3.15 UTILITIES AND SERVICE SYSTEMS

3.15.1 INTRODUCTION

This section describes the existing utilities that serve the project site and its vicinity and potential impacts to these 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. Regulations and policies affecting the utilities and service systems in the project area are also described.

The following sources of information were used in this analysis:

- Sierra Vista Specific Plan EIR prepared by the City of Roseville (City of Roseville 2010a);
- City of Roseville 2025 General Plan (City of Roseville 2010b);
- Water Supply Assessment for the Sierra Vista Specific Plan Westbrook Amendment by the City of Roseville (City of Roseville 2012);
- Sierra Vista Potable Water Master Plan, HydroScience Engineers, Inc., April 2009 and as amended July 2009;
- TM-1 Sierra Vista Specific Plan Water Conservation Plan, HydroScience Engineers, Inc., July 2009;
- Sierra Vista Recycled Water Master Plan, HydroScience Engineers, Inc., June 2009 and as amended July 2009;
- Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County in July 1974, prepared by the California Department of Resources;
- Placer Groundwater Management Plan by the Placer County Water Agency (PCWA 2003);
- PCWA's Integrated Water Resources Plan, Brown and Caldwell, August 2006;
- Groundwater Impact Analysis for Proposed Reasons Farm Land Retirement Plan by Montgomery Watson Harza (MWH) for the City of Roseville (City of Roseville 2003);
- Western Placer Groundwater Management Plan (WPCGMP) prepared by MWH for the Cities of Roseville and Lincoln along with PCWA and the California American Water Company;
- West Roseville Specific Plan EIR, February 2004;
- Water Forum Agreement EIR, November 1999; and
- Sierra Vista Specific Plan EIR Technical Memorandum: Effects of Changed Water Management Operations on Fisheries and Water Quality Impacts Previously Disclosed in the Water Forum Agreement EIR, Robertson-Bryan Inc. and HDR, October 2009.

3.15.2 AFFECTED ENVIRONMENT

The project site is not currently served by any municipal utility systems. As the project site is located within the City of Roseville (City), all utilities will be provided to the project site by the City. In addition, the City will provide most utilities to the alternative site as the site would be annexed to the City. Given the proximity of the alternative site to the Placer County Water Agency infrastructure, it is anticipated that PCWA would supply water to the alternative site.

3.15.2.1 Water

The City would serve as the water supplier for the Proposed Action and all on-site alternatives. The City potable water source is Folsom Reservoir. Groundwater is not used routinely and is only used occasionally as back-up supply. Recycled water is available for landscape irrigation from both the Dry Creek and the Pleasant Grove wastewater treatment plants. In addition to these water supply sources, supplemental water is available to the City from other agencies through system interties. Interties are connections between existing distribution systems that can be used to deliver water between districts in the event of water treatment plant or conveyance system disruptions (City of Roseville 2012). The City's water supply sources are described in detail below.

City of Roseville Surface Water Supplies

The City's water demand in 2010 was 30,342 acre-feet per year (afy)(3,742 hectare-meters per year [hmy]). The City projects that future growth, including the Proposed Action, will increase the annual demand to 63,629 acre-feet (7,849 hmy) by 2030 (City of Roseville 2009).

The City's current surface water supply is American River water diverted from Folsom Reservoir. The City has three surface water contract entitlements for the American River, through which it can receive up to 66,000 afy (8,141 hmy). The City maintains a contract entitlement with the United States Bureau of Reclamation (BoR) for 32,000 afy (3,947 hmy) of Central Valley Project (CVP) supplies. The City's contract with PCWA allows for 30,000 afy (3,700 hmy) of American River Middle Fork Project water conveyed through BoR facilities at Folsom Reservoir. Lastly, the City has a current contract with San Juan Water District for 4,000 afy (493 hmy). The San Juan Water District supply is a normal or wet year supply and is served from part of San Juan Water District's contract with PCWA for 25,000 afy (3,084 hmy) of Middle Fork Project water, also served from Folsom Reservoir (City of Roseville 2012).

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 1905 through 2003, the average annual flow in the American River at Fair Oaks (U.S. Geological Survey [USGS] Station No. 11446500) is approximately 2.7 million afy (333,040 hmy) (City of Roseville 2010a). Folsom Reservoir is the largest reservoir in the American River basin, with a maximum storage capacity of approximately 977,000 acre-feet (120,511 hectare-meters) and a maximum depth of 466 feet (142 meters) above mean sea level (msl). The Folsom Reservoir is owned and operated by the Bureau of Reclamation (BoR) for the Central Valley Project (CVP) (City of Roseville 2010a). The CVP provides water supply to meet in-basin needs and exports for areas south of the Delta. The CVP is a multipurpose project operated by BoR that stores and

transfers water from the Sacramento River, San Joaquin River, and Trinity River basins 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 (1.1 million hectare-meters) of water and annually delivers approximately 7 million acre-feet (860,000 hectare-meters) of water for agricultural, urban, and wildlife use. Of this water, about 5 million acre-feet (600,000 hectare-meters) is for farms, approximately 600,000 acre-feet (74,000 hectare-meters) is for municipal and industrial uses, 800,000 acre-feet (99,000 hectare-meters) is for fish and wildlife and their habitat, and 410 acre-feet (51 hectare-meters) is for state and federal wildlife refuges and wetlands (BoR 2011).

The City is a signatory to the Water Forum Agreement. The Water Forum represents diverse water, government, business, agricultural, and environmental interests in most of the County of Sacramento and the cities within the County, the City, and western portions of Placer and El Dorado counties. The Water Forum developed a program known as the Water Forum Agreement. Elements in the Water Forum Agreement 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 (6,770 hmy) in normal/wet years, and no more than 39,800 afy (4,910 hmy) during the driest and critically dry years. Through an agreement with San Juan Water District, the City increased its normal/wet year water supplies by an additional 4,000 afy (500 hmy), for a total normal/wet year supply of 58,900 afy (7,260 hmy) (City of Roseville 2012).

Regional Groundwater

The project and alternative sites are 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 3.10, 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 (1,419 square kilometers) (MWH 2007).

According to 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 (305 to 457 meters) 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, though is typically 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 2010a). According to the PCWA's Groundwater Storage Study of the Placer County groundwater basin, the sustainable safe yield for the western Placer County portion of the Sub-basin is approximately 95,000 afy (11,718 hmy). 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 (11,965 hmy) in 2003 (Placer County Water Agency 2006). Under these pumping conditions, the groundwater levels at the southern end of the basin have been stable since about 1982 and the levels have risen slightly at the northern end of the basin, indicating that 97,000 afy (11,965 hmy) is also within the safe yield of the basin. These groundwater levels indicate that groundwater pumping is currently in balance with the natural groundwater recharge rate. 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 (City of Roseville 2010a).

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 2010a). 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. Groundwater recharge to the Sub-basin system therefore 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). The U.S. Geologic Survey (USGS) estimates that 1.6 percent of the total natural recharge in the Sacramento Valley basin can be attributed to the Placer County sub-basin area (City of Roseville 2010a).

City of Roseville Groundwater Supply

The City plans to use groundwater for short-term back-up supply during dry years. The Water Forum Agreement recognizes the City's extraction of up to 6,600 afy (814 hmy) of groundwater during the drier and driest[1] 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 (City of Roseville 2012). 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 (City of Roseville 2012). 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

1 As it applies to the City of Roseville's portion of the Water Forum Agreement, "drier years" are years when the projected March through November Unimpaired Inflow to Folsom Reservoir is less than 950,000 acre feet and greater than or equal to 400,000 acre-feet. The Water Forum Agreement defines "driest years" as years when the projected March through November Unimpaired Inflow to Folsom Reservoir is less than 400,000 acre-feet.

last time the City relied on groundwater was during drought conditions experienced in 1991 (City of Roseville 2012).

In addition, the City worked with the City of Lincoln, the Placer County Water Agency, 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 (City of Roseville 2012).

The City's current groundwater well facilities are capable of delivering approximately 12,000 afy (1,480 hmy) of water supply if run full time, which is the equivalent of approximately 33 acre-feet (4 hectare- meters) 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 to support its ASR program. If these new wells are built, the City's groundwater facilities would allow for delivery of up to 46 acre-feet (5.7 hectare-meters) per day or 16,790 afy (2,071 hmy) if run on a continuous basis (City of Roseville 2012). 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 (City of Roseville 2010a).

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 2010a). 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 (213-centimeter [cm]) intake pipeline and pumping plant. The pumping plant has sufficient capacity for San Juan Water District, City, and portions of the City of Folsom. The City's pumping capacity limits are 150 cubic feet (4 cubic meters) per second, which is 96.9 million gallons per day (mgd), or 366.8 million liters per day (mld). Once through the pumping station, water is conveyed through an 84-inch (213-cm) pipeline to the "Hinkel Y" where the flows to San Juan Water District 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 2010a).

Water Treatment Plant

The City operates a 100-mgd WTP, located on Barton Road in the Granite Bay community of 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. Peak demands of 58 mgd (220 mld) were experienced at the WTP in July of 2006 (City of Roseville 2010a).

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 (168-cm) diameter to as small as 4-inch (10-cm) diameter. The City has six storage tanks with a combined total storage capacity of 31 million gallons (mg) (117,000 cubic meters). 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, with plans for a third to serve customers in the western portion of the City near the project site (City of Roseville 2010a).

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 Wastewater Treatment Plant (WWTP) and the Pleasant Grove WWTP. Both plants produce recycled water that meets the state requirements (Title 22) for non-potable reuse (City of Roseville 2010a). The regional recycled water system currently delivers approximately 3,000 afy (370 hmy) of recycled water to parks, streetscapes, and golf course customers. Of this amount, approximately 2,040 afy (252 hmy) are for non-industrial customers located within the City. The City anticipates expanding the recycled water system to deliver approximately 3,825 afy (472 hmy) to customers within City limits to meet demands from growth under the general plan (City of Roseville 2009). Recycled water for the Proposed Action would be provided from the Pleasant Grove WWTP. Recycled water is used to supplement City water supply needs and is used as irrigation water for parks, golf courses, landscape medians, and corridors and for industrial cooling at the Roseville Energy Park (City of Roseville 2010a).

Water Supply Reliability

Water supply is vulnerable to seasonal and climatic shortages, which affect snowpack and river flows. The snowpack from the Sierra Nevadas provides as much as 65 percent 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. 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 (California Department of Water Resources 2011).

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 2006). 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 that concluded that the City's contract surface water supply would be available pursuant to the City's purveyor-specific Water Forum Agreement (City of Roseville 2010a).

In times of drought, the City utilizes recycled water, 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 Water Forum Agreement, existing surface water supply, coupled with conservation and groundwater use will be sufficient to meet Citywide demands (City of Roseville 2010a).

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), 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, driveways, sidewalks, and parking lots and places restrictions on vehicle washing, and serving water in restaurants. Stage Two includes additional measures on landscape irrigation. 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 2010a).

Placer County Water Agency Water Supplies

It is anticipated that the alternative site would be served by the PCWA. The PCWA service area is divided into five zones for the provision of treated and raw water. The alternative site is located in Zone 1.

PCWA has several sources of surface water supply entitlements available for use in western Placer County. The first is a surface water supply contract with Pacific Gas & Electric (PG&E) for 100,400 afy (12,384 hmy) of Yuba/Bear River water that is delivered through Pacific Gas & Electric's Drum Spaulding hydro system. This has been PCWA's primary source of supply for Zone 1 since PCWA began retailing water in 1968. The term of this contract is to 2013 but PCWA expects the contract to be renewed after the expiration of the present term. This source of water has a high reliability during normal, single-dry, and multiple-dry years. This supply source is subject to 25 percent deficiencies during multiple-dry years and 50 percent deficiencies during a single driest year (PCWA 2006a; PCWA 2006b; PCWA 2011).

PCWA's second source of surface water for consumptive use is its Middle Fork Project (MFP) water rights. The MFP reservoirs have 340,000 afy (41,938 hmy) of storage capacity. However, pursuant to agreements with the United States Bureau of Reclamation (BoR), PCWA is limited to a maximum consumptive use of 120,000 afy (14,802 hmy) from this source. PCWA's MFP water rights provide that this water supply may be

diverted from the American River at either Auburn Reservoir or at Folsom Reservoir. Modeling indicates that this source is reliable even during a severe dry year (PCWA 2006a; PCWA 2006b; PCWA 2011).

