

3.16 UTILITIES AND SERVICE SYSTEMS

3.16.1 INTRODUCTION

This section describes the existing utilities that serve the Amoruso Ranch project site and its vicinity and potential impacts to these utility systems from the implementation of the Proposed Action and alternatives. The utilities and service systems addressed in this section include water supply, recycled water, wastewater, solid waste, electricity, and natural gas. Applicable regulations and policies affecting the utilities and service systems in the project area are also described.

The Applicant has put forth a compensatory wetlands mitigation plan that includes wetland restoration activities on three off-site mitigation properties. However, no land development would occur at these mitigation properties; therefore, no short-term or long-term impacts with respect to utilities and service systems are associated with the mitigation sites. Thus, the mitigation sites are not discussed further in this section.

The following sources of information were used in this analysis:

- Amoruso Ranch Specific Plan (ARSP) EIR prepared by the City of Roseville (City of Roseville 2016a);
- City of Roseville General Plan 2035 (City of Roseville 2016b);
- Amoruso Ranch Specific Plan Area Water Master Plan prepared by Kimley-Horn (Kimley-Horn 2016);
- Amoruso Ranch Specific Plan Area Wastewater Master Plan prepared by Kimley-Horn (Kimley-Horn 2015);
- City of Roseville Water Supply Assessment for Amoruso Ranch Specific Plan prepared by West Yost Associates (West Yost 2016) (included in **Appendix 3.16a**);
- 2015 Urban Water Management Plan prepared by the City of Roseville (City of Roseville 2016c);
- 2015 Urban Water Management Plan prepared by Placer County Water Agency (PCWA 2016); and
- Western Placer Groundwater Management Plan (WPCGMP) prepared by MWH (2007).

3.16.2 AFFECTED ENVIRONMENT

The project site is currently not served by any municipal utility systems. However, since the site is located within the City of Roseville (City), all utilities will be provided to the site by the City.

3.16.2.1 Water

The City would serve as the water supplier for the Proposed Action and the alternatives. The City's potable water supply comes primarily from the Federal Central Valley Project (CVP), which includes Folsom Reservoir. The City also receives water from Placer County Water Agency (PCWA) and the San Juan Water District (SJWD) for municipal and industrial purposes. In addition to these water supply sources, supplemental water is available from SJWD, Sacramento Suburban Water District (SSWD), PCWA, the California American Water Company (CAW), and the Citrus Heights Water District through interties, which are connections between distribution systems that can transfer water in times of drought or system

disruptions (West Yost 2016). Additional water sources include recycled water which is used all the time to supplement the surface water supply, and groundwater; which is used as a back-up when surface water supplies are restricted. The City also has interties with other regional water agencies to obtain water under emergency conditions. The City's water supply sources are described in detail below.

City of Roseville Surface Water Supplies

The City's water demand in 2015 was 22,881 acre-feet per year (afy). The City projects that future growth, including the Proposed Action, would increase the annual demand to 48,762 afy by 2035 (City of Roseville 2016a).

The City's current surface water supply is American River water diverted from Folsom Reservoir. The City has three (untreated) surface water contract entitlements for water from the American River, through which it can receive up to 66,000 afy. The City maintains a contract entitlement with the United States Bureau of Reclamation (BoR) for 32,000 afy of Central Valley Project (CVP) supplies. The City's contract with PCWA allows for 30,000 afy of American River Middle Fork Project water conveyed through BoR facilities at Folsom Reservoir. Lastly, the City has a current contract with SJWD for 4,000 afy. The SJWD contract allows for delivery of a portion of their PCWA contract water supply to the City's service area (West Yost 2016).

The American River, from which the City draws its surface water, is one of two major tributaries of the Sacramento River. The Feather River is the second major tributary. Based on historic data from 1956 through 2014, the average annual flow in the American River at Fair Oaks (U.S. Geological Survey [USGS] Station No. 11446500) is approximately 2.6 million afy (City of Roseville 2016a). Folsom Reservoir is the largest reservoir in the American River basin, with a maximum storage capacity of approximately 976,000 acre-feet and a maximum depth of 466 feet above mean sea level (msl). The Folsom Reservoir is owned and operated by the BoR for the CVP (City of Roseville 2016a). The CVP is a multipurpose project, operated by the BoR, which stores water from the Sacramento River, San Joaquin River, and Trinity River basins to provide water supply to meet in-basin needs and also transports water to the Sacramento, San Joaquin, and Santa Clara valleys. The CVP was authorized by Congress in 1937, and operates as an integrated system to serve water supply, hydropower generation, flood control, navigation, fish and wildlife, recreation, and water quality control purposes. The CVP manages and stores approximately 9 million acre-feet of water and annually delivers approximately 7 million acre-feet of water for agricultural, urban, and wildlife use. Of this water, about 5 million acre-feet is used for agriculture, approximately 600,000 acre-feet is for municipal and industrial uses, 800,000 acre-feet is used for fish and wildlife habitat, and 410,000 acre-feet is used for state and federal wildlife refuges and wetlands (BoR 2018).

The City is a signatory to the Water Forum Agreement (WFA). The Water Forum represents diverse water, government, business, agricultural, and environmental interests in most of the County of Sacramento and cities within Sacramento County, the City of Roseville, and western portions of Placer and El Dorado Counties. Elements in the WFA describe how the stakeholders will manage groundwater, surface water diversions, dry year water supplies, water conservation, and protection of the Lower American River. The City is entitled to 66,000 afy of surface water from the American River, but the City's agreement includes a limitation on the diversion from the American River in both wet and dry years. The City agreed to limit

diversions under its American River supply contracts to no more than 54,900 afy in normal/wet years, and no more than 39,800 afy during the driest and critically dry years (West Yost 2016). Through an agreement with SJWD, the City increased its normal/wet year water supplies by an additional 4,000 afy, for a total normal/wet year supply of 58,900 afy.

In addition to the WFA limitation, the City's CVP supplies are also subject to shortage provisions. In severe droughts the shortage provisions could result in City supplies falling below the lowest WFA limitations. If the BoR calls for shortages in excess of 73 percent of the contracted BoR total of 32,000 afy, then available untreated surface water availability would fall below the WFA threshold of 38,900 afy. The total amount of surface water available would range from 62,000 afy (100 percent BoR CVP Supply) to 30,000 afy (0 percent BoR CVP supply). As discussed below, the City has identified PCWA as a partner for the acquisition of up to 1,500 afy of water supply to serve the Proposed Action. Taking this additional supply into account, the total amount of surface water available at City buildout would range from 63,500 afy (100 percent BoR CVP Supply) to 31,500 afy (0 percent BoR CVP supply). In 2015, the BoR CVP allocation to the City was 25 percent of historical use, or nearly 25 percent of the City's full contracted amount. It is important to note that these estimates do not reflect potential American River diversion limitations under the City's WFA which in dry years limits diversions from Folsom Reservoir between 54,900 afy and 39,800 afy.

Placer County Water Agency Surface Water Supplies

The PCWA was created in 1975 by a special Act of the State Legislature (Placer County Water Agency Act). This Act gives PCWA countywide authority with regard to water. PCWA's service boundary includes 1,400 square miles within Placer County. PCWA is also a designated local agency, and an independent special district, encompassing all of Placer County. PCWA carries out a broad range of responsibilities, including water resource planning and management, retail and wholesale supply of irrigation water and drinking water, and production of hydroelectric energy.

PCWA's service area is divided into five zones that provide treated and raw water. Zones 1, 2, 3, and 5 comprise the Western Water System or Western Area, while Zone 4 comprises the Eastern Water System. The Proposed Action project site is currently located in Zone 5, which receives only raw water supplies for agricultural uses. In order for the site to be served with potable water, it would need to be annexed into Zone 1, which receives potable water.

PCWA has several sources of surface water supply entitlements available for use in western Placer County. The primary source of water for Zone 1 is a surface water supply contract with Pacific Gas & Electric (PG&E) for 100,400 afy of Yuba/Bear River water that is delivered through PG&E's Drum Spaulding hydro-system. This has been PCWA's primary source of supply for Zone 1 since PCWA began retailing water in 1968 (PCWA 2016).

PCWA's second source of surface water for consumptive use is its Middle Fork Project water rights. Pursuant to agreements with the BoR, PCWA is limited to a maximum consumptive use of 120,000 afy from this source (PCWA 2016).

PCWA's third source of surface water is its CVP municipal and industrial water supply contract with the BoR. This contract is for 35,000 afy, although the amount of water that would likely be delivered in normal years is 32,000 afy (PCWA 2016). The CVP supply is also subject to 25 percent deficiencies during single-dry and multiple-dry years compared to recent deliveries (PCWA 2016).

