DEMAND FACTORS

<table>
<thead>
<tr>
<th>Water Demand Category by Dwelling Unit (DU) Type</th>
<th>Indoor Factor</th>
<th>Outdoor Factor</th>
<th>Total Demand Factor (AF/DU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Home</td>
<td>0.15</td>
<td>0.29</td>
<td>0.45</td>
</tr>
<tr>
<td>Residential Home with Secondary Unit</td>
<td>0.28</td>
<td>0.21</td>
<td>0.48</td>
</tr>
</tbody>
</table>


The proposed project demand represents the demand for water at the project location (e.g., at the customer’s location). To fully represent the demand, distribution system losses must also be included. Often, distribution system losses represent water that is lost due to system leaks, fire protection, unauthorized connections, and inaccurate meters. Essentially, this is the water that is produced by BVWD that does not make its customers – either as a real loss or an apparent loss (e.g. such as may result when a customer meter underreports actual use). In most instances, the predominant source of distribution system losses is from leaks that inevitably exist throughout the many miles of pipes and fitting that bring water to BVWD’s customers.

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26 With the increasingly stringent requirements of building codes as well as water and energy efficiency codes, it is likely that the actual indoor demand of the proposed project may be below the stated 0.15 af/yr value. Recently, the Governor issued Executive Order B-37-16 that, among other orders, directed state agencies to develop new urban water use targets including a standard for indoor residential per-capita water use. These new targets are to “build upon the existing state law” that requires a 20% reduction in urban water use by 2020 – which includes the suggested 55 gallons-per-person per day planning guidance.

27 California Department of Water Resources reference ETo map zone 14.

28 MAWA formula = 56.22 inches X 0.62 X 0.55 X 5,000 sf = 95,855 gallons = 0.29 acre-feet
BVWD utilizes a 6 percent loss factor to be representative of non-revenue water based on its historical data. This value is used to represent the additional water the BVWD must treat, convey and deliver to assure the proposed project’s customer demands are satisfied. As shown in Table 5.17-8, ESTIMATED POTABLE WATER DEMAND, non-revenue demand is estimated to be approximately 5 acre-feet per year.

Taking the outdoor, indoor, and loss factors into account, Table 5.17-8, provides the total estimated water demand for the proposed project through year 2040. The proposed project would require an initial 2 AFY of water for construction and then an initial 41 acre-foot operational water between year 2020 and year 2025. As shown in Table 5.17-8, the proposed project is estimated to have a total annual water demand of approximately 80 AFY by year 2030. The 80 AFY is expected to occur within 10 years following project initiation.

<table>
<thead>
<tr>
<th>Category</th>
<th>Unit Count or Acreage</th>
<th>Demand Factor (af/yr or af/ac)</th>
<th>Demand (af/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2020</td>
<td>2025</td>
<td>2030</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural Residential (indoor)</td>
<td>0</td>
<td>73</td>
<td>151</td>
</tr>
<tr>
<td>Rural Residential (outdoor)</td>
<td>0</td>
<td>73</td>
<td>151</td>
</tr>
<tr>
<td>With Secondary Unit (indoor)</td>
<td>0</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>With Secondary Unit (outdoor)</td>
<td>0</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Residential Total</td>
<td>0</td>
<td>36</td>
<td>75</td>
</tr>
<tr>
<td>Other Project Demands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median Landscaping</td>
<td>20</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Wastewater Facility</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Construction Water</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Non-Residential Total</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Indoor Subtotal</td>
<td>0</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>Outdoor Subtotal</td>
<td>2</td>
<td>25</td>
<td>48</td>
</tr>
<tr>
<td>Project Subtotal</td>
<td>2</td>
<td>38</td>
<td>75</td>
</tr>
<tr>
<td>Indoor Non-Revenue Water 6%</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Outdoor Non-Revenue Water 6%</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total Indoor</td>
<td>0</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td>Total Outdoor</td>
<td>2</td>
<td>27</td>
<td>51</td>
</tr>
<tr>
<td>Total Proposed Project Demand</td>
<td>2</td>
<td>41</td>
<td>80</td>
</tr>
</tbody>
</table>