PCWA's third source of surface water is its Central Valley Project (CVP) Municipal and Industrial water supply contract with the Bureau of Reclamation (BoR). This contract is for 35,000 afy (4,317 hmy). This supply is subject to 25 percent deficiencies during single-dry and multiple-dry years. This water was originally to be provided to PCWA at Auburn Reservoir but the contract as amended now provides for its diversion at Folsom Dam. The PCWA does not own or control facilities that are capable of conveying the contracted water from Folsom Dam to Zone 1. Therefore, the availability of the water supply is affected. An additional point of diversion at Auburn will likely be required (PCWA 2006a; PCWA 2006b; PCWA 2011).

PCWA holds four pre-1914 appropriative water rights for diversion of water from various small creeks and their tributaries in western Placer County. PCWA has diverted an average of 3,400 afy (419 hmy) which is assumed to be a part of long-term water supply (PCWA 2011).

PCWA's most recent policy documents identify as a long-term water source a 35,000 afy (4,317 hmy) diversion at the Sacramento River in accordance with the Water Forum Agreement, dated January 2000 (PCWA 2011). Although substantial amounts of work were done on a Draft EIR/EIS for this water supply in the middle of the last decade, this work was put on hold temporarily when the real estate market slowdown occurred in 2008 and 2009. This effort will be revived when demand for the water at issue becomes more imminent as the real estate economy recovers.

The total surface water supply available to the western Placer County area (Zone 1 & Zone 5) is 223,800 afy (27,605 hmy) of permanent supply in normal years. PCWA is pursuing new surface water supplies and by 2040 will increase the supply available to the western Placer County area (Zones 1 & 5) to 263,889 afy (32,550 hmy) of permanent supply in normal years, including approximately 9,000 afy (1,110 hmy) of recycled water (PCWA 2011). Out of the permanent supply, the PCWA has contracted to deliver up to 25,000 afy (3,084 hmy) to the San Juan Water District for use within the Placer County portion of its service area and up to 30,000 afy (3,700 hmy) to the City of Roseville. PCWA has also contracted to deliver up to 29,000 afy (3,577 hmy) 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. Therefore, during dry years the contract with the Sacramento Suburban Water District is considered to be zero (PCWA 2006a; PCWA 2006b; PCWA 2011).

The total western area water demand in 2010 was approximately 143,910 afy (17,751 hmy) which included the commitments to the San Juan Water District, the Sacramento Suburban Water District, and the City of Roseville (PCWA 2011).

PCWA owns and operates four water treatment plants (WTPs) in Zones 1 and 2, two of which serve the lower portion of Zone 1: Foothill and Sunset. The Foothill and Sunset WTPs serve the western portion of Zone 1. The Foothill WTP is located east of Interstate 80 in Newcastle, south of Auburn. The Foothill WTP completed an upgrade during the summer of 2005 that increased the plant's capacity to 55 million gallons per day (mgd) (208 million liters per day [mld]). The Sunset WTP, located in Rocklin near Clover Valley Creek, has a treatment capacity of 8 mgd (20 mld). PCWA is planning to construct a new WTP in the

Newcastle and Ophir area with a proposed capacity of 30 mgd (114 mld). PCWA also intends to pursue an additional 35,000 afy (4,317 hmy) capacity for a new plant near Elverta Road to treat water diverted from the Sacramento River in accordance with the Water Forum Agreement, dated January 2000 (PCWA 2011).

3.15.2.2 Wastewater

The City would be the wastewater service provider for the project site and the alternative 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 service the project area is located within the City's West Roseville Specific Plan.

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 Westbrook Boulevard, south of the Roseville Energy Park (City of Roseville 2010a).

The Pleasant Grove WWTP would serve the project site and alternative site. The WWTP currently treats approximately 7 mgd (26 mld) of average dry weather flow (ADWF) with approximately 4 mgd (15 mld) coming from the City. The WWTP provides tertiary-level treatment through the process of screening, grit removal, extended aeration, secondary clarification, filtration, chlorination, and dechlorination. The plant provides full nitrification and de-nitrification, as well as produces recycled water that meets Title 22 regulations for full, unrestricted use. The WWTP is presently authorized to discharge treated effluent into Pleasant Grove Creek under the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084573 adopted on June 12, 2008. Under this permit the Pleasant Grove WWTP can discharge an ADWF of 12 mgd (45 mld) increasing to a permitted ADWF discharge of 15 mgd (57 mld) upon completion of additional treatment facilities.

Current flow data from the Pleasant Grove WWTP indicate the ADWF is 7 mgd (26 mld). The Systems Evaluation report provides estimates of flow to the WWTP at buildout of the 2005 Service Area Boundary for South Placer Wastewater Authority, as well as at buildout of the ultimate service area boundary. At buildout of the 2005 boundary, wastewater flows (included rezones) are anticipated to be 16.52 mgd (62.54 mld) ADWF (RMC 2009) for the Pleasant Grove WWTP. Under the ultimate Service Area boundary (the current 2005 Service Area plus anticipated Urban Growth Areas), the ADWF is estimated at 25.67 mgd (97.17 mld) (RMC 2009). The WWTP would need to be expanded to meet this future demand. The project site and alternative site are included within the anticipated South Placer Wastewater Authority ultimate Service Area boundary.

3.15.2.3 Solid Waste

Solid waste generated in the City and western Placer County is collected, hauled, and delivered to the Western Placer Waste Management Authority for processing and disposal. The Western Placer Waste Management Authority is a regional agency composed of the cities of Roseville, Rocklin, and Lincoln, and Placer County through a joint powers agreement for solid waste management. The Western Placer Waste Management Authority owns and operates the Materials Recovery Facility (MRF) and the Western Regional Sanitary Landfill (Regional Landfill). The MRF and the Regional Landfill are located on 320 acres (130 hectares) at the southwestern corner of Athens Avenue and Fiddyment Road in Placer County, and are approximately 3 miles (5 kilometers) north of the project site, or 1 mile (1.6 kilometers) from the alternative 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 Western Placer Waste Management Authority'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 the 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 2,200 tons (1,996 metric tons) per day and a permitted vehicle capacity of 1,014 vehicles per day. 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 (57,342 cubic meters). Based on an average density of 0.8 ton (0.7 metric ton) per cubic yard, this equates to an annual processing capacity of approximately 6,000 tons (5443 metric tons) (City of Roseville 2010a).

In calendar year 2008, the MRF processed an average of 487 vehicles per day and received an average of 1,076 tons (976 metric tons) of waste per weekday. Of this amount, 831 tons (754 metric tons) consisted of mixed solid waste, 192 tons (174 metric tons) consisted of source-separated green waste; the remainder consisted of wood waste and other source-separated recyclables. During the same period, the Western Placer Waste Management Authority received and processed a total of 54,548 tons (49,485 metric tons) of source-separated green waste at its composting facility (City of Roseville 2010a).

The Regional Landfill is a Class II/III municipal solid waste (non-hazardous) landfill. It is permitted to accept 1,900 tons (1,724 metric tons) of waste per day and 624 vehicles per day. In 2008, the Regional Landfill received an average of 932 tons (845 metric tons) and 130 vehicles per weekday. The Regional Landfill has a total capacity of 36,350,000 cubic yards (27,791,569 cubic meters). As of July 1, 2009, a total of 10,911,366 cubic yards (8,342,338 cubic meters) have been disposed at the landfill, leaving a remaining capacity of 25,438,634 cubic yards (19,449,231 cubic meters). Under current projected development conditions, the landfill has a projected lifespan extending through 2042 (City of Roseville 2010a).

3.15.2.4 Electricity and Natural Gas

Electricity Supply

The City purchases wholesale electrical power from both the Western Area Power Administration (WAPA), which is generated by the federal government's CVP, and from other members of the Northern California Power Agency, a joint powers agency, and distributes it through transmission and distribution lines. In addition, up to 40 percent of the City's power is 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 2010a).

Roseville Electric provides electrical service to customers within the West Roseville Specific Plan area and is anticipated to be the service provider for the project site (City of Roseville 2010a). The nearest Roseville Electric substation to the project site is the Fiddyment Substation, located near the intersection of Fiddyment Road and Pleasant Grove Boulevard. The nearest Roseville Electric substation to the alternative site is the Industrial Substation, located near the intersection of Industrial Avenue and Galilee Way. In addition, a 45-megawatt simple cycle natural gas fired peaking facility operated by Roseville Electric is also located in the southeastern corner of the alternative site.

In 2008, the annual electrical consumption in the City's service area was approximately 1,303,838 mega-watt hours. By the year 2025, the electrical consumption is expected to rise to 1,549,739 mega-watt hours. The peak demand for electricity for the City in July 2008 was approximately 336 megawatts (City of Roseville 2010a).

Transmission

Roseville Electric has a 60-kilovolt (kV) transmission line that extends south from Pleasant Grove Boulevard in the West Roseville Specific Plan along the future Westbrook Boulevard to the WAPA transmission corridor, where it then turns east to Fiddyment Road to connect to the electrical substation on Fiddyment Road.

Roseville Electric has a 60 kV transmission line that extends along the southern portion of the alternative site. The transmission line enters in the southeastern portion of the alternative site and ties the peaking facility into the City's 60 kV distribution system before proceeding west along the southern boundary**.**

Natural Gas

PG&E would provide natural gas to both the project site and the alternative site upon request and in accordance with the rules and tariffs of the California Public Utilities Commission. A PG&E 10-inch steel high-pressure natural gas distribution feeder main was recently extended north up Fiddyment Road adjacent to the project site, west on Pleasant Grove Boulevard, and then north up Westbrook Boulevard in the West Roseville Specific Plan area to serve the new Roseville Energy Plant. It operates at a maximum allowable operating pressure of 500 pounds (227 kilograms) per square inch gauge (City of Roseville 2010a). A PG&E 6-inch natural gas distribution feeder is also located north of Sunset Boulevard on the alternative site. As discussed in **Section 3.9, Hazards and Hazardous Materials**, PG&E plans to construct a 30-inch

(76-centimeter) diameter, 40-mile-long (64-kilometer-long) natural gas pipeline to serve the southern Sacramento Valley region, including the project site. The pipeline project was approved in 2009 and construction of the segment along Baseline Road is currently anticipated to commence in 2015.

3.15.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.15.3.1 Water Laws, Regulations, Plans, and Policies

Federal

Federal/State Coordinated Operations Agreement

The CVP is operated by the BoR and the State Water Project (SWP) is operated by the California Department of Water Resources (DWR). The CVP and SWP rely on the Sacramento River and the Delta as common conveyance facilities. DWR's primary storage facility is Oroville Dam on the Feather River. Reservoir releases and Delta exports must be coordinated so that both the CVP and SWP are able to retain their portion of the shared water and also jointly share in the obligations to protect beneficial uses. The CVP and SWP operate under a Coordinated Operations Agreement (COA).

The COA defines the rights and responsibilities of the CVP and SWP regarding water needs of the Sacramento River system and the Delta and includes obligations for in-basin uses, accounting, and real-time coordination of water obligations of the two projects. A CVP/SWP apportionment of 75/25 is implemented to meet in-basin needs under balanced Delta conditions, and a 55/45 ratio is in effect for excess flow conditions. The COA contains considerable flexibility in the manner with which Delta conditions in the form of flow standards, water quality standards, and export restrictions are met.

The operation of CVP/SWP is described in a document known as the Operations Criteria and Plan (OCAP). As updated in 2004, the OCAP provides a detailed description of the coordinated operations of the CVP and SWP based on historical data and serves as a starting point for planning project operations in the future. Under the federal Endangered Species Act (ESA), the United States Fish and Wildlife Service (USFWS) produced a formal Biological Opinion analyzing the impact of OCAP implementation on ESA-listed species (including the delta smelt) (USFWS 2005). In effect, the ESA authorizes USFWS to require changes to the OCAP for the protection of the delta smelt and other federally listed species.

In 2005, USFWS issued a Biological Opinion for OCAP, and concluded that CVP/SWP operations did not jeopardize delta smelt populations (USFWS File Number 1-1-05-F-0055). However, that opinion was invalidated by a federal court (*Natural Resources Defense Council v. Kempthorne 2007*). USFWS was ultimately ordered to revise its Biological Opinion. The court also severely restricted CVP and SWP pumping in the Delta pending the USFWS's completion of the new Biological Opinion (*Natural Resources Defense Council v. Kempthorne 2007)*. Those restrictions took effect in December 2007.

In December 2008, USFWS released a new Biological Opinion, which concluded that CVP and SWP operations would jeopardize the continued existence of Endangered delta smelt (USFWS 2008). USFWS further detailed a Reasonable and Prudent Alternative to the proposed OCAP protocol that would, according to USFWS, protect the delta smelt and its habitat from the adverse effects of pumping operations.