PCWA holds four pre-1914 appropriative water rights for diversion of water from various small creeks and their tributaries in western Placer County. Based on diversion records for the past 10 years, PCWA has diverted an average of 3,400 afy from these sources.

The total surface water supply available to the western Placer County area (Zone 1 & Zone 5) is 274,840 afy of permanent supply in normal years, including 9,000 afy of recycled water provided through agreements with the City of Lincoln and the City of Roseville as potential users of recycled water produced at each city's respective wastewater treatment facility. Out of that permanent supply, PCWA has contracted to deliver up to 25,000 afy to San Juan Water District for use within the Placer County portion of its service area and up to 30,000 afy to the City of Roseville. PCWA has also contracted to deliver up to 29,000 afy to Sacramento Suburban Water District for groundwater stabilization in the district's service area, but only when the supply is in excess of the needs of Placer County (PCWA 2016). Because of the nature of this contract with Sacramento Suburban Water District, it is not a factor in determining water availability for PCWA's service area during dry years.

Regional Groundwater

The project site is located in the North American River Groundwater Sub-basin, which underlies northern Sacramento, southern Sutter, and western Placer counties. The Sub-basin is a component of the larger Sacramento Valley Groundwater Basin (see **Section 3.11, Hydrology and Water Quality**). The Sub-basin is bounded by the Bear River on the north, the Feather River and Sacramento Rivers on the west, the American River on the south, and by the Sierra Nevada Range on the east. Specifically, the eastern Sub-basin boundary is a north-south line extending from the Bear River south to Folsom Reservoir. The Sub-basin encompasses approximately 548 square miles (MWH 2007).

According to the State of California's, Department of Water Resources (DWR) Bulletin 118-3, the sub-basin is composed of several systems of water-bearing deposits. The upper unconfined aquifer system consists of the Riverbank and Turlock Lake/Laguna formations and the lower semi-confined aquifer system consists primarily of the Mehrten formation. These two systems constitute the major water producing aquifers in the region (MWH 2007). The upper aquifer system extends to depths ranging from 1,000 to 1,500 feet below sea level. The quality of water from the upper system is typically good. Water extracted from the lower aquifer system contains low concentrations of iron, manganese, and arsenic, and is typically considered poor in quality because it is high in salinity (MWH 2007).

Historically, the upper aquifer system has been pumped for agricultural use, and the lower, semi-confined portion of the aquifer has been used for urban water supply (City of Roseville 2016a). According to a safe-yield analysis conducted in 2013, the sustainable safe yield for the western Placer County portion of the Sub-basin is approximately 100,000 afy (GEI 2013). Note that this number is not static and varies with conditions in the basin. Total groundwater usage from agricultural and urban demands in western Placer County was

about 97,000 afy in 2012 (GEI 2013). The trend in groundwater use has been declining since 2008, which, if the trend continues, could allow for additional groundwater development. This is attributed to the conversion of agricultural lands to urban uses over the past several decades. With the land conversions, pumping demands have decreased, especially when heavy pumping uses such as rice farming have been taken out of production. It is expected that basin pumping demands will continue to decrease over time as urban development increases in the area.

Under natural conditions, groundwater recharge results from infiltration of precipitation (rain and snow). The rate and quantity of water reaching the saturation zone depends on factors that include the amount and duration of precipitation, soil type, moisture content of the soil, and vertical permeability of the unsaturated zone (City of Roseville 2016a). Soils containing hardpan occupy over half the valley on the east side of the Sacramento River (which includes the project site) and these hardpans severely restrict downward movement of water. Therefore, groundwater recharge of the Sub-basin system occurs mostly where extensive sand and gravel deposits exist, particularly along the Feather, Bear, American, and Sacramento River channels. Other sources of recharge within the area include deep percolation associated with applied irrigation water and precipitation, as well as from smaller streams that bisect the region (i.e., Auburn Ravine and Coon Creek).

City of Roseville Groundwater Supply

The City plans to use groundwater for short-term back-up supply during dry years. The WFA recognizes the City's extraction of up to 6,600 afy of groundwater during the drier and driest hydrologic years (Water Forum 2000). The City also recently approved a program for aquifer storage and recovery (ASR) that would increase the basin's reliability. The ASR program allows the City to store potable water in the aquifer for use when needed. Under the program, the City would be allowed to inject surface water into the aquifer during wet years or during the rainy season. During drought conditions, the City would be able to pump stored groundwater if back-up supplies are needed. The City has been working with the Central Valley Regional Water Quality Control Board and other state agencies in refining its ASR program. Prior to this pilot program for ASR, the last time the City relied on groundwater was during drought conditions experienced in 2014 and before that, in 1991 (City of Roseville 2016a).

In addition, the City worked with the City of Lincoln, the PCWA, and the California American Water Company to complete the Western Placer Groundwater Management Plan (GMP). The GMP was prepared in an effort to maintain a safe, sustainable, and high-quality groundwater resource to meet backup, emergency, and peak demands within a zone of the North American River Groundwater Sub-basin (West Yost 2016).

The City's current groundwater well facilities are capable of delivering approximately 16,000 afy of water supply, if run full time, which is the equivalent of approximately 40 acre-feet per day. Note that these wells are maintained primarily for back-up water supply and to improve water supply reliability during drought and emergency conditions. The City anticipates it will construct additional wells, for a total of 16, to support its ASR program. If these new wells are built, the City's groundwater facilities would allow for delivery of up to 106 acre-feet per day or 38,715 afy, if run on a continuous basis (West Yost 2016). Because the City uses

groundwater for back-up conditions such as drought, it is expected that the wells would not be run on a continuous basis, but would more likely be run on a short term or intermittent basis to supplement water supply needs.

Placer County Water Agency Groundwater Supply

PCWA has historically produced a limited quantity of groundwater. Historical pumping by PCWA in western Placer County was limited to pumping for Bianchi Estates (Zone 2) and for the Sunset Industrial area. Pumping for Bianchi estates ceased in 2004, with PCWA serving the area with surface water ever since. PCWA maintains the Sunset Industrial area wells; however, these wells are in place for dry year supplies. While PCWA does not currently produce groundwater from the North American Sub-basin, its water supply plans anticipate use of groundwater during dry hydrologic conditions to meet future customer demands in western Placer County (PCWA 2016). PCWA's surface water supplies, particularly its 35,000 afy CVP contract entitlement and its Yuba Bear 100,400 afy contract with PG&E, will be subject to shortages in future dry years. To make up for dry year shortfalls, and for backup in the event of emergency or planned outages, PCWA is planning on developing groundwater resources as its service area expands west over the groundwater basin. As discussed above, PCWA worked with the cities of Lincoln and Roseville, and the California American Water Company to complete the Western Placer GMP, which provides a framework to coordinate groundwater management activities in the portion of the North American River Groundwater Sub-basin for which the Proposed Action is located. Implementation of the GMP would ensure that groundwater is sufficiently managed in normal and wet years and that there are no adverse long-term effects from dry year groundwater use.

City of Roseville Water Treatment and Distribution

The City's water distribution system includes raw (untreated) water facilities that deliver surface water supplies to the City's water treatment plant (WTP) and the potable water facilities that deliver potable water to the City's water customers (City of Roseville 2016a). In addition to the potable water system, the City also operates a recycled water distribution system that is described in **Recycled Water**, below.

Raw Water Facilities

Raw water facilities consist of both infrastructure owned and operated by the BoR and infrastructure owned and operated by the City. BoR facilities include an 84-inch intake pipeline and pumping plant. The pumping plant has sufficient capacity for SJWD, the City of Roseville, and portions of the City of Folsom. The City's pumping capacity limits are 150 cubic feet per second, which is 96.9 million gallons per day (mgd). Once through the pumping station, water is conveyed through an 84-inch pipeline and a 72-inch parallel pipeline to the "Hinkel Y" where flows to SJWD and the City are split. Raw water for the City then flows through parallel raw water pipelines to the City's WTP (City of Roseville 2016a).

Water Treatment Plant

The City operates a 100-mgd WTP, located on Barton Road in the Granite Bay community in Placer County. Raw water treatment consists of these primary processes: flocculation/sedimentation, clarification, filtration, and disinfection. Following these processes, the treated water is fluoridated prior to distribution to water

customers. The WTP treated up to 50.3 mgd on a single day in 2013. A peak demand of 60.1 mgd was experienced at the WTP in July of 2006 (City of Roseville 2016a).