Compliance with EO B-29-15 and EO B-37-16. As mention above in Section 5.17.2, REGULATORY SETTING, EO B-29-15 was established with the goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. EO B-36-15 directed the SWRCB to extend of urban water use restrictions through October 31, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives which set strict limits on water usage in the State. EO B-37-16 emphasizes wise water use and less water waste to become permanent requirements in order to prepare for more frequent and persistent periods of limited water supply.

In addition, per maximum allowable flowrates for fittings and fixtures consistent with the California Health and Safety Code, California Plumbing Code, and the California Energy Commission’s proposed Appliance Efficiency Regulations, including the following standards, which have recently been updated in response to the Governor’s EO B-29-15 and EO B-37-16:
• Toilets - 1.28 gallons per flush,
• Showers - 2 gallons per minute (gpm) at 80 pounds per square inch (psi) of water pressure,
• Bathroom faucets - 1.2 gpm at 60 psi,
• Kitchen faucets - 1.8 gpm at 60 psi,
• Common area bathroom faucets - 0.5 gpm at 60 psi, and
• Urinals - 0.125 gallons per flush.

EO B-29-15 directives 5, 7, 11, and 16, which are upheld in EO B-36-15 and EO B-37-16, and EO B-37-16 directive 4, are applicable, directly or indirectly, to the proposed project. The proposed project’s compliance with the California Health and Safety Code, California Plumbing Code, California Energy Commission’s proposed Appliance Efficiency Regulations, and with to BVWD’s rules, regulations and policies which include adopted shortage measures as amended, modified, or superseded, would result in building features that would address indoor and outdoor water efficiency measures, and would ensure that the project would comply with EO B-29-15 and EO B-37-16, in addition to the other federal, State, and local laws and regulations.

Water Supply Availability Normal-Year (Average) Conditions. As discussed above, Table 5.17-2, SUMMARY OF WATER SUPPLY SOURCES, shows that BVWD obtains water supplies from three sources during normal years: USBR, ACID, and groundwater. Table 5.17-3, NORMAL SUPPLY AND DEMAND, shows that BVWD anticipates a water surplus of in excess of 7,874 AFY and 9,204 AFY through year 2040 (i.e., more supply than demand) during average rainfall years.

The overall water demand for BVWD is derived from the BVWD’s Urban Water Management Plan Update 2015, and provides an in-depth discussion regarding its customer types and determinations of overall demand based on historic trends and projected growth. BVWD anticipates "residential" customers will grow at a 0.9% annual rate from an average use values calculated for the period 1995 to 2015 (refer to Table 5.17-9, PROJECTED DEMANDS FROM BVWD’S 2015 UWMP, below). The average use values are also provided in the table.

<table>
<thead>
<tr>
<th>Use Type</th>
<th>1995-2015 Avg.</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>2,858</td>
<td>3,282</td>
<td>3,432</td>
<td>3,589</td>
<td>3,754</td>
<td>3,926</td>
</tr>
<tr>
<td>Rural</td>
<td>2,223</td>
<td>2,552</td>
<td>2,669</td>
<td>2,791</td>
<td>2,919</td>
<td>3,053</td>
</tr>
<tr>
<td>Commercial</td>
<td>572</td>
<td>657</td>
<td>687</td>
<td>719</td>
<td>752</td>
<td>786</td>
</tr>
<tr>
<td>Public/Institution</td>
<td>949</td>
<td>1,089</td>
<td>1,139</td>
<td>1,191</td>
<td>1,246</td>
<td>1,303</td>
</tr>
<tr>
<td>Construction</td>
<td>16</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>Agriculture</td>
<td>5,702</td>
<td>6,547</td>
<td>6,847</td>
<td>7,161</td>
<td>7,489</td>
<td>7,832</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>634</td>
<td>727</td>
<td>761</td>
<td>796</td>
<td>832</td>
<td>870</td>
</tr>
<tr>
<td>Unmetered</td>
<td>323</td>
<td>371</td>
<td>388</td>
<td>406</td>
<td>424</td>
<td>444</td>
</tr>
<tr>
<td>Losses</td>
<td>970</td>
<td>1,114</td>
<td>1,165</td>
<td>1,218</td>
<td>1,274</td>
<td>1,332</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14,247</strong></td>
<td><strong>16,357</strong></td>
<td><strong>17,107</strong></td>
<td><strong>17,891</strong></td>
<td><strong>18,711</strong></td>
<td><strong>19,568</strong></td>
</tr>
</tbody>
</table>