The Reasonable and Prudent Alternative would restrict Delta pumping operations and would thus limit deliveries of water to CVP/SWP contractors south of the Delta. In June 2009 the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA) also released a Biological Opinion on the revised OCAP that concluded that CVP and SWP operations would jeopardize the continued existence of several Threatened and Endangered species under its jurisdiction and requested changes to protect ESA listed species, including Endangered Sacramento River winter-run Chinook salmon, Threatened Central Valley spring-run Chinook salmon, Threatened Central Valley steelhead, and Threatened Southern Distinct Population Segment (DPS) of North American green sturgeon and Southern Resident killer whales (NMFS 2009). The Reasonable and Prudent Alternative developed in connection with this Biological Opinion would restrict Delta pumping operations, impose Shasta Reservoir storage targets to achieve water temperature requirements in the Sacramento River below Keswick Dam, impose lower American River flow standards, require modified Delta Cross Channel operations, and limit reverse Old and Middle River (OMR) flows.

DWR issued an initial response to the 2009 NMFS/NOAA Biological Opinion on June 4, 2009. According to DWR, the 2009 Biological Opinion "reaffirms the need for a comprehensive solution to the water and environmental conflicts in the Delta." DWR's initial estimates show the average year impacts closer to 10 percent, which could reduce Delta export on average by about 300,000 to 500,000 acre-feet (37,004 to 61,674 hectare-meter), in addition to current pumping restrictions imposed by the 2008 Biological Opinion to protect the Delta smelt. Again, in cooperation with BoR, National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW), Department of Water Resources (DWR) developed new assumptions for implementation of both the USFWS Biological Opinion (December 15, 2008) and NMFS Biological Opinion (June 4, 2009) in CALSIM II. The USFWS Biological Opinion and NMFS Biological Opinion assumptions are included in Appendix A of the 2009 DWR Delivery Reliability Report.

After issuance of the 2009 NMFS/NOAA Biological Opinion, on August 6, 2009, the SWP Contractors filed a lawsuit against the NMFS/NOAA challenging the 2009 Biological Opinion on federal ESA grounds. According to the complaint, the Biological Opinion failed to take into account many other factors contributing to the fish population decline, and failed to consider the impacts that the 2009 Biological Opinion would have on people, a requirement of NEPA. In addition, on August 28, 2009, the Coalition for a Sustainable Delta and Kern County Water Agency jointly filed suit against the NMFS/NOAA challenging the 2009 Biological Opinion under the federal ESA. In the fall of 2011, the Eastern District of California invalidated and remanded the 2009 Biological Opinion. At the time of the writing of this document, that

order was on appeal in the Ninth Circuit Court of Appeals.[2] As with the NMFS Biological Opinion, the USFWS Biological Opinion was also set aside by the Eastern District Court and is on appeal before the Ninth Circuit.

State

SB 610 and SB 221 – Water Supply Assessments

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

Water Conservation Projects Act

The State of California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950-11954). As stated in Section 11952, it is the intent of the Legislature to encourage local agencies and private enterprise to implement potential water conservation and reclamation projects.

Safe Drinking Water Quality Regulations

The State Department of Public Health establishes primary and secondary Domestic Water Quality Standards for drinking water supplied by public water systems such as the City. The standards are required by state law to meet or exceed standards adopted by the U.S. EPA. Public water systems also must obtain a domestic water supply permit from Department of Public Health that must be amended to reflect changes to the water supply system. The City has obtained this permit.

Recycled Water Regulations

Department of Public Health regulations require that recycled water must be conveyed in a totally separate distribution system from the potable water supply. The City's Water Utility is responsible for implementing a cross-connection program to ensure that future potable services are not accidentally connected to the recycled water system. Additionally, a public information program (including signage) is in place to notify the public of the use and location of recycled water application.

---

2 Governor Schwarzenegger and the California legislature prepared a package of bills aimed at ensuring a reliable water supply in the future, as well as restoring the Delta and other ecologically sensitive areas. The plan is composed of four policy bills and an $11.14 billion bond. The package establishes a Delta Stewardship Council, sets ambitious water conservation policy, ensures better groundwater monitoring, and provides funds for the State Water Resources Control Board for increased enforcement of illegal water diversions. The bond will fund, with local cost-sharing, drought relief, water supply reliability, Delta sustainability, statewide water system operational improvements, conservation and watershed protection, groundwater protection, and water recycling and water conservation programs.

Regional Water Quality Control Board - Recycled Water Master Reclamation Permit

The recycled water distribution system operates under a Master Water Reclamation Permit (Order No. 97-147) issued by the Regional Water Quality Control Board (RWQCB). This permit contains specific prohibitions on the use of recycled water by the City, and places stringent water quality and treatment and disinfection standards on the City's recycled water. The permit prohibits the following: ponding of recycled water, recycled water seeping off the site where it is being applied, and/or entering waters of the state, unless expressly allowed by the permit.

Regional and Local

Water Forum Agreement

The Water Forum Agreement is the result of the efforts of a diverse group of community stakeholders. The stakeholder group was formed in 1994 with the goal to formulate principles for developing solutions to meet future regional water supply needs. Participants in the Water Forum Agreement have developed two coequal objectives:

- Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030.
- Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

The stakeholder group has developed an integrated package of actions to meet these objectives. The elements of this package are:

- Increase surface water diversions
- Actions to meet customers' needs while reducing diversion impacts on the lower American River in drier years
- An improved pattern of fishery flow releases from Folsom Reservoir
- Lower American River Habitat Management, which also addresses recreation in the lower American River
- Water conservation
- Groundwater management
- Water Forum successor efforts

Purveyor Specific Agreements have also been developed that describe in detail how each of the elements will be implemented by the respective purveyors. Purveyors included the City of Roseville, PCWA, San Juan Water District, and other regional water agencies. The Purveyor Specific Agreements are compiled into a Memorandum of Understanding that each stakeholder's authorizing body has executed. In return for signing the final Water Forum Agreement, water purveyors receive regional support for water supply projects, including site-specific infrastructure development (Water Forum 2000).

City of Roseville Recycled Water Supply Policy

It is the policy of the City to provide its Urban Growth Area[3] with a maximum supply of recycled water equal to the amount of wastewater that is generated by the growth area during July average dry weather flow (ADWF) conditions. This supply is referred to as the "committed [recycled water] supply." New growth areas such as the West Roseville area are required to provide storage facilities for recycled water (City of Roseville Ord. 4786 Section 1, 2009).

Groundwater Management Plan

The City, in participation with PCWA and the City of Lincoln, completed a SB 1938 and AB 3030 compliant groundwater management plan in August 2007 (MWH 2007).

City of Roseville Water Conservation Ordinance

In 1991, the City developed and adopted the Roseville Water Conservation and Drought Mitigation Ordinance as documented in the City's Municipal Code Chapter 14.09. Under this ordinance, the City has authority to declare water shortage conditions and implement drought-related mitigation measures.

In February 2008, the City adopted Ordinance 4629, which prohibits wasteful uses of water and provides tools for water conservation during droughts (City of Roseville Ordinance 4629 Section 14.09).

3.15.3.2 Wastewater Laws, Regulations, Plans, and Policies

Federal and State

Clean Water Act NPDES Permits

The National Pollutant Discharge Elimination System (NPDES) permit system was established by the Clean Water Act (33 USC. Section 1251 et seq. [1972]) to regulate municipal and industrial discharges to surface waters of the U.S. The discharge of pollutants, including wastewater, to surface waters is prohibited unless an NPDES permit has been issued to allow that discharge.

The discharge of treated effluent from the Pleasant Grove WWTP to Pleasant Grove Creek is regulated under a NPDES permit issued by the RWQCB (NPDES No. CA0084573). The NPDES permit and the Waste Discharge Requirements (WDR) identify discharge prohibitions, effluent limitations, and monitoring and reporting requirements. Discharge limitations in the Pleasant Grove WWTP permit define allowable effluent concentrations for flow, biological oxygen demand (BOD), total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, and pH (a measure of acidity or alkalinity level). Limitations also encompass mineralization and toxicity to aquatic life. The permit includes stipulations for the disposal of solid materials, and limitations on impacts to receiving waters. The permit also specifies the sampling, monitoring, and reporting requirements for compliance with waste discharge regulations. The monitoring program entails sampling influent, effluent, and the receiving waters. The provisions of the NPDES permit and the WDR are enforceable through an order issued by the RWQCB or civil action.

3 The City's Urban Growth Area is defined as future planning areas, including Specific Plan areas or other areas that have been annexed or are being considered for annexation.

State Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13020) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the state must adopt water quality policies, plans, and objectives that will provide protection to the state's waters for the use and enjoyment of the people of California. In California, the SWRCB has authority and responsibility for establishing policy for water quality control issues for the State. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits containing waste discharge requirements, and to enforce these permits. SWRCB and RWQCB regulations implementing the Porter-Cologne Act are included in Title 27 of the California Code of Regulations.

General Waste Discharge Requirements (GWDRs) for Sanitary Sewer Systems

The General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. 2006-0003-DWQ) were adopted by the SWRCB in May 2006. These WDRs require local jurisdictions to develop a Sewer System Management Plan (SSMP) that addresses the necessary operation and emergency response plans to reduce sanitary sewer overflows. The WDRs require that the local jurisdiction approve the SSMP and the Roseville City Council approved the City's SSMP on January 21, 2009.

Local

South Placer Wastewater Authority

The South Placer Wastewater Authority is a joint powers authority formed to fund regional wastewater and recycled water facilities in southwestern Placer County for three partner agencies (the participants): the City of Roseville, the South Placer Municipal Utility District (SPMUD), and Placer County. The regional facilities funded by the South Placer Wastewater Authority thus far include recycled water facilities, trunk sewer lines, and two WWTPs. All three participants transmit wastewater to these WWTPs. South Placer Wastewater Authority also monitors compliance with operational criteria established in the Funding and Operations Agreements among the participants.

The Funding Agreement outlines each participant's responsibility for debt service on South Placer Wastewater Authority's bonds and funding of regional facilities. The Operations Agreement documents maintenance and operations responsibilities for regional facilities (primarily the WWTPs) and establishes the City of Roseville as the owner and operator of the two WWTPs on behalf of the participants.

The Operations Agreement also identifies a regional service area boundary, which delineates the area served by South Placer Wastewater Authority-funded regional facilities. Projects that require wastewater treatment using South Placer Wastewater Authority-funded regional facilities, especially projects outside the existing service area boundary, require appropriate environmental analyses. The South Placer Wastewater Authority Board considers the adequacy of the environmental documentation for such projects to ensure that regional facilities needs are met. Once that review has occurred, the participants may agree to modify the service area boundary identified in the Operations Agreement.

City of Roseville Municipal Code

Section 14 of the City's Municipal Code contains regulations associated with sewer use, sewer rates and charges, and industrial wastewater. Chapter 14.26 prohibits discharge to a sanitary sewer of any pollutant or wastewater that would interfere with the operation or performance of the City's wastewater collection or treatment facilities.

City of Roseville General Plan

The City of Roseville General Plan contains goals and policies that are designed to ensure that residents have adequate wastewater service (City of Roseville 2010b).

Goal 1: Participate in a cooperative regional approach to wastewater that adequately services planned growth within the City.

Goal 2: Provide wastewater services to all existing and future Roseville development through the City's wastewater utility. The provision of services by another provider may be considered when it is determined that such service is beneficial to the City and its utility customers or the provision of City services is not feasible.

Goal 4: Meet State of California and EPA water quality standards for the discharge of treated wastewater, as well as meet State of California quality standards for the production of recycled water.

Policy 2: Ensure adequate storm surge capacity at the wastewater treatment plants.

Policy 3: Initiate upon 75 percent utilization of treatment plant capacity, expansion studies to determine necessary improvements to meet projected wastewater treatment demands.

Policy 4: Ensure that wastewater treatment capacity is available and that wastewater generation is minimized.

3.15.3.3 Solid Waste Laws, Regulations, Plans, and Policies

Assembly Bill 939

In 1989, Assembly Bill (AB) 939 (Public Resources Code Section 40051) established the organization, structure and mission of the California Integrated Waste Management Board, now known as the California Department of Resources, Recycling and Recovery (CalRecycle). The purpose was to direct attention to the increasing waste stream and decreasing landfill capacity, and to mandate a reduction of waste being disposed in landfills. Jurisdictions were required by AB 939 to meet goals to divert 25 percent of solid waste from landfills by 1995 and 50 percent by the year 2000. The City achieved 66 percent diversion by 2006, while unincorporated Placer County achieved a diversion rate of 68 percent (Cal Recycle 2011).

California Universal Waste Law

This legislation went into effect in February 2006 (California Code of Regulations Title 22 Chapter 23). Universal wastes are a wide variety of hazardous wastes such as batteries, fluorescent tubes, and some

electronic devices, that contain mercury, lead, cadmium, copper, or other substances hazardous to human and environmental health. Universal waste may not be discarded in solid waste landfills, but instead are recyclable and (to encourage recycling and recovery of valuable metals) can be managed under less stringent requirements than those that apply to other hazardous wastes.