Potable Water Facilities

The City's potable water supply system is composed of pipes, storage facilities, booster pumping stations, groundwater wells, and pressure regulating stations. Distribution piping in the City ranges from as large as 66-inch diameter to as small as 4-inch diameter. The City has six storage tanks with a combined total storage capacity of 32 million gallons (mg). Water storage is necessary in order to manage flow fluctuations on a daily basis, and to maintain sufficient storage to address emergency needs such as water main breaks, and high water needs such as firefighting activities. The City currently has two pumping stations and is in the process of commissioning two booster stations, with plans for two more (City of Roseville 2016a).

Placer County Water Agency Water Treatment and Distribution

As described above, Zone 5 only supplies untreated agriculture water; however, treated water can be supplied through Zone 1 infrastructure. Water treatment for Zone 1 is split into two areas: Upper Zone 1 and Lower Zone 1. Upper Zone 1 consists of the City of Auburn and surrounding communities and is served by the Auburn and Bowman WTPs. Lower Zone 1 includes the lower portion of the watershed below Auburn and is currently served by the Foothill and Sunset WTPs. A combined maximum day treatment capacity of 66.00 mgd currently exists to serve the Lower Zone 1 facilities, but approximately 62.14 mgd of that capacity is allocated as of first quarter 2016, leaving 3.86 mgd available for future development (City of Roseville 2016a).

Currently PCWA is under contract with the City of Roseville to deliver up to 10 mgd from an intertie at Tinker Road through the City to PCWA service areas southwest of the City of Roseville. The intertie is at a PCWA tank and distribution pump station in the Lower Zone 1 pressure zone, which also includes pumps and a flow meter into the City's pressure zone. Current deliveries are approximately 2 mgd and made to CAW, which is within PCWA's service area (City of Roseville 2016a).

Current PCWA's treatment plant and transmission capacity is limited, but a capital improvement plan has been developed that includes the timeline and budget necessary to construct system-wide facilities. Long-term WTP capacity for the Lower Zone 1 would be provided by the construction of the Ophir WTP, proposed to be built in phases, on a site just south of the existing City of Auburn Wastewater Treatment Plant (WWTP). PCWA is evaluating remaining existing capacity against current growth trends to ensure the phases of Ophir WTP are brought on-line in adequate time for new demand. Ultimately, the Ophir WTP would have a maximum capacity of 30 mgd (City of Roseville 2016a).

Recycled Water

The City of Roseville, the South Placer Municipal Utility District, and Placer County are regional partners in the South Placer Wastewater Authority that oversees policies for funding regional wastewater and recycled water infrastructure. See **Subsection Affected Environment – Wastewater** for more information about wastewater treatment. The City owns and operates two regional wastewater treatment facilities that produce recycled water. These treatment facilities are the Dry Creek WWTP and the Pleasant Grove WWTP. Both

plants produce recycled water that meets the state requirements (Title 22) for non-potable reuse (West Yost 2016). The regional recycled water system currently delivers approximately 2,216 afy of recycled water to parks, streetscapes, and golf course customers within and outside of the City's limits. The City also supplies recycled water for cooling purposes to the Roseville Energy Park. System expansion is planned for more intensive use of recycled water in the western portion of the City as new development occurs. The City anticipates expanding the recycled water system to deliver approximately 4,491 afy at build out of the City's existing General Plan (West Yost 2016). Recycled water for the Proposed Action would be provided from the Pleasant Grove WWTP.

Water Supply Reliability

Water supply is vulnerable to seasonal and climatic shortages, which affect snowpack and river flows. The snowpack from the Sierra Nevada range provides as much as one third of California's water supply, including the Sacramento and American Rivers, by accumulating snow during the winter and releasing it slowly during springs and summers. Warmer temperatures due to climate change will cause snow to melt faster and earlier, making it more difficult to store and use throughout the dry season. It is anticipated that less snowpack will be available for use in the future. Climate change is also expected to result in more variable weather patterns throughout California. More variability can lead to longer and more severe droughts (DWR 2018).

The City has firm surface water contract amounts to ensure that proper supplies are maintained for the residences and businesses relying on its water supply. The City estimates that during normal/wet years, the City has sufficient surface water to meet its customers' needs through buildout of the current General Plan (City of Roseville 2016a). This is based on a continued commitment to regional planning for water supplies, ongoing conservation efforts, and additional recycled water use for landscaping. Using more than 70 years of historical hydrologic data from the American River, an analysis was performed as part of the Water Forum Agreement (WFA) that concluded that the City's contract surface water supply would be available pursuant to the City's purveyor-specific WFA (City of Roseville 2016a).

In times of drought, the City utilizes groundwater, and implements conservation strategies to reduce its total water demand. It is expected that if the supply were to be reduced due to shortage, consistent with reductions identified in the WFA, existing surface water and recycled water supply, coupled with conservation and groundwater use will be sufficient to meet Citywide demands (City of Roseville 2016a).

The City's water conservation strategies are codified in the Roseville Municipal Code. Under the Roseville Water Conservation and Drought Mitigation Ordinance (Municipal Code Chapter 14.09), which was last updated in 2015, the City has authority to declare water shortage conditions and implement drought-related conservation measures. The City initiates this process by declaring the drought stage (Stage One through Stage Five) and imposing the appropriate and corresponding drought response measures depending on the severity of the drought. For example, Stage One prohibits washing of streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health or sanitary purposes, and places restrictions on serving water in restaurants. Stage Two includes additional conservation measures. Stage Three, Four, and

Five drought restrictions are imposed depending on the severity of the drought. The City can initiate use of groundwater during these stages (City of Roseville 2016a).

3.16.2.2 Wastewater

The City would be the wastewater service provider for the project site. The City is a participant in the South Placer Wastewater Authority, along with South Placer Municipal Utility District and Placer County. The South Placer Wastewater Authority oversees policy for funding regional wastewater infrastructure. The City owns and operates two regional wastewater treatment facilities on behalf of the regional partners.

The City's wastewater collection system includes both gravity sewer lines and lift stations, with associated force mains. The closest wastewater collection system to serve the project area is located in the City's West Roseville Specific Plan area.

Wastewater from the City is currently treated at two regional wastewater treatment facilities. Both facilities are City owned and operated. The Dry Creek WWTP is located on Booth Road, along Dry Creek, in the southwestern portion of the City. The second plant, Pleasant Grove WWTP, is located on the east side of Westside Drive, south of the Roseville Energy Park.

The Pleasant Grove WWTP would serve the project site, which currently treats approximately 7.4 mgd of average dry weather flow (ADWF) with approximately 4 mgd coming from the City. The plant provides tertiary-level treatment through the process of screening, grit removal, extended aeration, secondary clarification, filtration, and ultraviolet disinfection. It also provides full nitrification and de-nitrification, and produces recycled water that meets Title 22 regulations for full, unrestricted use. The plant is presently authorized to discharge treated effluent into Pleasant Grove Creek under National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084573, adopted on March 28, 2014. Under this permit, the plant is permitted to discharge an ADWF of 12 mgd into Pleasant Grove Creek, increasing to 15 mgd, upon completion of additional treatment facilities (City of Roseville 2016a).

3.16.2.3 Solid Waste

Solid waste generated in the City and western Placer County is collected, hauled, and delivered to the Western Placer Waste Management Authority (WPWMA) for processing and disposal. The WPWMA is a regional agency comprised of the Cities of Roseville, Rocklin, and Lincoln, and Placer County through a joint powers agreement for solid waste management. The WPWMA owns and operates the Materials Recovery Facility (MRF) and the Western Regional Sanitary Landfill (Regional Landfill). The MRF and Regional Landfill are located on 320 acres at the southwestern corner of Athens Avenue and Fiddyment Road, in Placer County, approximately 1.8 miles from the project site.

In compliance with the City's Municipal Code, Section 9.17.050, all construction and demolition debris, generated within the City must be delivered to the WPWMA's facilities for recycling or disposal. Collection of solid waste within the City is managed by the City's Environmental Utilities Department.

The majority of solid waste collected from within WPWMA's service area is first delivered to the MRF for processing. The MRF, which opened in 1995, receives, separates, processes, and markets recyclable materials

removed from delivered solid waste. The MRF has a mixed waste processing capacity of 2,000 tons per day and a permitted vehicle capacity of 1,014 vehicles per day (City of Roseville 2016a). In addition to processing mixed solid waste, the MRF includes a green waste composting facility. The composting facility has an annual processing capacity of 75,000 cubic yards. Based on an average density of 0.8 ton per cubic yard, this equates to an annual processing capacity of approximately 60,000 tons (City of Roseville 2016a).

In calendar year 2012, the MRF processed an average of 564 vehicles per day and received an average of 1,063 tons of waste per weekday. During the same period, the WPWMA received and processed a total of 58,250 tons of source-separated green waste at its composting facility (City of Roseville 2016a).