The proposed project, considered rural residential by BVWD, is considered to be represented within the growth reflected in the Urban Water Management Plan Update 2015. Specifically, the rural classification is expected to grow approximately 830 AF by 2040, or approximately 40 AF per year. Given the proposed project’s estimated demand of 80 AF at build-out, it is considered to represent about 10% of the overall growth in this category of over 800 AF.
New development within BVWD’s service area is not considered part of the USBR’s water delivery baseline until such time the development’s water use have existed for three 100-percent CVP water allocation years. Although the proposed project is not included within the existing water delivery baseline, the project’s water use is assumed in the Urban Water Management Plan Update 2015 water demand projections and surplus water is available to serve the project’s 80 AFY water demand under normal-year (average) conditions through year 2040. Therefore, the proposed project water demand would be met and would not contribute to negative impacts on the availability of water for BVWD’s existing and other planned future uses under normal-year (average) conditions. Therefore, no water supply mitigation is required for normal-year (average) conditions. In addition, implementation of MM 5.17-4a would ensure water efficient features are incorporated into the project design by requiring written verification be provided to the County regarding facility compliance with applicable water efficiency design standards required by the California Uniform Building Code and the BVWD. Impacts would be less than significant for normal-year (average) conditions.

Water Supply Availability Dry-Year Conditions. As shown in Table 5.17-4, SINGLE DRY YEAR SUPPLY AND DEMAND, and Table 5.17-5, SUPPLY AND DEMAND COMPARISON – MULTIPLE-DRY YEAR, BVWD water supplies are projected to be insufficient to meet existing and projected water demands under a multiple-dry year period. Although this supply deficit decreases in the second and third dry years, the deficit maintains a water supply shortage of several thousand acre-feet. The additional demand of 80 AFY of water would further impact dry-year water supplies within BVWD’s service area and, as a result of not being included within BVWD’s existing water delivery baseline, would be served with water supplies calculated and distributed based on allocations established prior to the project. Therefore, absent the delivery of a supplemental water supply to BVWD during dry-year periods, the proposed project would utilize water that would otherwise be available to existing BVWD customers and further exacerbate dry-year water shortages.

To mitigate this effect, the proposed project would be required to provide an alternative water supply during dry-year conditions until such time as the proposed project’s demands have existed for three 100-percent water allocation years and are included in BVWD’s baseline water demand. Implementation of MM 5.17-4b requires that the project applicant to identify and implement an Agreement to augment (i.e., supply) BVWD dry-year water supplies until such time as the proposed project’s water demands have existed for three 100-percent CVP water allocation years delivered by USBR. Water supplies would be a minimum of 90 percent of the project’s prior year water use.

For any dry-year shortage condition that occurs after three years of 100-percent CVP water allocation, the project applicant would no longer be required to provide BVWD with water supplies, but the project applicant would then be fully subjected to the shortage provisions administered by BVWD to all its customers. Actual supply source(s) of this future Agreement are unknown at this time, however, water supply augmentation options can include, but are not limited to, new dry-year water supplies for BVWD made available from local water rights or entitlements, or expansion of groundwater production within BVWD’s service area. Mitigation measure MM 5.17-4b, requires the water Agreement between the project applicant and BVWD to be in place prior to issuance a building permit. This mechanism, as described in MM 5.17-4b, would ensure that the required dry-year supplemental water supplies are committed to the project prior to commencement of construction. As a result, impacts related to water availability under dry-year conditions are less than significant.