City of Roseville General Plan and Zoning Ordinance

As described previously, the City's Source Reduction and Recycling Element is a part of the City's General Plan, and contains includes goals and policies for solid waste disposal. Section 9.17 of the Municipal Code includes provision for refuse hauling and recycling.

3.15.3.4 Electricity and Natural Gas Laws, Regulations, Plans and Policies

Federal

The Federal Energy Regulatory Commission regulates the transmission and sale of electricity in interstate commerce, licenses hydroelectric projects, and oversees related environmental matters. In 2006, the USEPA and Department of Energy co-sponsored the National Action Plan for Energy Efficiency (the Action Plan). The Action Plan presents policy recommendations for creating a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities and partner organizations. As stated in the Action Plan, such a commitment could save many billions of dollars on energy bills over the next 10 to 15 years and contribute to energy security and improvement the environment (U.S. Department of Energy and U.S. EPA 2006). Roseville Electric practices the principles of the Action Plan by implementing renewable energy program and offering incentives to reduce energy use.

State

Title 24 of the California Code of Regulations was amended in October 2005 to include new energy efficiency standards in response to the state's energy crisis as well as AB 970, the California Energy and Reliability Act of 2000. The goal of these enactments is to improve the energy efficiency of residential and nonresidential buildings, minimize impacts during peak energy use periods, and reduce impacts on the state's energy resources.

Local

The City currently encourages energy conservation by providing information regarding rebate programs for energy efficiency investments and education programs for residents and businesses. In recent years, the City has encouraged energy efficiency through its BEST (Blueprint for Energy Efficiency and Solar Technology) Homes program. BEST Homes bring together integrated rooftop solar electric generation technology, high energy efficiency, water efficiency, and shade trees as standard features in homes. Through BEST Homes, Roseville Electric is offering new home developers up to $8,600 in rebates for each participating dwelling unit (plus $30 per qualifying Shade Tree). The City proposes that up to 20 percent of all new home construction include high energy efficient integrated rooftop solar electric generation technology as a standard feature in homes. The City has numerous other programs that encourage energy conservation.

3.15.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOY

3.15.4.1 Significance Thresholds

CEQ guidance requires an evaluation of a proposed action's effect on the human environment. The USACE 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.

With respect to cumulative impacts, the contribution of the Proposed Action or an alternative to a cumulative impact would be considered significant if the Proposed Action or an alternative would:

- Increase the demand for water such that it requires the development of new sources of water.

3.15.4.2 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 Westbrook Amendment to the Sierra Vista Specific Plan. These water factors are based on meter data from existing customers in Roseville. These factors were applied to the proposed land uses included in the Proposed Action and alternatives. Next estimated savings from planned water conservation measures 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 3.15-1** presents the estimated water demand for the Proposed Action and alternatives.

Table 3.15-1
Potable Water Demand at Buildout (Acre-Feet Per Year)

Land Use	No Action	Proposed Action[1]	Alt.1 Reduced Footprint/ Increased Density	Alt. 2 Reduced Footprint /Same Density	Alt. 3 Central Preserve	Alt. 4 One Acre Fill	Alt. 5. Half Acre Fill	Off-Site
Water Demand	799	1,090	813	784	798	706	677	1,001
2 Percent for Losses	16	22	16	16	16	14	14	20
Total	815	1,112	829	800	814	720	691	1,021
Conservation Measures Imposed	-55	-178	-44	-49	-51	-43	-41	-55
Net Water Demand	**760**	**934**	**785**	**751**	**763**	**677**	**650**	**966**

Source: City of Roseville 2012; Mackay & Somps 2012

[1] *Potable water demand for the Proposed Action was obtained from the WSA prepared for the Proposed Action. MacKay & Somps estimated potable water for the Proposed Action demand at 1,095 acre-feet per year, which is slightly higher than potable water demand estimate in the WSA. As the difference between the potable demand estimate in the WSA and the estimate provided by MacKay & Somps is not substantial, the estimate provided in the WSA was utilized in the analysis.*

The USACE 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 on-site alternatives' future demands in conjunction with the future demand for the rest of the City at buildout of the 2025 General Plan. Water demand under the Proposed Action or on-site alternatives plus buildout of the 2025 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 Water Forum Agreement or from cutbacks instituted by BoR as a result of the OCAP.

Groundwater

The City of Roseville relies on groundwater as a back-up supply during drought years. The Water Supply Assessment prepared for the Proposed Action evaluated historical hydrologic data to determine the frequency of droughts in the region. The analysis then estimated the amount of groundwater that would be required if surface water supplies were reduced in accordance with the Water Forum Agreement or potential reductions from the OCAP.

A groundwater impact analysis was prepared for Reason Farms Land Retirement Plan. The report simulated groundwater conditions using the North American River and Sacramento County Combined Integrated Groundwater and Surface Water Model (IGSM) (MWH 2003). Data from this study was also used to evaluate groundwater impacts of the Proposed Action and alternatives.

Wastewater

For wastewater treatment, the demand for treatment was calculated for the Proposed Action and compared to the capacity of the Pleasant Grove WWTP as well as to 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 System Evaluation report (RMC 2009). These unit flow factors were applied to the land uses under the Proposed Action and alternatives to estimate the volume of wastewater to be treated at the Pleasant Grove WWTP. **Table 3.15-2, Average Dry Weather Flow at Buildout,** below presents the estimated Average Dry Weather Flows for the Proposed Action and alternatives.

Table 3.15-2
Average Dry Weather Flow at Buildout (mgd)

Alternative	*Total Average Dry Weather Flow*
No Action Alternative	0.281
Proposed Action	0.392
Alt. 1 – Reduced Footprint/ Increased Density Alternative	0.324
Alt. 2 – Reduced Footprint/Same Density Alternative	0.268
Alt. 3 – Central Preserve Alternative	0.269
Alt. 4 – One Acre Fill Alternative	0.237
Alt. 5 – Half Acre Fill Alternative	0.221
Off-Site Alternative	0.327

Source: Mackay & Somps 2012

Solid Waste

In order to evaluate the Proposed Action or an 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 3.15-3, Solid Waste Generation, Diversion and Disposal at Buildout,** presents the estimated solid waste for the Proposed Action and alternatives.

Table 3.15-3
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	8,386	23	4,067	11	2,260	6	2,058	6
Proposed Action	11,305	31	3,047	8	2,775	8	5,483	15
Alt. 1 – Reduced Footprint/ Increased Density Alternative	10,531	29	2,8,39	8	2,585	7	5,108	14
Alt. 2 – Reduced Footprint/Same Density Alternative	7,828	21	2,110	6	1,921	5	3,797	10
Alt. 3 – Central Preserve Alternative	7,884	22	2,125	6	1,935	5	3,824	10
Alt. 4 – One Acre Fill Alternative	7,466	20	2,013	6	1,832	5	3,621	10
Alt. 5 – One Half Fill Alternative	6,998	19	1,886	5	1,718	5	3,394	9
Off-Site Alternative	8,691	24	2,343	6	2,133	6	4,215	12

Source: City of Roseville 2010a; Impact Sciences 2012

[1] *Generation rate is 12.02 lbs/person/day*

[2] *Disposal rate is 5.83 lbs/person/day*

[3] *Materials Recovery Facility Diversion rate is 3.24 lbs/person/day*

[4] *Direct Recycling rate is 2.95 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 electricity, natural gas, and telecommunications facilities were evaluated in the Technical Dry Utilities Study for the Sierra Vista Specific Plan (Capitol Utility Specialists 2009).

3.15.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact UTIL-1 Availability of Water Supplies to Meet Demand

No Action Alt. Development of the No Action Alternative would include residential, commercial, business professional, and school uses that would require water for drinking, bathing, commercial uses, etc. The **direct** effect related to water supply during construction would be **less than significant.** As demonstrated by the analysis presented below, the City's water supply would be adequate to serve the No Action Alternative at buildout under both normal/wet year conditions and under drought conditions, and the **indirect** effect related to water supply would be **less than significant**. Mitigation is not required.

Construction

There would be a minimal demand for water during construction of the No Action Alternative. The water would be trucked onto the site and would be used primarily for dust abatement, such as watering of the roads. Therefore, the **direct** effect related to water supply during construction would be **less than significant.** Mitigation is not required. No **indirect** effects would occur.

Operation

The USACE estimates that the water demand for the No Action Alternative would be 815 afy (101 hmy), without conservation but including system losses. With conservation measures, such as limiting the amount of turf in front yards and replacing turf with low water use plantings, smart irrigation controllers, and implementing systems to recirculate hot water, total potable water demand for the No Action Alternative would be 760 afy (94 hmy) at buil-out. See **Table 3.15-1, 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 63,455 afy (7,827 hmy) (62,695 afy [7,733 hmy] + 760 afy [94 hmy]). The No Action Alternative and new development in the City of Roseville would rely on recycled water for irrigation. A total of 4,462 afy (550 hmy) of recycled water is anticipated to be available at buildout of the City and the No Action Alternative. If recycled water available at buildout (approximately 4,462 afy [550 hmy]) is subtracted from the total demand of 63,455 afy (7,827 hmy), the net water demand would be 58,993 afy (7,277 hmy).

Wet Years

In normal/wet years, the City's American River supply of 58,900 afy (7,265 hmy), which is the amount allowed under the Water Forum Agreement, 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 58,993 afy (7,277 hmy), demand exceeds supplies by 93 afy (0.4 hmy). However, buildout demands include 313 afy (39 hmy) of water reserved for potential future corporate centers. These future Corporate Center projects are not approved or pending projects, but hypothetical future projects that, if proposed and pursued by private interests, would likely be attractive to the City from an economic and fiscal standpoint. The City's Environmental Utilities Department has identified reserve water for such possible future projects in order to be ready for one of them if and when they might be proposed. This water, however, is not formally allocated to such presently non-existent projects. This City proposes to reduce the corporate center reserve by 93 afy and allocate the water to the No Action Alternative so that supplies will equal demands in normal/wet years. As a result, enough water would be available to meet the shortfall under the No Action Alternative. Therefore, current supplies are reasonably certain to be sufficient to serve the No Action Alternative plus buildout under the City's General Plan in wet years.

Drought Years

During drought years, the City would be required to cut back its water supply pursuant to the Water Forum Agreement. In addition, as described in **Subsection 3.15.3** above, the OCAP could be required to reduce the supply from CVP and SWP to the water purveyors in the region. The two scenarios are described below.

Water Forum Scenario

The Water Forum Agreement identifies three different water year types: normal or wet (normal/wet), drier, and driest. The Water Forum Agreement imposes limitations on the amount of water that can be diverted by the participants from the American River, depending on the type of water year and the stage of drought. As noted above, in a normal/wet year, the City has agreed to limit the amount of water it would divert from the American River for its use to 58,900 afy (7,265 hmy). In drier years, the amount of water available for diversion varies depending on the American River's unimpaired inflow. Diversions would vary from a maximum of 58,900 afy (7,265 hmy) to a minimum of 39,800 afy (4,909 hmy). In the driest (critically dry) years, the City has committed to limiting the amount of water diverted from the American River to no less than 39,800 afy (4,909 hmy) (City of Roseville 2010a).

The following discussion examines the potential shortfalls in the City's surface water supplies during dry years, based on 100 years of the hydrologic record of the American River. The City's demand at buildout of the general plan (including the No Action

Alternative) was compared to available supply from the American River during historical drier and driest years to estimate water shortfalls during historical drier and driest years. The demand was assumed for analysis to be equal to 58,900 afy (7,265 hmy); in reality as reported above, with the use of recycled water, it is estimated to be lower.

The hydrologic record indicates that in the past 100 years, there were two critically dry years and 13 drier years. In 1977, the driest year on record for the last 100 years, the annual flow in the American River was 520,190 acre- feet (af) (64,164 hectare-meters [hm]). If similar drought conditions occurred in the future, the City would experience a shortfall of up to 19,100 af (2,356 hm) (City of Roseville 2010a). The City would address this shortfall by imposing conservation measures identified in its municipal code, which would reduce demand, and would supplement any additional demand with groundwater supplies if necessary. If the City is able to accomplish a 50 percent reduction in demand through its conservation measures, groundwater would not be needed to supplement supplies. However, to ensure a highly reliable water supply for the City, a 20 percent reduction that would be achieved through conservation was assumed. This is equivalent to a reduction in water demand of 11,780 afy (1,453 hmy) at buildout of the City plus the No Action Alternative (20 percent of the surface water supply requirement of 58,900 afy [7,265 hmy]). The 100 years of hydrologic data include both the 1924 and 1977 droughts of record. This hydrologic record provides a good picture of what can be anticipated as future unimpaired flows in the American River. The data indicate that there would be approximately 15 years out of 100 that would require some level of conservation.[4] Of those 15 years, and assuming only a 20 percent reduction in water demand through conservation efforts, only 6 years would require groundwater pumping to make up for shortfalls in surface water supplies. The use of groundwater will help avoid the need to divert additional American River water in excess of what is allowed under the Water Forum Agreement.