The Regional Landfill is a Class II/III municipal solid waste (non-hazardous) landfill. The Regional Landfill has a total capacity of 36,350,000 cubic yards. As of July 1, 2013, a total of 10,672,400 cubic yards have been disposed at the landfill, leaving a remaining capacity of 25,677,600 cubic yards. Under current projected development conditions, the landfill has a projected lifespan extending through 2058 (City of Roseville 2016a).

3.16.2.4 Electricity and Natural Gas

Electricity Supply

The City purchases wholesale electrical power from the Western Area Power Administration (WAPA), which is generated by the federal government's CVP. The City is also a member of the Northern California Power Agency, a consortium of municipal electrical utilities. In addition, approximately 52 percent of the City's power during fiscal year 2013/2014 was generated at the City-owned Roseville Energy Park. The Roseville Energy Park is a 160 megawatt natural gas fired power plant that utilizes a combined cycle gas turbine technology (City of Roseville 2016a).

During fiscal year 2012/2013, electrical consumption in the City's service area was approximately 1,194,183 mega-watt hours. The City's estimated electrical consumption for fiscal year 2013/2014 was 1,183,100 mega-watt hours. By the year 2018, the City's annual electrical consumption is expected to rise to 1,635,476 mega-watt hours (City of Roseville 2016a).

Transmission

Roseville Electric does not have any distribution facilities immediately adjacent to the project site. The closest Roseville Electric substation to the project site is on Blue Oaks Boulevard, but all electricity generated at this substation is committed to other projects. It is expected that the Proposed Action would be served by the future Creekview substation, planned within the CSP Area. The Creekview substation is planned for a parcel on the northwestern corner of Westbrook Boulevard and Benchmark Drive, next to open space. A 60kV overhead transmission line would extend west on Blue Oaks Boulevard, northwest along Pleasant Grove Creek, and then north up the east side of Westbrook Boulevard to serve the new substation. It is anticipated that the line will continue to run north and then east, through the planned Placer Ranch Area, where it will connect with existing Roseville Electric facilities (City of Roseville 2016a).

Natural Gas

PG&E would provide natural gas to the project site upon request and in accordance with the rules and tariffs of the California Public Utilities Commission. There are no existing natural gas facilities on or immediately adjacent to the project site. The closest facility is an 8-inch distribution gas main located on Blue Oaks Boulevard and Hayden Parkway, approximately 0.8 miles east of the future Westbrook Boulevard. The gas main would be extended from this location, west along Blue Oaks Boulevard to Westbrook Boulevard, where it would continue north to the project site through the CSP Area. The system is fed by two natural gas regulator stations: one located at Blue Oaks Boulevard and Industrial Avenue, and the other at Country Club Drive and Badovinac Drive (City of Roseville 2016a).

3.16.3 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.16.3.1 Significance Thresholds

CEQ guidance requires an evaluation of a proposed action's effect on the human environment. The Corps has determined that the Proposed Action, or an alternative, would have a significant effect on the human environment if it would:

- Increase demand for utilities or service systems such that the existing facilities would not have adequate capacity to serve the Proposed Action, or the alternative, as well as the projected buildout of the surrounding area, and a substantial expansion of the service facilities would be required.

3.16.3.2 Analysis Methodology

Potable Water Supply

The potable water demand for the Proposed Action and alternatives was estimated utilizing unit water demand factors from the Water Supply Assessment prepared for the Amoruso Ranch project (West Yost 2016) (included in **Appendix 3.16a**). These water factors are based on meter data from existing customers in Roseville and were applied to the proposed land uses included in the Proposed Action and alternatives. Next, estimated savings from planned water conservation measures and recycled water uses were applied to arrive at the total demand for potable water. In calculating the water demand, a 2 percent factor was added to account for water system losses. **Table 3.16-1** presents the estimated water demand for the Proposed Action and the alternatives.

The Corps reviewed the water supply entitlements, water rights, and water service contracts held by the City of Roseville to determine the ability of the City to meet the Proposed Action and each alternatives' future demands in conjunction with the future demand for the rest of the City at buildout of the 2035 General Plan. Water demand under the Proposed Action and each of the alternatives, plus buildout of the 2035 General Plan, was evaluated against supplies under normal/wet year and drought year scenarios. Water demand was also evaluated against reduced surface water supplies that could result from cutbacks per the WFA.

Groundwater

The City of Roseville relies on groundwater as a back-up supply during drought years. The WSA estimated the amount of groundwater that would be required if BoR CVP surface water supplies were reduced to zero.

**Table 3.16-1
Potable Water Demand at Buildout (Acre-Feet Per Year)**

Land Use	Water Demand	2 Percent for Losses	Total	Conservation Measures Imposed	Recycled Water Used	Net Potable Water Demand
No Action Alternative	882	18	864	-123	-128	613
Proposed Action	1,474	29	1,503	-214	-222	1,067
Alt. 1 – Southern Avoidance	1,274	25	1,248	-178	-185	886
Alt. 2 – Northern Avoidance	1,348	27	1,321	-188	-195	937
Alt. 3 –Distributed Avoidance	1,421	28	1,393	-198	-206	988

Source: City of Roseville 2016; Impact Sciences, 2018

Wastewater

For wastewater treatment, the demand for treatment under the Proposed Action was calculated and compared to the capacity of the Pleasant Grove WWTP and to the demand estimates included in the Systems Evaluation report. The Average Dry Weather flow that is used to evaluate treatment capacity impacts was estimated utilizing unit flow factors established in the City of Roseville Design and Construction Standards (Kimley-Horn 2015). These unit flow factors were applied to the land uses under the Proposed Action and each alternative to estimate the volume of wastewater to be treated at the Pleasant Grove WWTP. **Table 3.16-2, Average Dry Weather Flow at Buildout**, below presents the estimated Average Dry Weather Flows for the Proposed Action and the alternatives.

**Table 3.16-2
Average Dry Weather Flow at Buildout (mgd)**

Alternative	Total Average Dry Weather Flow
No Action Alternative	0.372
Proposed Action	0.606
Alt. 1 – Southern Avoidance	0.521
Alt. 2 – Northern Avoidance	0.550
Alt. 3 –Distributed Avoidance	0.558

Source: City of Roseville 2016a; Impact Sciences 2018

Solid Waste

In order to evaluate the Proposed Action and each of the alternative's effects on solid waste disposal facilities, as a first step, the total tonnage of solid waste that would be generated was estimated based on generation rate of pounds per person per year. Solid waste generation rates were based on actual data obtained from City of Roseville records, data maintained by the Western Placer Waste Management

Authority, and data maintained by CalRecycle. **Table 3.16-3, Solid Waste Generation, Diversion, and Disposal at Buildout**, presents the estimated solid waste for the Proposed Action and the alternatives.

**Table 3.16-3
Solid Waste Generation, Diversion, and Disposal at Buildout**

Alternative	Generation		Diversion – Materials Recovery Facility		Diversion – Direct Recycling		Disposal in Landfill	
	Tons per Year ¹	Tons per Day	Tons per Year ³	Tons per Day	Tons per Year ⁴	Tons per Day	Tons per Year ²	Tons per Day
No Action Alternative	5,013	14	1,080	3	1,003	3	2,931	8
Proposed Action	8,750	24	1,885	5	1,750	5	5,115	14
Alt. 2 – Southern Avoidance	7,146	20	1,539	4	1,429	4	4,178	11
Alt. 2 – Northern Avoidance	7,483	21	1,612	4	1,497	4	4,375	12
Alt. 3 – Distributed Avoidance	8,452	23	1,820	5	1,690	5	4,941	14

Source: City of Roseville 2016a; Impact Sciences 2018

¹ Generation rate is 6.5 lbs/person/day

² Disposal rate is 3.8 lbs/person/day

³ Materials Recovery Facility Diversion rate is 1.4 lbs/person/day

⁴ Direct Recycling rate is 1.3 lbs/person/day

The estimated tonnage was then compared to the processing capacity of the MRF and the remaining capacity of the landfill to determine whether additional capacity would be required.

Electricity, Natural Gas, and Telecommunication

The existing and future infrastructure for electricity, natural gas, and telecommunications were evaluated in the Technical Dry Utilities Study for the Amoruso Ranch project (Capitol Utility Specialists 2015) (included in **Appendix 3.16b**).

3.16.4 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact UTIL-1 Increased Demand on Water Supplies

No Action Alt. Construction

There would be minimal demand for water during construction of the No Action alternative since water would be trucked onto the site and would be used primarily for dust abatement, such as watering of the roads. Therefore, **no direct** or **indirect** effects related to water supply during construction under the No Action alternative were identified.