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29 A dry-year water supply augmentation amount of 90 percent of the prior year’s water demand accounts for a minimum 10 percent water conservation target the project and other BVWD customers would be subject to (based on the prior year’s water use).
30 A mitigation measure “preventing development” until “identified sources” of water “materialize” ensures that actual physical development does not occur until such time as there is adequate water to serve it. Thus, where a Lead Agency has identified a possible water source for new
**Potential Environmental Consequences of Water Transfers**

As stated above, actual supply source(s) associated with **MM 5.17-4b** are unknown at this time, however, water supply augmentation options can include, but are not limited to, new dry-year water supplies to BVWD made available from local water rights or entitlements, or expansion of groundwater production within BVWD’s service area. The following discusses general potential impacts associated with implementation of **MM 5.17-4b** to the extent possible given that actual water source(s) have yet to be confirmed as of the publication of this Draft EIR.  

**Temporary Purchase of Local Entitlements.** A water transfer involves an agreement between a willing seller and a willing buyer (i.e., BVWD), and available infrastructure capacity to convey water between the two parties. To make water available for transfer either on a temporary or permanent basis, a willing seller may take an action to legally make water available by reducing the consumptive use through idling cropland, pumping of groundwater, or other allowed methodology. In the case of the proposed project, the required water would be secured by the project applicant to temporarily offset project-related dry-year allocations, although the transaction would be contractually between BVWD and a selling entity. The purchased water would be limited to serve the needs of the proposed project only and would not be available to support any new demand in BVWD’s service area.

The project applicant’s secured water source would represent a temporary action to mitigate potential project effects, lasting until such time BVWD receives three years of 100 percent CVP allocation. Once the three years of 100 percent CVP allocation is achieved, BVWD would stop receiving dry-year water supplies and any transaction would cease, resulting in the supply source returning to its original use prior to the transaction.

Water transfers are considered a discretionary action under CEQA and in the case of the proposed project BVWD would act as the Lead Agency over this future transaction. Water supply provided to BVWD under any future transfer agreement (including any new or upgraded conveyance infrastructure, if necessary) must demonstrate conformance with applicable CEQA and/or NEPA requirements, as well as any other permitting or regulatory requirements stipulated in the BVWD’s contract with the USBR, including any State or federal biological opinions/agreements in affect at that time. This review would ensure that potential CVP surface water or groundwater impacts associated with the temporary transfer, including potential impacts to sensitive species and habitats, would be less than significant. Any transfer involving groundwater resources within the Redding Area Groundwater Basin would be required to demonstrate consistency with basin’s Groundwater Management Plan (GMP) and, if necessary, the future Groundwater Sustainability Plan (GSP) for the Enterprise Sub-Basin. This EIR assumes that a water transfer, if selected as the option for implementation, would utilize existing infrastructure and the supply source itself has received applicable environmental approvals. Therefore, no significant impacts are anticipated with a temporary water transfer option. However, the specific water transfer proposal would be evaluated for CEQA compliance by BVWD prior to implementation. As noted in **MM 5.17-4b**, the proposed project cannot proceed without a verified and approved water supply.

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31 Although State CEQA Guidelines §15145 specifically discourages a Lead Agency from engaging in idle speculation, the above discussion regarding anticipated environmental consequences associated with supplementing dry-year water supplies represents a good-faith effort to disclose anticipated potential environmental impacts of the project’s proposed water supply mitigation (see also State CEQA Guidelines §15151, Standards for Adequacy of and EIR).
Expansion of Groundwater Production. To supply the necessary dry-year demand, construction of a new production groundwater well within BVWD’s service area may provide a feasible alternative water supply for the proposed project. Similar to the purchasing and transfer of local water entitlements, the siting, construction and operation of a new groundwater production well would be considered a discretionary action under CEQA with BVWD acting as the Lead Agency. Any new groundwater production infrastructure would be implemented in accordance with BVWD’s UWMP and be required to confirm that the proposed groundwater pumping will be compatible with State and local regulations, including the existing GMP for the Redding Area Groundwater Basin and, if necessary, the future GSP for the Enterprise Sub-Basin.