Based on the above, the No Action Alternative would not increase the City's total water demand such that the available surface water supplies would be inadequate in normal and dry years. During critically dry years, the additional demand for water created by the No Action Alternative would further increase the gap between available supply and total demand for water, making it necessary for the City to pump groundwater. Effects associated with groundwater withdrawal are discussed under **Impact UTIL-2**.

---

4 In 1991, the City developed and adopted the Roseville Water Conservation and Drought Mitigation Ordinance. Under this ordinance, the City has authority to declare water shortage conditions and implement drought related conservation measures. The City can initiate this process by declaring a drought stage (Stage One through Stage Five) and imposing the appropriate and corresponding drought response measures. For example, Stage One prohibits washing of streets, driveways, sidewalks, and parking lots and places restrictions on vehicle washing, and serving water in restaurants. Under Stage Two, additional measures on landscape irrigation would be imposed. Depending on the severity during Stage Three, Four, and Five drought restrictions the use of groundwater could also be initiated. Stages One through Five, as outlined in the City's Municipal Code Chapter 14.09, cover supply shortages up to 50 percent.

With respect to possible effects from climate change, it is expected that surface water volumes within the American River watershed (the City's surface water supply source) will not change, although the City and the State may need to take proactive measures to manage the supply should water be received increasingly in the form of rain, instead of snow pack.

BoR OCAP Scenario

In addition to the evaluation of the No Action Alternative's effect on water supply relative to Water Forum Agreement limitations, an evaluation of the effects of reduced surface water supply as a result of cutbacks resulting from the revised OCAP was also conducted by the USACE using the same methodology used by the City. As noted earlier, the federal ESA allows the USFWS to require changes to the OCAP for the protection of the delta smelt and other federally listed species. According to the revised OCAP, full deliveries of PCWA and BoR contracted supplies are projected to occur 58 percent of the time. According to the City, about 45 percent of the time, shortages in surface water supplies can be addressed through implementation of water conservation measures for drought Stages One and Two (between 10 percent and 20 percent conservation) outlined in the Roseville municipal code. Under the OCAP scenario, about 13 percent of the time, surface water deliveries will fall below a level where the shortfall would be addressed by 20 percent conservation efforts and supplemental supply from groundwater. Based on the 100-year hydrological record under the OCAP scenario, there would be a need to pump groundwater in 13 of 100 years.

In summary, the City has sufficient dry and critical dry year water supplies for the No Action Alternative and the rest of the growth under the General Plan under both Water Forum Agreement and BoR OCAP scenarios. With the conservation measures described above which would be imposed on all development in the City under drought conditions and limited reliance on groundwater, current supplies are reasonably certain to be sufficient to serve not only the No Action Alternative, but buildout under the City's General Plan even in drought years. Therefore, the **indirect** effect of the No Action Alternative on wet and drought year water supplies would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Proposed Action

As demonstrated by the analysis presented below, the City's water supply would be adequate to serve the Proposed Action at buildout under both normal/wet year conditions and under drought conditions, and the **indirect** effect related to water supply would be **less than significant**. The **direct** effect related to water supply during construction would be **less than significant.** Mitigation is not required.

Construction

For the same reasons presented above for the No Action Alternative, there would be a minimal demand for water during construction of the Proposed Action. Therefore, the **direct** effect related to water supply would be **less than significant.** Mitigation is not

required. No **indirect** effects would occur.

Operation

The Proposed Action would develop commercial and residential uses that would create demand for water supplies in the City's service area. As shown in **Table 3.15-1,** the City estimates that development of these uses would demand 1,112 afy (137 hmy), without conservation but including system losses. With conservation measures, the water demand for the Proposed Action at buildout would be 934 afy (115 hmy) (City of Roseville 2012).

The demand for the City at General Plan buildout plus the Proposed Action is estimated to be approximately 63,629 afy (7,849 hmy) (62,695 afy [7,733 hmy] + 934 afy [115 hmy]). As discussed above, the Proposed Action and new development in the City of Roseville would rely on recycled water for irrigation, and a total of 4,462 afy (550 hmy) of recycled water is anticipated to be available at buildout of the City and the Proposed Action. If recycled water available at buildout (approximately 4,462 afy [550 hmy]) is subtracted from the total demand of 63,629 afy (7,849 hmy), the net potable water demand would be 59,167 afy (7,298 hmy).

It is anticipated that the water supply source for the Proposed Action would be similar to the No Action Alternative, and would include water from the City's American River water supply. In normal/wet years, the City's American River supply of 58,900 afy (7,265 hmy) 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 compared to the total projected potable water demand of 59,167 afy (7,298 hmy), demand exceeds supplies by 267 afy (33 hmy). However, buildout demands include 313 afy (39 hmy) of water reserved for potential future corporate centers. The City plans to reduce the corporate center reserve by 267 afy (33 hmy) so that supplies will equal demands in normal/wet years (City of Roseville 2012). Therefore, with this change, current supplies are reasonably certain to be sufficient to serve the Proposed Action plus buildout under the City's General Plan in wet years.

During drought years, the City would have reduced surface water supplies under the Water Forum Agreement and OCAP scenarios described above. The City would impose water conservation measures, depending on the severity of the drought, which would reduce the total demand for water and the City would also rely on groundwater as back-up supply. Based on the analysis completed for the No Action Alternative above, the City would have sufficient supplies during dry years to serve the Proposed Action, in addition to other development in the City. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect related to water supply during drought years would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Alts. 1 and 3 As demonstrated by the analysis presented below, the City's water supply would be adequate to serve Alternatives 1 and 3 at buildout under both normal/wet year conditions and under drought conditions, and the **indirect** effect related to water supply would be **less than significant**. The **direct** effect related to water supply during construction would be **less than significant.** Mitigation is not required.

Construction

Similarly to the No Action Alternative, there would be a minimal demand for water during construction of Alternatives 1 and 3. Therefore, the **direct** effect related to water supply would be **less than significant.** Mitigation is not required. No **indirect** effects would occur.

Operation

Alternatives 1 and 3 would develop commercial and residential uses that would create demand for water supplies in the City of Roseville. As shown on **Table 3.15-1,** the USACE estimates that development of these uses would result in a demand for water ranging from 814 afy (100 hmy) (Alternative 3) to 829 afy (102 hmy) (Alternative 1), without conservation but including system losses. With conservation measures, the water demand would range from 763 afy (94 hmy) (Alternative 3) to 785 afy (97 hmy) (Alternative 1) at buildout.

The normal demand for the City at General Plan buildout plus these alternatives is estimated to range from approximately 63,458 afy (7,827 hmy) (62,695 afy [7,733 hmy] + 763 afy [94 hmy]) to 63,480 afy (7,830 hmy) (62,695 afy [7,733 hmy] + 785 afy [97 hmy]). As discussed above, all of the on-site alternatives and new development in the City of Roseville would rely on recycled water for irrigation, and a total of 4,462 afy (550 hmy) of recycled water is anticipated to be available at buildout of the City and all of the on-site alternatives. If recycled water available at buildout (approximately 4,462 afy [550 hmy]) is subtracted from the total demand of 63,458 afy (7,827 hmy) to 63,480 afy (7,830 hmy), the net water demand would be 58,996 afy (7,277 hmy) to 59,018 afy (7,280 hmy).

It is anticipated that the water supply source for Alternatives 1 and 3 would be similar to the No Action Alternative, and would include water from the City's American River water supply. In normal/wet years, the City's American River supply of 58,900 afy (7,265 hmy) 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 compared to the total projected potable water demand of 58,996 afy (7,277 hmy) to 59,018 afy (7,280 hmy), demand exceeds supplies by 96 afy (15 hmy) to 118 afy (15 hmy). However, the 313 afy (39 hmy) of corporate center reserve water discussed above would be available to make up this shortfall. Therefore, the City would have adequate supplies to serve these alternatives, in addition to other development anticipated under the City's General Plan in normal/wet years. Based on the significance criteria listed above, the **indirect** effect related to water supply during normal/wet years would be **less than significant**. Mitigation is not required.

During drought years, the City would have reduced surface water supplies under the Water Forum Agreement and OCAP scenarios described above. The City would impose water conservation measures, depending on the severity of the drought, which would reduce the total demand for water supplies in the City and would rely on groundwater as back-up supply. Based on the analysis completed for the No Action Alternative above, the City would have sufficient supplies during dry years to serve Alternatives 1 and 3, in addition to other development in the City. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect related to water supply during drought years would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Alts. 2, 4, and 5

As demonstrated by the analysis presented below, the City's water supply would be adequate to serve Alternatives 2, 4, and 5 at buildout under both normal/wet year conditions and under drought conditions, and the **indirect** effect related to water supply would be **less than significant**. The **direct** effect related to water supply during construction would be **less than significant.** Mitigation is not required.

Construction

Similarly to the No Action Alternative, there would be a minimal demand for water during construction of Alternatives 2, 4, and 5. Therefore, the **direct** effect related to water supply would be **less than significant.** Mitigation is not required. No **indirect** effects would occur.

Operation

Alternatives 2, 4, and 5 would develop commercial and residential uses that would create demand for water supplies in the City's service area. As shown on **Table 3.15-1,** the USACE estimates that development of these uses would result in a demand for water ranging from 691 afy (85 hmy) (Alternative 5) to 800 afy (99 hmy) (Alternative 2), without conservation but including system losses. With conservation measures, the water demand for these alternatives would ranges from 650 afy (80 hmy) (Alternative 5) to 751 afy (93 hmy) (Alternative 2) at buildout.

The normal demand for the City at General Plan buildout plus these alternatives is estimated to range from approximately 63,345 afy (7,813 hmy) (62,695 afy [7,733 hmy] + 650 afy [80 hmy]) to 63,446 afy (7,826 hmy) (62,695 afy [7,733 hmy] + 751 afy [93 hmy]). As discussed above, all of the on-site alternatives and new development in the City of Roseville would rely on recycled water for irrigation, and a total of 4,462 afy (550 hmy) of recycled water is anticipated to be available at buildout of the City and all of the alternatives. If recycled water available at buildout (approximately 4,462 afy [550 hmy]) is subtracted from the total demand of 63,345 afy (7,813 hmy) to 63,446 afy (7,826 hmy), the net water demand would be 58,883 afy (7,263 hmy) to 58,984 afy (7,276 hmy).

It is anticipated that the water supply source for Alternative 2, 4, and 5 would be similar to

the No Action Alternative, so would include water from the City's American River water supply. As described above, current supplies in the City are reasonably certain to be sufficient to serve demands from the No Action Alternative which is higher than demands under Alternatives 2, 4, and 5. Therefore, the City would have adequate supplies to serve these alternatives, in addition to other development anticipated under the City's General Plan in normal/wet years. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect of Alternatives 2, 4, and 5 related to water supply during normal/wet years would be **less than significant**. Mitigation is not required.

During drought years, the City would have reduced surface water supplies under the Water Forum Agreement and OCAP scenarios described above. The City would impose water conservation measures, depending on the severity of the drought, which would reduce the total demand for water supplies in the City and would rely on groundwater as back-up supply. Based on the analysis completed for the No Action Alternative above, the City would have sufficient supplies during dry years to serve these alternatives, in addition to other development in the City. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect related to water supply during drought years would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Off-Site Alt. As demonstrated by the analysis presented below, the Placer County Water Agency's water supply would be adequate to serve the Off-Site Alternative at buildout under both normal/wet year conditions and under drought conditions, and the **indirect** effect related to water supply would be **less than significant**. The **direct** effect related to water supply during construction would also be **less than significant.** Mitigation is not required.

Construction

Similar to the No Action Alternative, there would be a minimal demand for water during construction of the Off-Site Alternative. Therefore, the **direct** effect related to water supply would be **less than significant.** Mitigation is not required. No **indirect** effects would occur.

Operation

The Off-Site Alternative would develop commercial and residential uses that would create demand for water supplies from the PCWA. As shown on **Table 3.15-1,** the USACE estimates that development of these uses would result in a demand for water of 1,021 afy (126 hmy), without conservation but including system losses. With conservation measures, the water demand for the Off-Site Alternative would be 966 afy (119 hmy) at buildout.