Operation

The Corps estimates that the water demand for the No Action alternative would be approximately 864 afy, including system losses, without conservation. With conservation measures such as: limiting the amount of turf in front yards; using drought tolerant plants, smart irrigation controllers, and recycled water; and implementing systems to recirculate hot water, total potable water demand for the No Action alternative would be about 613 afy at buildout. See **Table 3.16-1, Water Demand at Buildout**.

The potable water demand for the City at General Plan buildout plus the No Action alternative is estimated to be approximately 59,203 afy (58,590 afy + 613 afy).

In normal/wet years, the City's American River supply of 58,900 afy, which is the amount allowed under the WFA, would not be sufficient to meet the projected demand associated with the buildout of the No Action alternative and the rest of the City under the General Plan. When compared to the total projected potable water demand of 59,203 afy, demand exceeds supplies by about 303 afy. As there would be a shortage during normal/wet years, there would be an even greater shortage during driest (critically dry) years due to the additional restrictions under the WFA. Therefore, the City would not have adequate surface water supplies to meet additional demands of the No Action alternative at buildout of the General Plan, and this would result in a potential **significant indirect** effect.

As described above, the City's General Plan requires the City to acquire additional surface water supplies for new development areas if surface water is not available from the City's existing water supply entitlements. As discussed below, in accordance with the City's General Plan, the City has identified PCWA as a partner for the acquisition of up to 1,500 afy of water supplies to serve the Proposed Action. **Mitigation Measure UTIL-1** requires that an agreement between the City and PCWA be entered into prior to the approval of any building permits to ensure that sufficient water supplies are acquired before the additional demand of water starts to occur. This measure is the same as Mitigation Measure 4.12.1-1 in the ASRP EIR and is highly likely to be imposed and enforced by the City of Roseville, under the No Action Alternative, to address this effect. In the unlikely event that the City is unable to enter into an agreement with PCWA for water to serve the No Action alternative, water will have to be obtained through another source. PCWA's water supplies are considered highly reliable and are expected to have full (100 percent) reliability in all hydrologic conditions. As described below in **Impact UTIL-2**, some improvements are needed to PCWA's infrastructure in order to provide the additional water supply for the No Action alternative.

With the proposed acquisition of 1,500 afy of new surface water supplies from PCWA in accordance with the City's General Plan (Mitigation Measure 4.12.1-1), there would be sufficient water supplies to serve the No Action alternative in all years (Normal, Single Dry, Multiple Dry water years). **No direct** effects related to water supply for operations

under the No Action alternative were identified.

**Proposed
Action**

Construction

Like the No Action alternative, there would be a minimal demand for water during construction of the Proposed Action. Therefore, **no direct** or **indirect** effects related to water supply for construction under the Proposed Action were identified.

Operation

The Proposed Action would construct a large, mixed-use development on the project site. Therefore, water demand under the Proposed Action would be greater than the demand under the No Action alternative. As shown in **Table 3.16-1**, the estimated water demand under the Proposed Action would be about 1,503 afy, including system losses and without conservation and recycled water. With conservation measures and the use of recycled water, the water demand for the Proposed Action at buildout would be 1,067 afy. Thus, the demand for the City at General Plan buildout, plus the Proposed Action, is estimated to be approximately 59,657 afy (58,590 afy + 1,067 afy).

It is anticipated that the water supply source for the Proposed Action would be similar to the No Action alternative, which would include water from the City's American River water supply and PCWA's water supply. In normal/wet years, the City's American River supply of 58,900 afy would not be sufficient to meet the projected demand associated with the buildout of the Proposed Action and the rest of the City under the General Plan. When the total projected potable water demand of 59,657 afy is compared to the supply, demand exceeds supplies by 757 afy. Since there is a shortage during normal/wet years, there would be an even greater shortage during critically dry (driest) years due to the additional restrictions under the WFA. This would result in a potential **significant indirect** effect. However, as with the No Project alternative, the City has identified the PCWA as a partner for the acquisition of up to 1,500 afy of water supplies to serve the Proposed Action.

Mitigation Measure UTIL-1 would require the City and PCWA to enter into an agreement for the acquisition of up to 1,500 afy of water, prior to the approval of any building permits, to ensure that sufficient water supplies are acquired before the additional demand of the Proposed Action starts to occur. As noted above, this measure is the same as Mitigation Measure 4.12.1-1 in the ARSP EIR, and has been imposed on the Proposed Action and will be enforced by the City of Roseville under the Proposed Action to reduce this effect. Therefore, with the proposed acquisition of 1,500 afy of new surface water supplies from PCWA, there would be sufficient water supplies to serve the Proposed Action in all years (normal, single dry, multiple dry water years). **No direct** effects related to water supply for operation under the Proposed Action were identified.

Alts. 1, 2, 3

Construction

Similar to the Proposed Action and No Action alternative, there would be minimal demand

for water during construction of Alternatives 1, 2, or 3. Therefore, **no direct** or **indirect** effects related to water supply for construction under Alternatives 1, 2, and 3 were identified.

Operation

Alternatives 1, 2 and 3 would also require the City to obtain additional water supplies during in all years (normal, single dry, multiple dry water years). As shown on **Table 3.16-1**, the estimated water demand under Alternatives 1, 2, and 3 would range from 1,248 afy to 1,393 afy, including system losses and without conservation and recycled water. With conservation measures and the use of recycled water, the water demand would range from 886 afy to 988 afy at buildout. Thus, the demand for the City at General Plan buildout, plus Alternatives 1, 2, or 3, is estimated to range from approximately 59,476 afy (58,590 afy + 886 afy) to 59,578 afy (58,590 afy + 988 afy).

It is anticipated that the water supply source for Alternatives 1, 2 or 3 would be similar to the No Action alternative, and would include water from the City's American River water supply and PCWA's water supply. In normal/wet years, the City's American River supply of 58,900 afy would not be sufficient to meet the projected demand associated with the buildout of these alternatives and the rest of the City under the General Plan. When the total projected potable water demand of 59,476 afy to 59,578 afy is compared to the City's supply, demand exceeds supplies by 576 afy to 678 afy. Since there is a shortage during normal/wet years, there would be an even greater shortage during driest (critically dry) years due to the additional restrictions under the WFA. This would result in a potential **significant indirect** effect. However, as with the Proposed Action and No Action alternative, the City has identified PCWA as a partner for the acquisition of up to 1,500 afy of water supplies.

Mitigation Measure UTIL-1 would require the City and PCWA to enter into an agreement for the acquisition of up to 1,500 afy of water, prior to the approval of any building permits, to ensure that sufficient water supplies are acquired before the additional demand of Alternative 1, 2 or 3 starts to occur. As noted above, this measure is the same as Mitigation Measure 4.12.1-1 in the ASRP EIR and is highly likely that the City would impose and enforce the same mitigation measure under Alternative 1, 2, or 3 to address this effect. Therefore, with the proposed acquisition of 1,500 afy (185 hmy) of new surface water supplies obtained from PCWA, there would be sufficient water supplies to serve Alternative 1, 2, or 3 in all years (normal, single dry, multiple dry water years). **No direct** effects related to water supply for operation under Alternatives 1, 2 or 3 were identified.

Mitigation Measure UTIL-1:**Secure Adequate Water Supply**

(Applicability – No Action, Proposed Action, and Alternatives 1, 2, and 3)

Prior to the approval of building permits, proponents of the Proposed Action (or an alternative) will provide their proportionate share of required funding thorough water connection development fee to the City for the acquisition and delivery of treated potable and recycled water supplies to the Proposed Action project site. Additionally, prior to the approval of building permits, the City shall enter into agreement with PCWA to acquire water supplies of sufficient quantity to serve the ARSP as described in the EIR and WSA. The identified source would need to be legally available and sufficient to meet the demand of the Proposed Action (or an alternative), consistent with the WFA and City policies and California Water Code Section 10910 et seq. and Government Code Section 66473.7 subject to a completed environmental review, approved by the agency with jurisdiction over the source, and funded.

Impact UTIL-2 Increased Demand on Water Treatment and Supply Facilities
No Action Alt. *City of Roseville Water Treatment Plant*

The City's WTP on Barton Road has a rated capacity of 100 mgd (about 112,000 acre-feet/year[afy]). Existing citywide potable water demand is 34,138 afy. The citywide potable water demand including the No Action alternative would be 34,751 afy (34,138 afy + 613 afy). This equates to an average day treatment capacity demand of approximately 31 mgd. Using the maximum day peaking factor of 2.0, a WTP capacity of 62 mgd would be required under current demands, plus demands associated with the No Action alternative. The City WTP on Barton Road currently has available capacity sufficient to serve existing demands, plus the needs of the No Action alternative. Ultimately, the No Action alternative would be served by PCWA's planned Ophir WTP. It is expected that the Ophir WTP will be on-line in time for new demand, including demand from the No Action alternative. Under an agreement between PCWA and the City of Roseville, currently available capacity at the Barton Road WTP may be made available for uses planned under the No Action alternative on an interim basis to allow funding of Ophir WTP at a later date, subject to Ophir WTP being on-line in time for the Barton Road WTP to serve other planned demands. Consequently, in the near-term, **no indirect** effects were identified.