The Department of Water Resources does not identify the Redding Area Groundwater Basin as being overdrafted; however, the California Statewide Groundwater Elevation Monitoring (CASGEM) Program considers the Enterprise Subbasin as a medium priority basin. According to Bulletin 118, groundwater levels in the Enterprise Subbasin fluctuate seasonally approximately 5 to 10 feet and, for the semi-confined wells, between 10 to 15 feet for normal and dry years.

Measurements of groundwater have shown levels start dropping in early spring and continue to decline through the summer until early September. Maximum levels are usually reached by February. Overall, there does not appear to be any increasing or decreasing trends in groundwater levels and over the long-term levels have remained steady. There are seasonal fluctuations, as mentioned above, and there are some fluctuations caused by climatic patterns, but overall levels have not changed significantly over the period of record (Coordinated AB 3030 Groundwater Management Plan for the Redding Groundwater Basin, Shasta County Water Agency, Update 2007).

Implementation of a new groundwater production well would result in temporary construction impacts associated with construction emissions, water quality, and noise. Short-term construction impacts would be mitigated through standard construction practices in addition to rules and regulations promulgated by the Shasta County Air Quality Management District (SCAQMD) and the Central Valley Regional Water Quality Control Board (CVRWQCB).

Operationally, new groundwater production facilities are subject to BVWD design standards (i.e., security fencing, well housing, lighting, backup generators) and are sited in such a manner as to avoid sensitive habitats, species, and/or culturally significant resources. In addition, well operation would be subject to local noise ordinance controls in addition to operational regulations as required by the SCAQMD and CVRWQCB.

Therefore, no significant impacts are anticipated with a new groundwater well option. However, the specific water supply proposal would be evaluated for CEQA compliance by BVWD prior to implementation. As noted in MM 5.17-4b, the proposed project cannot proceed without a verified and approved water supply.

Mitigation Measures:

MM 5.17-4a: Prior to issuance of a building permit, the project applicant shall provide written verification to the Shasta County Department of Resource Management of facility compliance with applicable water efficiency design standards required by the California Uniform Building Code.
MM 5.17-4b: Concurrent with the establishment of the Tierra Robles Community Services District, the project applicant shall provide to the Shasta County Department of Resource Management documentation demonstrating that the applicant has secured an Agreement with BVWD to provide BVWD with adequate water supplies on an annual basis during identified shortage conditions in a quantity that represents a minimum of 90 percent of the project's prior year water usage. Shortage conditions shall be defined to exist when BVWD has been notified by the USBR that it will receive less than a 100 percent (full) allocation of its CVP water supplies for the coming delivery season, as that determination has been announced by USBR as of April 15th of each year. The augmenting water supplies shall be made available to BVWD through the Agreement until such time as BVWD has completed three years of full CVP water allocation after commencement of operations at the project site. For any shortage condition that occurs after three years of full CVP allocation, the project applicant shall no longer be required to provide BVWD with augmenting water supplies, but the project applicant shall then be fully subjected to the shortage provisions administered by BVWD to all its customers. The project applicant shall demonstrate that any water supply provided to BVWD under the Agreement satisfies all CEQA and NEPA compliance requirements, as well as any other permitting or regulatory approvals, as may be associated with a water supply identified in the Agreement.

Level of Significance After Mitigation: Impacts would be less than significant with mitigation incorporated.

IMPACT 5.17-5 Project implementation would not result in inadequate wastewater capacity to serve existing and projected demand within the County.

Significance: Less Than Significant Impact.