The total surface water supply available to the western Placer County area (Zones 1 & 5) is 223,800 afy (27,605 hmy) of permanent supply in normal years (PCWA 2011). Out of that permanent supply, the PCWA has contracted to deliver up to 25,000 afy (3,084 hmy) to San

Juan Water District for use within the Placer County portion of its service area and up to 30,000 afy (3,700 hmy) to the City of Roseville. PCWA has also contracted to deliver up to 29,000 afy (3,577 hmy) to Sacramento Suburban Water District for groundwater stabilization in the district's service area, but the water would not be delivered during dry years. Using the same assumptions as used for determining a single dry year in 2040[5] and excluding the currently unavailable Central Valley Project water and recycled water, under current conditions 171,900 afy (21,203 hmy) of surface water supply would be available during a single dry year.

Total demand for water in western Placer County in 2010 was 143,910 afy (17,751 hmy) (PCWA 2011). Addition of water demand associated with the Off-Site Alternative (1,021 afy [126 hmy]) to the 2010 demand would result in a total demand of 144,931 afy (17,877 hmy) which is less than total water supply available during normal and dry years. The PCWA would have sufficient supplies in normal and dry years to meet demands of the Off-Site Alternative (For impact of the alternative in conjunction with other future development in the area, see Impact CUM UTIL-1 below). Based on the significance criteria listed above and for the reasons presented above, the **indirect** effects would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Impact UTIL-2 Groundwater Demand Impacts

No Action Alt. Withdrawal of groundwater has the potential to cause groundwater levels to decline locally or regionally. Although groundwater aquifers are recharged by precipitation, if the groundwater withdrawal rate exceeds the recharge rate, it can lead to long-term declines in groundwater levels. The use of groundwater, even when infrequent, can affect aquifers in the area by altering groundwater elevations, which can in turn affect recharge conditions, change aquifer storage characteristics, result in localized well impacts, or cause areas of poorer quality groundwater to shift (MWH 2003). However, as shown by the analysis presented below, the **indirect** effect of groundwater withdrawal needed to serve the No Action Alternative on the regional groundwater levels would be **less than significant**. Mitigation is not required.

As discussed under **Impact UTIL-1**, during normal/wet hydrologic years, water demand within the City, including demand from the No Action Alternative, would be met using surface water and recycled water supplies, and groundwater would not be used. During dry hydrologic years, City water demand, including the demand associated with the No Action Alternative, would be met by a combination of surface water, recycled water, and demand reduction activities such as mandatory water conservation efforts. In the critically dry years, these sources would need to be supplemented by groundwater supplies. In all

---

5 The Pre-1914 water supply and PG&E water supply would each be reduced by 50 percent.

year types, groundwater may also be used as an emergency back-up for recycled water supplies under current City policy. Similar to the evaluation performed by the City for the Proposed Action, the USACE evaluated the effect of groundwater extraction under two scenarios that are described below.

Water Forum Scenario

As discussed under **Impact UTIL-1**, under the Water Forum scenario, the City estimated that groundwater would need to be used in six years out of 100 to supplement available surface water supplies after a 20 percent conservation level had been achieved. The estimated amount of groundwater per year needed would range from 0 to 7,320 afy (903 hmy), and would add up to 32,224 acre-feet (3,975 hectare-meter) for the 100-year analysis period for the City of Roseville buildout including the Proposed Action.

In 2003, the City acquired Reason Farms, a 1,754 acre (710-hectare) property located in the West Roseville Specific Plan Area that was used for production of rice. As explained in **Mitigation Measure HYDRO-1,** the City plans to use the site in the future for stormwater retention and has taken the site out of rice production. When Reason Farms was still in use for rice production, approximately 6,483 af (800 hm) of groundwater was extracted each year at this site to irrigate the rice fields, and most of this water was lost to evaporation. Since 2003, the Reason Farms site is dry farmed and the use of groundwater on the site is much reduced. The City estimates that the total amount of banked groundwater obtained through fallowing Reason Farms would be 293,043 acre-feet (36,146 hectare-meter). This is based on the assumption that groundwater would be banked 93 years of 100 years at the rate of 3,151 acre-feet (389 hectare-meters) banked each year. After subtracting both the amount of groundwater used for emergency back-up recycled water supply[6] and the amount used in 6 out of 100 dry years from the amount of banked groundwater, a minimum of 260,599 acre-feet (32,144 hectare-meter) would remain banked in the groundwater basin under the No Project Alternative.

BoR OCAP Scenario

Under the OCAP scenario, full deliveries will be available only 58 percent of the time and 42 percent of the time some level of conservation will be in effect. Fourteen percent of the time, surface water deliveries will need to be supplemented with groundwater. The estimated amount of groundwater per year needed to augment surface water supplies would range from 0 to 7,320 afy (903 hmy) and would total 60,812 acre-feet (7,501 hectare-meter) for the 100-year analysis period for the buildout of the City including the Proposed Action. As the demand for water under the No Action Alternative is less than the demand

6 The amount of emergency back-up recycled water supply is 220 acre-feet (27 hectare-meters) for the Proposed Action. As the demand for water under the No Action Alternative is less than the demand under the Proposed Action, the estimated amount of emergency back-up recycled water supply is the maximum amount that would be needed.

under the Proposed Action, the estimated amount of groundwater needed for the 100-year analysis period is the maximum amount that would be needed.

The amount of banked groundwater obtained through fallowing Reason Farms is estimated to be 270,986 acre-feet (33,426 hectare-meters). This is based on the assumption that groundwater would be used 14 years out of 100 years, and banked 86 years out of 100 years for a total of 3,151 afy (389 hmy) banked. After subtracting both the amount of groundwater used for emergency back-up recycled water supplies and the amount used in dry years from the amount of bank groundwater, a minimum of 209,954 acre-feet (25,897 hectare-meter) would remain banked in the groundwater basin under the No Action Alternative.

Thus, under both the Water Forum and the BoR OCAP scenarios, the groundwater levels within the basin are expected to increase as a result of the City's retirement of Reason Farms. Because the No Project Alternative is expected to use less groundwater than would be banked, groundwater withdrawal to serve the No Action Alternative would not adversely affect groundwater levels. The **indirect** effect of the No Action Alternative on the regional groundwater levels would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Proposed Action, Alts. 1 through 3, Off-Site Alt.

Under the Proposed Action, Alternatives 1 through 3, and the Off-Site Alternative, groundwater would be used to supplement surface water supplies during dry years and as emergency back-up supply. As shown in **Table 3.15-1**, water demands under the Proposed Action, Alternatives 1 through 3, and the Off-Site Alternative would be roughly equal to or greater than the demand under the No Action Alternative. However, under the Water Forum and BoR OCAP scenarios, the estimated amount of groundwater per year needed to augment surface water supplies would still range from 0 to a maximum of 7,320 afy (903 hmy) under the Proposed Action, Alternatives 1 through 3, and the Off-Site Alternative. Therefore, the effects on groundwater resources described under the No Action Alternative above would be similar to the effects on groundwater resources associated with the Proposed Action, Alternatives 1 through 3, and the Off-Site Alternative. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect of the Proposed Action, Alternatives 1 through 3, and the Off-Site Alternative on groundwater levels would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Alts. 4 and 5

Under Alternatives 4 and 5, groundwater would be used to supplement surface water supplies during dry years and as emergency back-up supply. As shown in **Table 3.15-1**, the water demands under Alternative 4 and 5 would be less than the demand under the No Action Alternative. Therefore, the effects on groundwater resources described under the No Action Alternative above would be similar to the effects to groundwater resources associated with Alternatives 4 and 5. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect of all

alternatives on groundwater levels would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Impact UTIL-3 Capacity of Water Treatment and Supply Facilities

No Action Alt. The City's WTP has sufficient treatment capacity to meet the needs of the No Action Alternative and buildout of the City of Roseville. In addition, BoR raw water pumping facilities would be adequate to serve future needs of the City, including the No Action Alternative. This **indirect** effect is **less than significant**. Mitigation is not required. **No direct** effects would occur.

Treatment Plant Capacity

The City's WTP on Barton Road, which is owned and operated by the City, would treat water for use under the No Action Alternative. Potable water demands at buildout of the City and the No Action Alternative are estimated at 58,993 afy (7,277 hmy) (63,455 afy [7,827 hmy] water demand – 4,462 afy [550 hmy] recycled water supply). This equates to an average day treatment demand of 52.7 mgd (199.5 mld). Based on a peaking factor of 1.83 for the maximum day demand, water treatment plant capacity of 96.4 mgd (364.9 mld) would be required to meet future demands. The City's WTP currently has a total capacity of 100 mgd (379 mld), which is greater than the anticipated demands. Therefore, the City's WTP would have adequate capacity to meet the demands of the No Action Alternative and the buildout of the rest of Roseville under the General Plan.

Water Supply Facilities

The raw water supplied for the project site would come to the City's Barton Road WTP from Folsom Lake via conveyance facilities owned and operated by the BoR. The pumping capacity for the City at the BoR pumping plant is limited to 150 cubic feet (4.2 cubic meters) per second or 96.9 mgd (366.8 mld). As described above, potable water demands at buildout of the City, including the No Action Alternative, equate to an average day demand of 52.7 mgd (199.5 mld) and a maximum day demand of 96.4 mgd (364.9 mld). Since pumping capacity of BoR facilities assigned to the City exceeds demands at buildout of the City, including the No Action Alternative, the raw water pumping facilities would be adequate to serve future needs of the City.

In summary, the City's WTP has sufficient treatment capacity to meet the needs of the No Action Alternative and buildout of the City. In addition, BoR raw water pumping facilities would be adequate to serve future needs of the City, including the No Action Alternative. This **indirect** effect is considered **less than significant**. Mitigation is not required. **No direct** effects would occur.

Proposed Action

Potable water demands at buildout of the City and the Proposed Action are estimated at 59,167 afy (7,299 hmy) (63,629 afy [7,849 hmy] water demand – 4,462 afy [550 hmy] recycled water supply). This equates to an average day treatment demand of 52.8 mgd (199.9 mld). Based on a peaking factor of 1.83 for the maximum day demand, water treatment plant capacity of 96.7 mgd (366.0 mld) would be required to meet future demands. As discussed above, the City's WTP currently has a capacity of 100 mgd (379 mld) while the BoR pumping plant is limited to 150 cubic feet (4.2 cubic meters) per second or 96.9 mgd (366.8 mld). As treatment capacity at the City's WTP (100 mgd [379 mld]) and pumping capacity of BoR facilities (96.9 mgd [366.8 mld]) is greater than demands of the Proposed Action plus City buildout, enough treatment capacity and pumping capacity is available to meet the needs of the City in the future including the Proposed Action. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Alts. 1 through 5

Potable water demands at buildout of the City and all alternatives are estimated to range from 58,883 afy (7,263 hmy) (63,345 afy [7,813 hmy] water demand – 4,462 afy [550 hmy] recycled water supply) to 59,018 afy (7,280 hmy) (63,480 afy [7,830 hmy] water demand – 4,462 afy [550 hmy] recycled water supply). This equates to an average day treatment demand of 52.6 mgd (199.1 mld) to 52.7 mgd (199.5 mld) depending on the alternative. Based on a peaking factor of 1.83 for the maximum day demand, water treatment plant capacity of 96.2 mgd (364.2 mld) to 96.6 mgd (366.0 mld) would be required to meet future demands. As discussed above, the City's WTP currently has a capacity of 100 mgd (379 mld) while the BoR pumping plant is limited to 150 cubic feet (4.2 cubic meters) per second or 96.9 mgd (366.8 mld). The treatment capacity at the City's WTP and pumping capacity of BoR facilities are both greater than demands of all alternatives combined with the demand at the buildout of the City. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect under all alternatives would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Off-Site Alt.

As described above, the water supply for the Off-Site Alternative would be met by the existing PCWA supplies. The USACE estimates that development of the Off-Site Alternative would result in a demand for water of 1,021 afy (126 hmy), without conservation but including system losses. With conservation measures, the water demand for the Off-Site Alternative would be 966 afy (119 hmy) at buildout. This equates to an average day treatment capacity demand of 0.86 mgd (3.26 mld). The water would be conveyed from the Foothill Water Treatment Plant. The PCWA estimates that it has 8.15 mgd of unallocated capacity from this source which is provided on a first come first served basis. Given the small demand associated with the Off-Site Alternative, it is reasonable to assume that it would be served by the available surplus capacity and no

improvements to the water treatment plant would be needed. Based on the above, the **indirect** effect of the Off-Site Alternative would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

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

No Action Alt. Wastewater effluent from the project site would be treated at the Pleasant Grove WWTP. While the No Action Alternative on its own could be served by the existing excess treatment capacity at the Pleasant Grove WWTP, when the flows generated by the No Action Alternative are combined with projected flows from other anticipated development within the service area of the WWTP, an expansion of treatment capacity would be required. This is a **significant indirect** effect of the No Action Alternative. The proposed mitigation would reduce this **indirect** effect to **less than significant. No direct** effects would occur.