PCWA Water Treatment System

As discussed above, the demand associated with the No Action alternative would require PCWA to treat an additional 613 afy or 0.5 mgd. Using a maximum day peaking factor of 2.0, 1.0 mgd of treatment capacity would be needed to serve the build out of the No Action alternative. PCWA's Western Water System or Western Area is currently served by the Foothill and Sunset WTPs. Constructed maximum-day treatment capacity of 66.00 mgd exists today, but approximately 62.14 mgd of that capacity is allocated as of first quarter 2016, leaving 3.86 mgd available for future development (City of Roseville 2016a).

Therefore, under existing conditions, the Foothill and Sunset WTPs have the capacity to meet demand associated with the No Action alternative on a short-term basis. Long-term WTP capacity for the Foothills/Sunset/Ophir Area would be provided by the construction of the future Ophir WTP which is a planned project and would be built in several phases. Ultimately, the Ophir WTP would have a maximum capacity of 30 mgd. As there would be adequate water treatment capacity, **no indirect** effects related to water treatment capacity under the No Action alternative were identified.

Proposed Action As with the No Action alternative, the Proposed Action would not require the expansion of water treatment capacity beyond what is planned for the region. As there would be adequate water treatment capacity, **no indirect** effects related to water treatment capacity under the Proposed Action were identified.

Alts. 1, 2, 3 As with the Proposed Action and No Action alternative, Alternatives 1, 2 and 3 would not require the expansion of water treatment capacity beyond what is planned for the region. As there would be adequate water treatment capacity, **no indirect** effects related to water treatment capacity under Alternative 1, 2, and 3 were identified.

Impact UTIL-3 Increased Demand on Groundwater Supply

No Action Alt. As discussed under **Impact UTIL-1**, potable water demand under the No Action alternative would be 613 afy, which will be met through the acquisition of 1,500 afy of treated surface water from PCWA. The PCWA treated water is highly reliable and is expected to have full (100 percent) reliability in all hydrologic conditions (normal, single dry, and multiple dry water years). Therefore, the use of groundwater during single dry and multiple dry water years to meet demand associated with the No Action alternative is not anticipated. However, because groundwater is included in the City's water sources and is used if needed, use of groundwater during dry years is conservatively discussed below.

During dry hydrologic years, the City's water demand, including the demand associated with the No Action alternative, would be met by a combination of surface water, recycled water, and groundwater supplies, coupled with mandatory water conservation efforts. In all year types, groundwater may also be used as an emergency back-up for recycled water supplies under current City policy.

Based on the historical hydrologic record the Water Forum used in its analysis (and for WFA restrictions), a supply of 58,900 afy is assumed to be available to the City in about 83 percent of the years. In the remaining 17 percent of years, surface water supplies ranging from 54,900 afy to 39,800 afy would be available, per the WFA. Thus, in drier and driest years, supplemental supplies (conservation, groundwater, or other supplies) potentially totaling up to 19,100 afy (the difference between the normal/wet year supply and the

driest year supply) would be needed to make up for the deficiencies in drier or critically dry years.

It is important to note that if the City is able to accomplish the recommended reductions in demand through more stringent conservation measures outlined in Chapter 14.09 of the Roseville Municipal Code, groundwater would not be needed to supplement supplies. However, to ensure a highly reliable water supply for the City, a 20 percent reduction through conservation was assumed. This is equivalent to a reduction in water demand of about 11,841 afy at buildout of the City plus the No Action alternative (20 percent of the surface water supply requirement of 59,203 afy)

It is assumed that of the 17 years out of 100 that would require some level of conservation, only 10 would require groundwater pumping after a 20 percent conservation level had been achieved. The estimated amount of groundwater per year needed to augment surface water supplies would range from 0 to 15,862 afy¹, with 15,862 afy of groundwater needed to meet demands in a zero BoR delivery year with 20 percent demand reductions in force. As discussed under Impact HYDRO-8 in **Section 3.11, Hydrology and Water Quality**, after subtracting both the amount of groundwater used for emergency backup if recycled water supply is not available and the amount used in dry years from the amount of banked groundwater, 137,354 acre-feet would remain in the groundwater basin. Additionally, with the abandonment of the three existing wells onsite, the actual amount of water banked each year would be greater. Since the City has a sufficient supply of groundwater for dry years, **no direct** or **indirect** effects on groundwater under the No Action alternative were identified.

**Proposed
Action**

Under the Proposed Action, groundwater would be used to supplement surface water supplies during dry years, and as emergency back-up supply. As shown in **Table 3.16-1**, water demand under the Proposed Action would be greater than the demand under the No Action alternative. However, this demand would be met through the acquisition of 1,500 afy of treated surface water from PCWA, which is highly reliable under all hydrologic conditions. Therefore, groundwater would not be required during single dry and multiple dry water years to serve development under the Proposed Action. Therefore, the effects on groundwater resources associated with the Proposed Action would be similar to the effects described under the No Action alternative above.

Similar to the No Action alternative, there is potential for the Proposed Action to use groundwater during dry years. It is assumed that of the 17 years out of 100 that would require some level of conservation, only 10 years would require groundwater pumping after a 20 percent conservation level had been achieved. The estimated amount of groundwater per year needed to augment surface water supplies would range from 0 to

¹ 31,500 afy (amount of CVP supply available at buildout with 0 percent USBR supply)- 47,362 afy (20 percent of 59,203 afy [normal demand]) = -15,862 afy

16,226 afy, with 16,226 afy² of groundwater needed to meet demands in a zero BoR delivery year with 20 percent demand reduction in force. Conservatively assuming the City would need the maximum amount of groundwater supplies for all 10 years, the total groundwater demand would be 162,260 acre-feet for the 100-year analysis period. The amount of banked groundwater obtained through fallowing Reason Farms is estimated to be 296,194 acre-feet (banking assumed to occur in 94 years of 100 years for a total of 3,151 acre-feet banked). After subtracting both the amount of groundwater used for emergency backup, if recycled water supply is not available, and the amount used in dry years from the amount of banked groundwater, 133,714 acre-feet would remain in the groundwater basin. Additionally, with the abandonment of the three existing wells onsite, the actual amount of water banked each year would be greater. Based on the significance criteria listed above, and as discussed under the No Action alternative, **no direct or indirect** effects on groundwater under the Proposed Action were identified.

Alts. 1, 2, 3

Under Alternatives 1, 2, and 3, groundwater would be used to supplement surface water supplies during dry years and as emergency back-up supply. As shown in **Table 3.16-1**, water demands under Alternatives 1, 2, and 3 would be greater than the demand under the No Action alternative. However, the demand would be met through the acquisition of 1,500 afy of treated surface water from PCWA, which is highly reliable under all hydrologic conditions. Therefore, groundwater would not be required during single dry and multiple dry water years to serve development under Alternative 1, 2, and 3. Therefore, the effects on groundwater resources under Alternatives 1, 2, and 3 would be similar to those described under the No Action alternative above.

Similar to the No Action alternative, there is potential for Alternatives 1, 2 and 3 to use groundwater during dry years. Based on the same assumptions listed above, the estimated amount of groundwater per year needed to augment surface water supplies would range from 0 to 16,081 afy³ (under Alternative 1) and from 0 to 16,162 afy⁴ (under Alternative 3). Conservatively, assuming the City would need the maximum amount of groundwater supplies for all 10 years, the total groundwater demand would range from 160,810 acre-feet to 161,620 acre-feet for the 100-year analysis period. As noted above, the amount of banked groundwater obtained through fallowing Reason Farms is estimated to be 296,194 acre-feet. After subtracting both the amount of groundwater used for emergency backup recycled water supply and the amount used in dry years from the amount of banked groundwater, 135,164 acre-feet to 134,574 acre-feet would remain in the

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- ² 31,500 afy (amount of CVP supply available at buildout with 0 percent USBR supply)- 47,726 afy (20 percent of 59,657 afy [normal demand]) = -16,081 afy
- ³ 31,500 afy (amount of CVP supply available at buildout with 0 percent BoR supply)- 47,581 afy (20 percent of 59,476 afy [normal demand]) = -16,081 afy
- ⁴ 31,500 afy (amount of CVP supply available at buildout with 0 percent BoR supply)- 47,662 afy (20 percent of 59,578 afy [normal demand]) = - 16,162

groundwater basin. Additionally, with the abandonment of the three existing wells onsite, the actual amount of water banked each year would be greater. Based on the significance criteria listed above, and as discussed under the No Action Alternative, **no direct or indirect** effects on groundwater under Alternatives 1, 2, and 3 were identified.