Impact Analysis: As discussed above under Impact 5.17-1, wastewater from the proposed project would be initially collected via individual septic tanks on each lot and then transferred to a community collection system and delivered to a community wastewater treatment facility. Final dispersal of the wastewater system discharge would occur via shallow subsurface drip lines located in wide street medians. The capacity of the wastewater treatment facility would be constructed to accommodate the proposed 166 lots within the project site. As a result, the proposed project would not contribute to wastewater at an existing treatment facility and the proposed facility would have the capacity to serve the proposed project development. Therefore, wastewater treatment services would be adequately accommodated and would not adversely affect the existing commitments of any area wastewater treatment provider. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Impacts would be less than significant.

IMPACT 5.17-6 Project implementation would increase the demand for solid waste disposal services.
Significance: Less Than Significant Impact.

Impact Analysis: Solid waste in the County is collected by Waste Management (Anderson-Cottonwood Disposal) and Burney Disposal. Solid waste generated in the project area would be collected by Waste Management. Solid waste is disposed of at the Richard W. Curry/West Central Sanitary Landfill and the Anderson Landfill. The proposed project would be served by the Richard W. Curry/West Central Sanitary Landfill. Richard W. Curry/West Central Landfill receives approximately 380 tons per day, with a peak of approximately 580 tons per day in the summer months, and is permitted to accept 700 tons of waste per day throughput with a maximum of 13,115,844 cubic yards. As of December 2013, the landfill had approximately 6,589,044 cubic yards of remaining capacity. The County will begin the process of seeking permits to expand the landfill around 2017, which is approximately 15 years from the estimated fill date. The landfill currently has capacity.

The Anderson Landfill provides additional services such as accepting asbestos (non-friable), construction and demolition debris, industrial and special waste, municipal solid waste, tires, and yard waste. The Anderson Landfill is permitted to accept 1,850 tons of waste per day with a maximum capacity of 16,840,000 cubic yards. As of March 2008, the landfill had approximately 11,914,025 cubic yards of remaining capacity.

Short-Term Construction

Site preparation (vegetation removal and grading activities) and construction activities would generate typical construction debris, including wood, paper, glass, metals, cardboard, and green waste. Non-salvaged construction and demolition waste would result in an incremental and intermittent increase in solid waste disposal at the Richard W. Curry Landfill and at the Anderson Landfill.

According to the EPA’s (2003) “Construction and Demolition Amounts,” the overall waste generation rate of residential construction to be 4.39 pounds of waste per square foot constructed. Using the EPA waste generation rates and the average residence size of 3,550 square feet and 1,200 square feet per accessory dwelling unit, the proposed project is estimated to generate approximately 1,333 tons of solid waste during the construction of the 166 residential lots. Application of the California Building Code requirements will divert a minimum of 50 percent of the construction waste from the landfill, which results in a total estimated construction solid waste generation of approximately 666.5 tons, or approximately 0.51 tons per day during construction assuming construction occurs over a ten-year period with six-month construction windows.

Richard W. Curry/West Central Landfill has approximately 120 to 320 tons per day of capacity; therefore, the landfill would support a temporary increase in solid waste during construction of the proposed project. Recycling of construction debris would reduce the potential amount of waste disposed of at the Richard W. Curry/West Central Landfill and would contribute to the recycling goals set forth by Shasta County, California Building Code, and AB 939. Construction activities would be required to comply with all

34 This assumes that construction would occur over a ten-year period and that in any given year, the window of opportunity for construction is six months, or approximately 130 days. Therefore, the amount of waste generated per day was calculated as follows: (666.5 tons/10 years)/130 working days per year = 0.51 tons per day.
federal, State, and local statues and regulations related to solid waste. As a result, less than significant impacts would occur.

**Long-Term Operation**

Implementation of the proposed project would result in the generation of household solid waste from operation of the proposed project. Waste produced may include food waste, paper, plastics, defective or malfunctioning minor equipment or electrical materials (e.g., light bulbs), empty containers, and miscellaneous solid materials.