The USACE estimates, based on unit flow factors and peaking factors established in the South Placer Regional Wastewater and Recycled Water Systems Evaluation, that the No Action Alternative would generate approximately 0.281 mgd (1.063 mld) Average Dry Weather flow (ADWF) at buildout (see **Table 3.15-2**). The current capacity of the WWTP is 12 mgd (45 mld) and the current flows that are treated at the plant are 7 mgd (26 mld). Therefore, there is adequate WWTP capacity at this time to serve the No Action Alternative. In addition, the off-site conveyance facilities are 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 development is expected to also 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 (72 mld) while under buildout of the ultimate service area boundary, ADWF would be about 25.7 mgd (97.3 mld). Since its existing permitted capacity is 12 mgd (45 mld) and an expansion to 15 mgd (57 mld) is planned but would still not suffice, additional expansion of the WWTP would be required to accommodate future demands. While the No Action Alternative's contribution to the need to expand the WWTP is incremental, and would be in combination with the demand for capacity associated with other development in the service area, it would nonetheless contribute to the need to expand the facility by about 10 mgd. The **indirect** effect related to expansion of the WWTP would be considered a **significant indirect/secondary** effect of 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. As summarized

in the SVSP EIR, construction effects associated with plant expansion that are anticipated to occur 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 temporary and either not substantial or reduced to less than significant with mitigation. However, operation of the expanded WWTP would likely contribute to potential growth inducement, land use compatibility, traffic, noise, dust, odors, and water quality effects, including increased discharge of treated effluent to Pleasant Grove Creek and potential effects to water temperatures associated with operation of the WWTP. On-site effects that have been identified for the WWTP expansion include loss of vernal pools/seasonal wetlands, and effects to vernal pool special-status species, loss of raptor habitat, odor and noise emissions at Pleasant Grove WWTP, and increased criteria air pollutant emissions due to resultant development. With mitigation measures prescribed in the EIR, these effects would be reduced to the extent practicable.

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 Sierra Vista Specific Plan EIR. The USACE assumes that the City would impose the same mitigation measure on the No Action Alternative to address this effect. Pursuant to this mitigation measure and consistent with General Plan Policy 3, the City will initiate expansion efforts at the time the Pleasant Grove WWTP nears 75 percent capacity. For reasons presented above, the USACE finds that this **indirect** effect would be reduced to **less than significant**. **No direct** effects would occur.

At the time that WWTP expansion is required, the City will prepare required California Environmental Quality Act (CEQA) documents to analyze any effects and identify appropriate mitigation measures that would mitigate the effects, to the extent feasible. It is anticipated that the WWTP would be expanded on the 20-acre (8-hectare) parcel to the south of the plant that was identified in the West Roseville Specific Plan for this purpose.

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 for the same reasons presented above for the No Action Alternative, this **indirect** effect is considered **significant**.

Mitigation Measure UTIL-4 would be applied to 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 Sierra Vista Specific Plan EIR and was adopted by the City at the time of project approval and will be enforced by the City. The Sierra Vista Specific Plan EIR determined that this mitigation measure would reduce the effect to less than significant (City of Roseville 2010a). The USACE agrees with the conclusion in the Sierra Vista Specific Plan EIR and finds that this

indirect effect would be reduced to **less than significant**. **No direct** effects would occur.

All Alts. All of the alternatives 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 for the same reasons presented above for the No Action Alternative, this **indirect** effect is considered **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 Sierra Vista Specific Plan EIR. The USACE assumes that the City would impose the same mitigation measure on all of the alternatives to address this effect. For reasons presented above, the USACE finds that this **indirect** effect would be reduced to **less than significant**. **No direct** effects would occur.

Mitigation Measure UTIL-4: **WWTP Capacity**

(Applicability – No Action, Proposed Action, and All Alternatives)

Prior to obtaining building permits in the SVSP [i.e., Westbrook project], 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 SVSP [i.e., Westbrook project] area. The Applicant shall participate financially through connection fees in the construction of additional wastewater treatment capacity sufficient to accommodate projected flows. 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 will rely on the City (on behalf of the South Placer Wastewater Authority partners) to construct regional treatment and regional transmission facilities needed to discharge treated wastewater flows from within the service area boundary. In the event the City is unable to obtain the appropriate permits (e.g., NPDES permit) or is unable to complete the required facility expansions, development within the service area boundary may continue until existing capacity has been exhausted, at which time any remaining development will be curtailed until such time that sufficient treatment and discharge capacity becomes available. Further, the Applicant and/or the City, as appropriate, shall implement all relevant construction-related mitigation measures for expansion of the plant listed in Appendix H of the Sierra Vista Specific Plan EIR prepared by the City of Roseville and all water quality and aquatic resource mitigation measures applicable to this project as listed in Table 4.12.3-5 of the Sierra Vista Specific Plan EIR.

Impact UTIL-5 Increased Demand for Solid Waste Services

No Action Alt.

Development of the No Action Alternative would result in a demand for solid waste services that would be adequately handled by the existing MRF. The **indirect** effect on the MRF would be **less than significant**. Mitigation is not required. However, as shown in the analysis below, the No Action Alternative, along with other existing and planned development, would result in the need for expanded landfill capacity. Expansion of the regional landfill could result in a **significant indirect** effect. Mitigation would not reduce this **indirect** effect to **less than significant**. A residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

Materials Recovery Facility Capacity

There is adequate permitted capacity at MRF to serve the No Action Alternative by itself or in conjunction with growth under the Roseville General Plan. The effect on capacity of the facility would not be significant. The MRF currently processes an average of 831 tons (754 metric tons) per day of mixed solid waste, and is permitted to receive up to 2,200 tons (1,996 metric tons) per day. The No Action Alternative is expected to generate approximately 23 tons (21 metric tons) of solid waste per day, of which 6 tons (5 metric tons) would be diverted to the MRF (**Table 3.15-3)**. This represents an increase of 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 415 tons (376 metric tons) per day of solid waste would be processed at the MRF,[7] resulting in a total of 1,246 tons (1,130 metric tons) of waste processing per day. This would represent 62 percent of the MRF's permitted capacity at buildout. This **indirect** effect would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Landfill Capacity

Approximately 8,386 tons (7,608 metric tons) per year (23 tons [21 metric tons] per day) of solid waste would be generated by the No Action Alternative at buildout. Of this amount, approximately 4,067 tons (3,690 metric tons) per year, or approximately 11 tons (10 metric tons) per day, would require disposal at the Regional Landfill. At buildout of the City's General Plan, landfill disposal will reach approximately 155,720 tons (141,267 metric tons) per year or 427 tons (387 metric tons) per day. With the addition of the No Action Alternative, City landfill disposal needs would be approximately 159,787 tons (144,956

7 The amount of solid waste conservatively expected to be generated within the City at buildout of the General Plan is 324,417 tons (294,306 metric tons) per year (City of Roseville 2010b). Approximately 8,386 tons (7,608 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 332,803 tons (301,914 metric tons) per year (912 tons [827 metric tons] per day) if no direct recycling efforts are assumed. The City currently generates approximately 181,229 tons (164,408 metric tons) of solid waste per year (497 tons [451 metric tons] per day) to be processed at the MRF. At buildout, this would amount to an average increase of approximately 415 tons (376 metric tons) per day over current processing demand.

metric tons) per year, or 438 tons (397 metric tons) per day.

The landfill has a remaining capacity of approximately 15,263,180 tons (13,846,524 metric tons). Currently, the landfill is projected to be able to accept waste until 2042. 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 2025, and assuming that recycling programs are in place, it would generate approximately 52,871 tons (47,964 metric tons) of solid waste for disposal at the landfill (4,067 tons [3,690 metric tons] per year x 13 years). This additional waste would take up less than 1 percent of the landfill's remaining capacity, which could shorten the lifespan of the landfill by about two months.

As the No Action Alternative would contribute to the need to expand the landfill in the future, the effect would be **significant**. **Mitigation Measure UTIL-5** would address this effect. This measure is the same as Mitigation Measure WMM 4.11-7 in the Sierra Vista Specific Plan EIR. The USACE assumes that the City would impose the same mitigation measure on the No Action Alternative to address this effect. The measure provides for the collection of fees with which to expand the landfill. However, because the City cannot guarantee landfill expansion beyond current plans, this mitigation measure would not reduce the effect to less than significant. The USACE finds that a residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

Approximately 465 acres (188 hectares) west of the Regional Landfill are available for landfill expansion, although no expansion has been approved to date. If the WPMMA proceeds with expanding the landfill, the expansion would result in environmental effects. However, since the expansion has not been formally proposed and details about the expansion are not known, specific effects cannot be identified at this time. 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. The USACE assumes that these effects would be similar to those of the existing landfill and the expansion would be completed in compliance with the requirements of the landfill permitting process. The landfill expansion would also be required to undergo environmental review at the time it is proposed, and would be required to mitigate its potential effects to the extent feasible.

Proposed Action

Development of the Proposed Action would result in a demand for solid waste services that would be adequately handled by the existing MRF. This **indirect** effect would be **less than significant**. Mitigation is not required. However, as shown in the analysis below, the Proposed Action, along with other existing and planned development, would result in the

need for expanded landfill capacity. Expansion of the regional landfill could result in a **significant indirect** effect. Mitigation would not reduce this effect to less than significant. A residual **significant** effect would remain after mitigation**. No direct** effects would occur.

Materials Recovery Facility Capacity

The Proposed Action would include commercial and residential uses that would generate waste for processing at the MRF, as shown in **Table 3.15-3**. The Proposed Action would divert 8 tons (7 metric tons) 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 would have adequate capacity to process waste from the City at buildout, including the waste generated under the Proposed Action. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect on MRF capacity would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Landfill Capacity

The Proposed Action would require the disposal of solid waste at the Regional Landfill, as shown in **Table 3.15-3**. 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. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, this represents a **significant indirect** effect. Assuming the expansion would take place at a site identified adjacent to the existing landfill, there would be effects similar to those for the existing landfill. However, since details about the expansion are not known, specific effects cannot be identified at this time. The landfill expansion would be required to undergo environmental review at the time it is proposed, and would be required to mitigate its potential effects to the extent feasible.

As with the No Action Alternative, the Proposed Action would implement **Mitigation Measure UTIL-5** that provides for the collection of fees that would be used to fund landfill expansion. As noted above, this measure is the same as Mitigation Measure WMM 4.11-7 in the Sierra Vista Specific Plan EIR and was adopted by the City of Roseville at the time of Westbrook project approval and will be enforced by the City. The measure provides for the collection of fees with which to expand the landfill. However, because the City of Roseville cannot guarantee landfill expansion beyond current plans, the Sierra Vista Specific Plan EIR determined that this mitigation measure would not reduce the effect to less than significant (City of Roseville 2010a). The USACE agrees with the conclusion in the Sierra Vista Specific Plan EIR and finds that a residual **significant indirect** effect would remain after mitigation. **No direct** effects would occur.

All Alts. Development of all of the alternatives would result in a demand for solid waste services that would be adequately handled by the existing MRF. This **indirect** effect would be **less than significant**. Mitigation is not required. However, as shown in the analysis below, all of the alternatives, along with other existing and planned development, would result in the need for expanded landfill capacity. Expansion of the regional landfill could result in a **significant indirect** effect. Mitigation would not reduce this effect to less than significant. A residual **significant indirect** effect would remain after mitigation**. No direct** effects would occur.

Materials Recovery Facility Capacity

All of the alternatives would include commercial and residential uses that would generate waste for processing at the MRF, as shown in **Table 3.15-3**. All of the alternatives would divert 8 tons (7 metric tons) (under the Reduced Footprint/Increased Density Alternative) to 5 tons (4.5 metric tons) (One Half Acre Fill Alternative) 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 would have adequate capacity to process waste from the City at buildout, including the waste generated under all the alternatives. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effect on MRF capacity would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Landfill Capacity

All of the alternatives would require the disposal of solid waste at the Regional Landfill, as shown in **Table 3.15-3**. As described above for the No Action Alternative, the waste disposed of under all the alternatives could shorten the life span of the landfill, thus contributing to the need for additional landfill space. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, this represents an **indirect significant** effect. Assuming the expansion would take place at a site identified adjacent to the existing landfill, there would be effects similar to those for the existing landfill. However, since details about the expansion are not known, specific effects cannot be identified at this time. The landfill expansion would be required to undergo environmental review at the time it is proposed, and would be required to mitigate its potential effects to the extent feasible.