Impact UTIL-4 Impacts from Construction or Expansion of Wastewater Facilities

No Action Alt. Based on unit flow factors and peaking factors established in the South Placer Regional Wastewater and Recycled Water Systems Evaluation, it is estimated that the No Action alternative would generate approximately 0.372 mgd Average Dry Weather flow (ADWF) at buildout (see **Table 3.16-2**). Currently, the capacity of the WWTP is 12 mgd and the ADWF treated at the plant is 7 mgd. Therefore, at this time, there is adequate WWTP capacity to serve the No Action alternative. Additionally, off-site conveyance facilities are also adequately sized to handle the flows from the buildout of the No Action alternative.

However, the No Action alternative would be constructed over a period of about 15 to 30 years depending on market conditions. During this timeframe, other new developments are expected to occur within the service area of the WWTP. The South Placer Wastewater Authority estimates that at buildout of the 2005 service area boundary, ADWF flows to the WWTP would be on the order of about 19 mgd, while under buildout of the ultimate service area boundary, ADWF would be about 25.7 mgd. Since its current capacity is 12 mgd, and an expansion to 15 mgd is currently under way, additional expansion of about 10 mgd would be required to accommodate future demands of the No Action alternative and other developments. Thus, the expansion of the WWTP could result in **significant indirect** effects to the human environment under the No Action alternative.

The West Roseville Specific Plan EIR and the Wastewater Master Plan EIR, both prepared by the City, evaluated effects associated with the expansion of the WWTP. Anticipated temporary effects associated with plant expansion and construction include: noise, dust, emissions from construction vehicles, increased traffic congestion due to construction vehicles, potential disruption of utility lines, erosion, water quality effects, and potential disturbance of cultural resources. All of these effects would be negligible or reduced to a negligible level after implementation and enforcement of the prescribed mitigation measures identified in the EIRs. Operation of the expanded WWTP would likely contribute to potential growth inducement, land use incompatibility, traffic, noise, dust, odors, and water quality effects, including increased discharges of treated effluent into Pleasant Grove Creek, and potential effects to water temperatures associated with operation of the WWTP. Anticipated effects include: loss of vernal pools/seasonal wetlands, loss of vernal pool special-status species and/or their habitat, loss of raptor habitat, odor and noise emissions, and increased criteria air pollutant emissions.

Implementation of **Mitigation Measure UTIL-4** would reduce the effect related to the need to expand the WWTP. This measure is the same as Mitigation Measure 4.12.3-1 in the ASRP EIR and it is highly likely that the City would impose and enforce the same mitigation measure on the No Action alternative to address this effect. Pursuant to this mitigation measure, and consistent with the City's General Plan Policy 3, the City would initiate expansion efforts at the time the Pleasant Grove WWTP nears 75 percent capacity. It is anticipated that the WWTP would be expanded on the 20-acre parcel to the south of the plant, as identified in the West Roseville Specific Plan. **No direct** effects as a result of WWTP expansion under the No Action alternative were identified.

**Proposed
Action**

The Proposed Action would require wastewater treatment services that would contribute to the need to expand the Pleasant Grove WWTP. The expansion of the WWTP would result in the same types of effects described above under the No Action alternative. Based on the significance criteria listed above, and as discussed under the No Action alternative, this **indirect** effect is considered **significant**.

Mitigation Measure UTIL-4 would be implemented as part of the Proposed Action to ensure that the City initiates expansion efforts at the time the Pleasant Grove WWTP nears 75 percent capacity. As noted above, this measure is the same as Mitigation Measure 4.12.3-1 in the ASRP EIR and has been imposed by the City on the Proposed Action and will be enforced to address this effect. **No direct** effects as a result of WWTP expansion under the Proposed Action were identified.

Alts. 1, 2, 3

As with the Proposed Action and No Action alternative, Alternatives 1, 2 and 3 would require wastewater treatment services that would contribute to the need to expand the Pleasant Grove WWTP. The expansion of the WWTP would result in the same types of effects described above under the No Action alternative. Based on the significance criteria listed above, and as discussed under the Proposed Action and No Action alternative, **indirect** effects as a result of WWTP expansion under Alternatives 1, 2 and 3, would be **significant**.

Mitigation Measure UTIL-4 would ensure that the City initiates expansion efforts at the time the Pleasant Grove WWTP nears 75 percent capacity. As noted above, this measure is the same as Mitigation Measure 4.12.3-1 in the ASRP EIR and is highly likely to be imposed and enforced by the City under these alternatives to address this effect. **No direct** effects as a result of WWTP expansion under Alternatives 1, 2, or 3 were identified.

Mitigation Measure UTIL-4:

WWTP Capacity

(Applicability – No Action, Proposed Action, and Alternatives 1, 2, and 3)

Prior to issuance of building permits for development in the ARSP, the Applicant shall demonstrate to the City that the South Placer Wastewater Authority has approved expansion of the South Placer Wastewater Authority service area boundary to include the ARSP area. All Applicants shall participate financially in the construction of additional

wastewater treatment capacity sufficient to accommodate projected flows through payment of connection fees. The Applicant shall also participate on a fair share basis in other financial mechanisms for any additional environmental review required to secure approvals necessary to increase wastewater discharges from the plant, including approval by the South Placer Wastewater Authority for expansion of the service area boundary. It is recognized that the Applicant shall rely on the City (on behalf of the South Placer Wastewater Authority partners) to construct regional treatment and regional transmission facilities needed to treat and discharge wastewater produced within the service area boundary. In the event the City is unable to obtain all required permits (e.g. NPDES permit and WDRs) or is unable to complete the required facility expansion(s), development within the service area boundary may continue until existing capacity has been exhausted, at which time any remaining development shall be curtailed until such time as sufficient wastewater treatment and discharge capacity becomes available.

Impact UTIL-5 Increased Demand for Solid Waste Services

No Action Alt. *Materials Recovery Facility Capacity*

Currently, there is adequate permitted capacity at the MRF to serve the No Action alternative by itself or in conjunction with growth under the Roseville General Plan. The MRF currently processes an average of 831 tons per day of mixed solid waste, and is permitted to receive up to 2,200 tons per day. The No Action alternative is expected to generate approximately 14 tons of solid waste per day, of which 3 tons would be diverted to the MRF (**Table 3.16-3**). This represents an increase of less than 1 percent over the amount of solid waste currently processed at the facility and less than 1 percent of the facility's permitted capacity. At buildout of the No Action alternative and General Plan, an additional 180 tons per day of solid waste would be processed at the MRF,⁵ resulting in a total of 1,011 tons of waste processing per day. This would represent 46 percent of the MRF's permitted capacity at buildout. Thus, **no direct** or **indirect effects** on solid waste services under the No Action alternative were identified.

Landfill Capacity

According to **Table 3.16-3** above, approximately 5,013 tons per year (14 tons per day) of solid waste would be generated by the No Action alternative at buildout. Of this amount, approximately 2,931 tons per year, or approximately 8 tons per day, would require disposal at the Regional Landfill. At buildout of the City's General Plan, landfill disposal will reach

⁵ The amount of solid waste conservatively expected to be generated within the City at buildout of the General Plan is 206,550 tons (187,379 metric tons) per year (City of Roseville 2016a). Approximately 5,013 tons (4,548 metric tons) per year are projected to be generated by the No Action Alternative. The total processing demand of the City's buildout and the No Action Alternative would be as much as 211,563 tons (191,927 metric tons) per year (580 tons [526 metric tons] per day) if no direct recycling efforts are assumed. The City currently generates approximately 145,790 tons (132,258 metric tons) of solid waste per year (399 tons [365 metric tons] per day) to be processed at the MRF. At buildout, this would amount to an average increase of approximately 180 tons (376 metric tons) per day over current processing demand.

approximately 206,550 tons per year or 566 tons per day. With the addition of the No Action alternative, City landfill disposal needs would be approximately 209,481 tons per year, or 574 tons per day.

The Regional Landfill has a remaining capacity of approximately 15,406,560 tons. Currently, the landfill is projected to be able to accept waste until 2058. However, the final closure date could be affected by regional growth rates, economic conditions, efficiency of waste recovery, and other factors. If conservatively it is assumed that the No Action alternative is built out by 2019, and assuming that recycling programs are in place, it would generate approximately 195,507 tons of solid waste for disposal at the landfill (5,013 tons per year x 39 years). This additional waste would take up approximately 1.3 percent of the landfill's remaining capacity, which could shorten the lifespan of the landfill by about six months.