The proposed project would result in the construction of up to 166 residences that would range in size, with an average residence being approximately 3,550 square feet. It is also assumed that the 9% of the residential lots, or 15, would have an accessory dwelling unit onsite. CalRecycle’s *Estimated Solid Waste Generation Rates for Residential* show that generation rates for residential land uses are approximately 12.23 pounds of solid waste per household per day, with multi-family residential generating between 3.6 and 8.6 pounds of solid waste per dwelling unit per day and single-family residential generating between 7.8 and 11.4 pounds per household per day. Therefore, conservatively, the proposed project would generate 12.23 pounds of solid waste per household per day. With 166 residential lots and 15 accessory dwelling units, the proposed project would generate a total of approximately 2,213.6 pounds (approximately 1 ton) of solid waste each day and approximately 807,975 pounds (404 tons) of solid waste annually.

The Environmental Impact Report for the Operation of the Richard W. Curry West Central Landfill (Shasta County 2003) projected that an average of 163,161 tons of solid waste per year would be delivered to the landfill between 2007 and 2017. The addition of 1 ton per day associated with project operations represents an increase of less than 1 percent to the 2016 current daily intake volume of between 400 and 500 tons. With Richard W. Curry Landfill’s current capacity, the proposed project would not be expected to significantly impact landfills within Shasta County. The proposed project would be required to comply with all federal, State, and local statues and regulations related to solid waste. As a result, less than significant impacts would occur.

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

**Level of Significance After Mitigation:** No mitigation measures are required. Impacts would be less than significant.

**IMPACT**  
5.17-7  
Implementation of the proposed project would comply with Federal, State, and local statues and regulations related to solid waste.

**Significance: Less Than Significant Impact.**

**Impact Analysis:** The 1989 California Integrated Waste Management Act (AB 939) requires the County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. Reuse and recycling of construction debris would reduce operating expenses and save valuable landfill space.
Project implementation would generate solid waste during construction and operation. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 939, SB 1016, AB 341, and AB 1826 require the County to meet specific waste diversion goals. The Richard W. Curry West Central Landfill has available capacity to accommodate solid waste generated by the proposed project. In addition, the Anderson Landfill also has available capacity to accommodate solid waste generated by the proposed project. Therefore, impacts are considered to be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Impacts would be less than significant.

5.17.5 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

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<tr>
<th>IMPACT</th>
<th>Implementation of the proposed project would contribute to cumulative demands for wastewater, domestic water, and solid waste disposal.</th>
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Significance: Potentially Significant Impact.

Cumulative Setting: Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The proposed project’s contribution to an increased need for utilities and service systems is considered in the context of other past, present, and reasonably foreseeable future projects in the area. If constructed, these projects would cumulatively contribute to impacts on utilities and service systems; however, public agencies and utilities are given an opportunity to respond to an inquiry for information regarding the potential increase in demand for their services. Development fees, if applicable, would be assessed on a project-specific basis to mitigate any increased demand on public utilities and service systems.

Wastewater. The cumulative setting for wastewater is unincorporated Shasta County, outside of the three CSAs which include wastewater systems. Outside of the CSAs, individual properties are served by individual septic systems.

Water Supply. The cumulative setting for domestic water supply includes the 54 square-miles service boundary of BVWD, generally extending from Churn Creek Road on the west, the community of Palo Cedro on the southeast, the community of Mountain Gate on the northwest, and Salt Creek at SR-299 on the northeast.

Solid Waste. The cumulative setting for solid waste service includes the County’s service area and City of Redding’s service area where solid waste is transported and disposed at the Richard W. Curry/West Central Sanitary Landfill. Under existing state permits, the landfill has sufficient capacity to accommodate the disposal of solid waste at least to the year 2017. As previously discussed, AB 939 requires all cities and counties to divert 50 percent of solid waste from landfills as of January 1, 2000.
Impact Analysis: Significant cumulative impacts would occur if the other projects identified would overburden utilities and service systems or if agencies would be unable to provide adequate services, thereby resulting in significant combined impacts related to the need for development of new facilities.

Wastewater. As discussed above, the proposed project would construct a wastewater treatment system. The proposed system would initially collect wastewater via individual septic tanks, transfer wastewater to a community collection system, treat the wastewater and then recycle for landscape irrigation. The proposed wastewater treatment facility would be constructed to accommodate the proposed 166 lots. Therefore, the wastewater treatment demand of the proposed project would not combine with past, present, and reasonably foreseeable future projects in Shasta County. Thus, the proposed project would not substantially contribute to cumulative wastewater service demands and would result in cumulative impacts that are less than significant.

Water Supply Availability Normal-Year (Average) Conditions. As noted in Impact 5.17-4, adequate water supplies are available from BVWD to serve the proposed project and uses within the BVWD’s service area under normal wet year conditions. Implementation of MM 5.17-4a would ensure the proposed project includes water efficient features as required by current design standards. Cumulative water supply demand under normal-year conditions are considered less than significant.

Water Supply Availability Dry-Year Conditions. During multiple-dry years, there would be insufficient water to meet demands within the BVWD service area, with or without the proposed project. As discussed in Impact 5.17-4, above, when USBR declares a “Condition of Shortage”, the Shortage Policy sets forth an available volume for BVWD based upon the BVWD’s actual diverted water supply (also known as baseline volume) during the prior three years when BVWD water allocations were 100 percent. Until such time as the proposed project’s demands are able to be included in the BVWD’s baseline quantities, the proposed project would be required to provide an alternative water supply to BVWD, a minimum of 90 percent of the project’s prior year water use, during shortage conditions. Implementation of mitigation measure MM 5.17-4b requires that the project applicant identify and implement an Agreement with BVWD to augment BVWD water supplies during dry years to off-set the proposed project’s water demand.

Once the proposed project has met the requirements to be considered within the BVWD water delivery baseline, then the proposed project, along with all other existing customers included in the water baseline, would be subject to all BVWD Water Supply Contingency Plan measures. As previously discussed, the proposed project is considered rural residential by BVWD and is represented within the growth reflected in the Urban Water Management Plan Update 2015. Specifically, the rural classification water demand is expected to grow to approximately 830 AF by 2040, or approximately 40 AFY. Given the proposed project’s estimated demand of 80 AFY at build-out, it is considered to represent about 10% of the overall growth in this category of over 800 AF.

The proposed project would not combine with other past, present, or reasonably foreseeable future projects within BVWD with respect to water supply and demand because the proposed project is within BVWD’s anticipated demand projections, would mitigate its dry-year water demand until included within BVWD’s water delivery baseline, and would be subject to all water conservation requirements mandated by BVWD. Similar to that of the proposed project, other future projects within BVWD’s service area would be required to demonstrate that adequate water supplies are available at the time when development is proposed, consistent BVWD requirements and SB 610, as applicable. Cumulative water supply demands are considered less than significant.
Solid Waste. The proposed project is not expected to result in significant impacts to the Richard W. Curry West Central Landfill. The Richard W. Curry West Central Landfill has adequate capacity to serve the proposed project. The generation of waste from cumulative projects, including residential and commercial developments, as well as other projects, could result in a cumulative impact. All handling and disposal of solid waste and recyclable materials associated with cumulative development would occur in compliance with applicable State and local regulations. Similarly, other planned projects would be expected to comply with State and local waste reduction policies. Thus, the proposed project would not be expected to combine with impacts from past, present, or reasonably foreseeable projects and result in a cumulative impact on area landfills.

Mitigation Measures: Implement MM 5.17-4a and MM 5.17-4b.

Level of Significance After Mitigation: Implementation of mitigation measures identified for this proposed project, combined with adherence with applicable County, BVWD, and other local utility purveyor design and development standards on a project-by-project basis, would serve to reduce potential cumulative utility and service system impacts to less than significant levels.