Approximately 465 acres west of the Regional Landfill are available for a landfill expansion. Additionally, the WPWMA has also purchased the parcel east of the landfill. Both parcels provide opportunity for expanding the landfill to increase capacity; however, plans for expansion of landfill capacity beyond 2058 have not been developed or approved to date. As additional landfill capacity is needed, WPWMA staff will manage the development of the appropriate environmental evaluations and acquire the appropriate permits to utilize expansion property. Effects associated with the expansion would likely resemble those attributed to the existing landfill because the expansion site would be located adjacent to the existing landfill. Construction would likely result in effects from air pollutant emissions, noise, and erosion. In addition, agricultural land and biological resources, including wetlands, could be lost. Once constructed, the landfill could create additional odors, traffic, operational air emissions, increased emissions of landfill gas and combustion flare emissions, litter, night lighting, and degradation of surface and groundwater quality. It is assumed that expansion effects would be similar to those of the existing landfill. However, any proposed expansion would be required to undergo environmental review and would be required to minimize and/or avoid potential adverse effects on the human environment to the maximum extent feasible in order to comply with the requirements of the landfill permitting process.

As with all development within the City, the residences and businesses constructed under the No Action alternative will pay fees for solid waste collection based on rates set in Section 9.12.100 of the Roseville Municipal Code. Fees collected from the City's residences and businesses, including tipping fees paid by those disposing waste at the landfill, would be used in part to fund the expansion of the landfill. This will allow for capacity expansion of the Regional Landfill as necessary to accommodate development constructed by the No Action alternative. Thus, **no direct** or **indirect** effects on landfill capacity under the No Action alternative were identified.

**Proposed
Action***Materials Recovery Facility Capacity*

As shown in **Table 3.16-3**, the Proposed Action would divert 5 tons of commercial and residential waste each day to the MRF. This represents a net increase of less than 1 percent of the existing amount that is processed, and less than 1 percent of the permitted capacity of the facility. As described above, the MRF has adequate capacity to process waste from the City at buildout of the General Plan, including the waste generated under the Proposed Action. Based on the significance criteria listed above, and as discussed under the No Action alternative, **no direct or indirect** effects on solid waste services under the Proposed Action were identified.

Landfill Capacity

The Proposed Action would require the disposal of solid waste at the Regional Landfill, in the amount shown in **Table 3.16-3**. As described above for the No Action alternative, the waste disposed of under the Proposed Action could shorten the life span of the landfill, thus contributing to the need for additional landfill space.

As discussed above, it is assumed that expansion effects would be similar to those of the existing landfill; however, the proposed expansion would be required to undergo environmental review and would be required to minimize and/or avoid potential adverse effects on the human environment to the maximum extent feasible in order to comply with the requirements of the landfill permitting process.

As with the No Action alternative, residences and businesses constructed under the Proposed Action will pay fees for solid waste collection based on rates set in Section 9.12.100 of the Roseville Municipal Code, and these fees would be used in part to fund the expansion of the landfill. This would allow for capacity expansion of the Regional Landfill as necessary to accommodate development constructed by the Proposed Action. Thus, **no direct or indirect effects** on landfill capacity under the Proposed Action were identified.

Alts. 1, 2, 3*Materials Recovery Facility Capacity*

As shown in **Table 3.16-3**, Alternatives 1, 2, and 3 would divert 4 to 5 tons of commercial and residential waste each day to the MRF. This represents a net increase of up to 1 percent of the existing amount that is processed, or less than 1 percent of the permitted capacity of the facility. As described above, the MRF has adequate capacity to process waste from the City at buildout, including the waste generated under Alternatives 1, 2, or 3. Based on the significance criteria listed above, and as discussed under the No Action alternative, **no direct or indirect effects** on solid waste services under Alternatives 1, 2, or 3, were identified.

Landfill Capacity

Alternatives 1, 2, and 3 would require the disposal of solid waste at the Regional Landfill, in the amounts shown in **Table 3.16-3**. As described above for the No Action alternative,

the waste disposed of under these alternatives could shorten the life span of the landfill, thus contributing to the need for additional landfill space.

As discussed under the No Action alternative, it is assumed that expansion effects would be similar to those of the existing landfill. However, the proposed expansion would be required to undergo environmental review and would be required to minimize and/or avoid potential adverse effects on the human environment to the maximum extent feasible in order to comply with the requirements of the landfill permitting process.

As with the No Action alternative, residences and businesses constructed under Alternatives 1, 2 and 3 would pay fees for solid waste collection based on rates set in Section 9.12.100 of the Roseville Municipal Code, and these fees would be used in part to fund the expansion of the landfill. This would allow for capacity expansion of the Regional Landfill as necessary to accommodate development constructed by these alternatives. Thus, **no direct or indirect effects** on landfill capacity under Alternatives 1, 2, or 3 were identified.

Impact UTIL-6 **Increased Demand for Electricity, Natural Gas, and Telecommunications**

No Action Alt. *Electricity*

Development and implementation of the No Action alternative would add land uses that would increase the demand for electrical services. However, the increased demand for electrical services under the No Action alternative is estimated to be less than the demand under the Proposed Action due to its reduced overall development footprint and scale.

The No Action alternative would be served by a future substation in the Creekview Specific Plan (CSP) area to the south, which would be constructed prior to occupancy of the No Action alternative. Potential environmental effects that could occur as a result of tying into the future electrical system in the CSP area and constructing the new electrical distribution system on the project site are addressed in other sections of this Draft EIS.

Evaluation of the proposed infrastructure within CSP shows that it would be adequate to meet the increased demand for electricity under the No Action alternative. With implementation of the City's energy efficiency program to reduce energy demands and access to 40 percent of its electrical supply from the Roseville Energy Park, plus additional access from the future CSP electrical distribution center, **no direct or indirect effects** on electrical services under the No Action alternative were identified.

To the extent that increased electricity usage from the No Action alternative results in environmental effects due to fossil fuel consumption associated with power generation, such secondary effects are addressed in **Section 3.6, Climate Change**.

Natural Gas

Development of the No Action alternative would increase the demand for natural gas; however, the increased demand for natural gas under the No Action alternative is estimated to be less than the demand under the Proposed Action due to its reduced overall development footprint and scale. There are multiple opportunities for natural gas connections in the vicinity of the project site. However, potential environmental effects that could occur as result of constructing the on-site natural gas distribution system are addressed in other sections of this Draft EIS. Evaluations of these connections have shown that available gas services would be adequate to serve the project site. Thus, **no direct** or **indirect effects** on natural gas services under the No Action alternative were identified.

To the extent that increased natural gas usage under the No Action alternative contributes to climate change, such effects are addressed in **Section 3.6**.

Telecommunications

Development of the project site would create an increased demand for cable television and telephone services. These additional services would be provided by private telecommunications companies and would be funded through developer fees and future customer billing. In addition, the telecommunications companies would be given the opportunity to review and comment on any proposed development requiring new service. All phone and cable lines would be installed in roadway rights-of-way, so there would not be any environmental effects beyond the roadway construction related effects identified in this Draft EIS. Therefore, **no direct** or **indirect** effects with respect to the demand for cable television and telephone services were identified.

Proposed Action

As with the No Action alternative, the Proposed Action would result in the demand for electric, natural gas, and telecommunications services. The increased demand for electrical service is estimated to average 19 megavolt amperes (MVA) peak demand, while the increased demand for natural gas is estimated to be approximately 164 thousand cubic feet per hour (Capital Utility Specialists 2015).

The construction of new, and use of existing, infrastructure necessary to support the Proposed Action would be similar to that described under the No Action alternative. Infrastructure and supporting facilities would be constructed within the project site and the resulting environmental effects of constructing or using these facilities have been evaluated in other sections of this Draft EIS. Based on the significance criteria listed above, and for the same reasons presented under the No Action alternative, **no direct** or **indirect** effects on electrical, natural gas, and/or telecommunications services were identified.

Alts. 1, 2, 3

Alternatives 1, 2, and 3 would result in the demand for electrical, natural gas, and telecommunications services. While the amount of gas and electricity use would vary under each alternative, the demands would be similar to the demands under the Proposed Action and No Action alternative. In addition, construction of new, and use of existing,

infrastructure necessary to support each alternative would be similar to that described under the No Action alternative. Infrastructure and supporting facilities would be constructed within the project site and the resulting environmental effects of constructing or using these facilities have been evaluated in other sections of this Draft EIS. Based on the significance criteria listed above, and as discussed under the No Action alternative, **no direct or indirect effects** on electrical, natural gas, and/or telecommunications services under Alternatives 1, 2, or 3 were identified.

3.16.5 REFERENCES

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