As with the No Action Alternative, **Mitigation Measure UTIL-5** would provide for the collection of fees that would be used to fund landfill expansion. As noted above, this measure is the same as Mitigation Measure WMM 4.11-7 in the Sierra Vista Specific Plan EIR. The USACE assumes that the City would impose the same mitigation measure on all the alternatives to address this effect. However, because the City cannot guarantee landfill expansion beyond current plans, this mitigation measure would not reduce the effect to less than significant. The USACE finds that a residual **indirect significant** effect would remain after mitigation. **No direct** effects would occur.

Mitigation Measure UTIL-5: Expand the Regional Landfill
(*Applicability – No Action, Proposed Action, and All Alternatives*)

Development in the SVSP Area and Urban Reserve [i.e., Westbrook project] shall pay collection fees to the City of Roseville, a portion of which shall be used to service bonds necessary to fund landfill expansion. As a member of the WPWMA, the City of Roseville can support the expansion of the landfill, as needed; however, the City cannot compel the WPWMA to expand the landfill.

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

No Action Alt. The **indirect** effects of providing electricity, natural gas, and telecommunication service to the project site under the No Action Alternative would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Electricity

The development and implementation of the No Action Alternative would add land uses that would increase the demand for electrical services. The increased demand for electrical service is estimated to be less than the demand under the Proposed Action.

The No Action Alternative would be served by the Fiddyment substation on Fiddyment Road and would tie into existing distribution system located in the West Roseville Specific Plan area to the east. Potential environmental effects that could occur as a result of tying into the existing electrical system and constructing the new electrical distribution system on the project site are addressed in other sections of this EIS.

While development of the No Action Alternative will result in increased demand for electricity, the proposed infrastructure would be adequate to meet this demand. Because the City has access to 40 percent of its supply from the Roseville Energy Park and has an energy efficiency program that would reduce energy demands, the **indirect** effect would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

To the extent that increased electricity usage from the Proposed Action results in environmental effects due to fossil fuel consumption associated with power generation, such secondary effects are addressed in **Section 3.5, Climate Change**.

Natural Gas

The development of the No Action Alternative would increase the demand for natural gas. There are multiple opportunities for natural gas connections in the vicinity of the project site and adequate gas service would be available to serve the project site.

The increased demand for natural gas under the No Action Alternative is estimated to be less than the demand under the proposed project. The project site would be connected to

existing points of connection nearby. Potential environmental effects that could occur as result of constructing the on-site natural gas distribution system are addressed throughout this EIS. Therefore, **the indirect** effect would be **less than significant**. Mitigation is not required. **No direct** effects would occur. To the extent that increased natural gas usage contributes to climate change, such effects are addressed in **Section 3.5**.

Telecommunications

The development of the project site will 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 construction effects identified in this EIS. Therefore, the demand for cable television and telephone services would result in **indirect less than significant** effects. Mitigation is not required. **No direct** effects would occur.

Proposed Action

The **indirect** effects of providing electricity, natural gas, and telecommunication service to the project site under the Proposed Action would be **less than significant**. Mitigation is not required.

The Proposed Action would result in the demand for electricity, gas and telecommunications. The increased demand for electrical service is estimated to average 16.3 megavolt amperes (MVA) peak demand[8], and Roseville Electric has indicated that there are no constraints to providing a reliable energy source to serve the development of the Proposed Action (City of Roseville 2010a). The increased demand for natural gas is estimated to be approximately 157 thousand cubic feet per hour (4.4 thousand cubic meters per hour)[9], and there is adequate natural gas supply to serve the Proposed Action according to PG&E (City of Roseville 2010a).

The infrastructure necessary to support the Proposed Action would be similar to that described for the No Action Alternative. The facilities would be constructed within the project site and the environmental effects of these facilities have been evaluated in the remaining sections of this EIS. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative, the **indirect** effects related to construction and operation of gas, electric, and telecommunication facilities would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

---

8 This estimate includes the entire Urban Reserve (Chan and Richland parcels) within the Sierra Vista Specific Plan area. As a result, the electrical demand estimate for the Proposed Action is considered conservative.

9 This estimate includes the entire Urban Reserve (Chan and Richland parcels) within the Sierra Vista Specific Plan area. As a result, the natural gas demand estimate for the Proposed Action is considered conservative.

Alts. 1 through 5

The **indirect** effects of providing electricity, natural gas, and telecommunication service to the project site under the on-site alternatives would be **less than significant**. Mitigation is not required.

The on-site alternatives would result in the demand for electricity, gas and telecommunications. While the amount of gas and electricity use would vary under each on-site alternative, the demands would be similar to the demands under the Proposed Action and the No Action Alternative. In addition, the infrastructure necessary to support each alternative would be similar to that described for the No Action Alternative. The facilities would be constructed within the project site and the environmental effects of these facilities have been evaluated in the remaining sections of this EIS. Based on the significance criteria listed above and for the same reasons presented above for the No Project Alternative, the **indirect** effects related to construction and operation of gas, electric, and telecommunication facilities would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

Off-Site Alt.

The **indirect** effects of providing electricity, natural gas, and telecommunication service to the development under the Off-Site Alternative would be **less than significant**. Mitigation is not required. **No direct** effects would occur.

The Off-Site Alternative would result in increased demand for electricity, gas, and telecommunications. The amount of gas and electricity used would be similar to the No Action Alternative as the Off-Site Alternative would result in a similar intensity of development. Roseville Electric would provide electrical service to the alternative site while PG&E would provide gas service to the alternative site.

The Industrial Substation is located over 2 miles from the alternative site and as a result it would be infeasible to extend power from this existing station to the site. As a result, a new substation would be required to serve the Off-Site Alternative. It is recommended that the new substation be located on a 0.5-acre site adjacent to the existing natural gas fired peaking facility in the southeastern portion of the alternative site near the City limit (Corral 2012). A distribution system from the station to each individual property on the alternative site would also need to be constructed. Potential environmental effects that could occur from the construction of the substation and installation of the distribution system are addressed in other sections of this EIS.

To provide natural gas to the alternative site, gas distribution lines would need to be extended to the site from nearby points of connection. Telecommunication companies would also install telecommunication facilities in the alternative site that would extend from existing points of connection in the area. To the extent that gas and telecommunication facilities would be constructed within the alternative site, the environmental effects of these facilities have been evaluated in the remaining sections of this EIS.

Based on the significance criteria listed above and for the same reasons presented above for the Proposed Action, the **indirect** effects of the Off-Site Alternative related to construction and operation of gas, electric, and telecommunication facilities would be **less than**

significant. Mitigation is not required. **No direct** effects would occur.

3.15.6 RESIDUAL SIGNIFICANT IMPACTS

The **indirect** effects under **Impact UTIL-5** would remain **significant** under the Proposed Action and all alternatives after mitigation. All of the other **indirect** effects would either be **less than significant** or would be reduced to less than significant with mitigation. No **direct** effects would occur.

3.15.7 CUMULATIVE IMPACT

Cumulative Impact UTIL-1 Effect on Water Supply

No Action Alt., Proposed Action, and Alts. 1 through 5

The cumulative effect from the No Action Alternative, Proposed Action, and all on-site alternatives on water supply would be mitigated but would remain **significant and unavoidable.**

As shown in **Table 3.15-4**, **Potable Water Demand at Buildout,** development of the Proposed Action would increase the annual demand for water in the City's service area by about 934 afy (115 hmy). The other on-site alternatives, including the No Action Alternative, would require smaller volumes of water annually because each alternative would build a somewhat reduced community on the project site compared to the Proposed Action. As the demand associated with the Proposed Action is the highest for all the on-site alternatives considered in this analysis, the cumulative impact is analyzed below for the Proposed Action. The same analysis would apply to all the alternatives except that the contribution of the on-site alternatives to the cumulative impact would be proportionally smaller.

Table 3.15-4
Potable Water Demand at Buildout (Acre-Feet Per Year)

Emissions Source	Net Water Demand
No Action Alternative	760
Proposed Action	934
Alternative 1	785
Alternative 2	751
Alternative 3	763
Alternative 4	677
Alternative 5	650

Source: City of Roseville 2012; Mackay & Somps 2012
Potable water demand for the Proposed Action was obtained from the WSA prepared for the Proposed Action. MacKay & Somps estimated potable water for the Proposed Action demand at 1,095 acre-feet per year, which is slightly higher than potable water demand estimate in the WSA. As the difference between the potable demand estimate in the WSA and the estimate provided by MacKay & Somps is not substantial, the estimate provided in the WSA was utilized in the analysis.

Development of the Proposed Action, along with other foreseeable future development within the City and outside the City's current boundaries, including buildout of the City's General Plan, the Creekview Specific Plan, the Sierra Vista Specific Plan, and Reason Farms Panhandle, would exceed the City's existing currently contracted surface water supplies. Total cumulative water demand at City buildout plus City-approved projects is estimated at 68,732 afy (8,478 hectare-meters per year) as shown in **Table 3.15-5, Cumulative Water Demand**. This is 9,832 afy (1,213 hmy) more than the City's Water Forum Agreement limitation on diversions from the American River in wet/normal years of 58,900 afy (7,264 hmy), and 2,732 afy (337 hectare-meters per year) more than the City's total normal/wet year water supply contracts of 66,000 afy (8,140 hmy). With the additional 4,462 afy of recycled water available in combination with diversions from the American River in wet/normal years, the total water supply shortfall would be 5,370 afy (662 hectare-meters per year). **Table 3.15-5** also provides the water supply shortfall that would occur with the addition of the Amoruso Specific Plan and Placer Ranch Specific Plan which have not been approved. With the addition of these projects awaiting approval, the total water supply shortfall would be 10,421 afy (1,286 hectare-meters per year).

Table 3.15-5
Cumulative Water Demand

Development	Surface Water Demand (afy)
Approved Projects	
City Buildout Demand	62,695
Proposed Action	934
Sierra Vista Specific Plan	3,609
Sierra Vista Urban Reserve (Chan Property)	164
Creekview Specific Plan	787
Reason Farms Panhandle	543
Total Demand	**68,732**
Total Water Contracts	66,000
American River Allocation per WFA (Normal/Wet Years)	58,900
Recycled Water	4,462
Total Supply	**63,362**
Near Term Water Supply Shortfall (afy)	**5,370**
Projects Awaiting Approval	
Amoruso Specific Plan	1,210
Placer Ranch Specific Plan	3,956
Long Term Water Supply Shortfall (afy)	**10,536**

Source: City of Roseville 2010a; City of Roseville 2012; Mackay & Somps 2012

Because the pace and timing of regional developments in the study area is currently unknown, and because some of the above-referenced pending projects currently contemplated by the City's General Plan may never come to fruition, the specific additional water supplies and the timing for obtaining them to serve potential future projects are uncertain. In addition to the City's full use of its Water Forum Agreement allocation of surface water from the American River, it is likely that future water supply would come from one or more of the following sources: additional cooperative agreements between Water Forum Agreement water purveyors for surface water from the American River, mandatory conservation measures, and new surface water supplies from the Sacramento River. The PCWA intends to pursue a new water supply source from the Sacramento River to address demands from full buildout within the service area. The PCWA began the initial environmental studies necessary for the proposed water diversions from the Sacramento River in 2003, but the plans were put on hold. The City may partner with the PCWA to pursue the new water supply source.

Furthermore, because the City's surface water supply under the Water Forum Agreement is insufficient to meet all demands during drier water years, the City's cumulative buildout demand (defined in this context to go beyond the current General Plan boundary) would require additional groundwater withdrawals in years when the surface supply is projected to be insufficient to fully meet the demand. Future urban growth would result in additional demands for surface and groundwater in the project area. Future water demands, as developed from community General Plan scenarios and other land use projections, are considered in the water supply operations model used for CVP and State Water Project (SWP) for planning purposes. However, there are several large water supply projects that have not been assessed through the current water supply operations modeling (i.e., California Department of Water Resources CALSIM II model) in a comprehensive manner. Additionally, there has been no comprehensive assessment of the future cumulative conditions that addresses new federal rules to protect endangered species, which directly and indirectly influence regional water supplies through obligations imposed on the integrated CVP/SWP operations. Climate change also may result in additional uncertain effects to future water supply conditions and CVP/SWP operations. In short, the CVP/SWP system is facing an unprecedented level of uncertainty that makes it impossible for lead agencies such as the USACE to predict the future without a great deal of speculation.

While water demand associated with buildout of the City's General Plan and the Proposed Action would be supplied by existing and assured sources of water, and as a matter of policy, the City will not approve new specific plans or other projects absent sufficient water for buildout of such plans and projects, any increase in water demand in a region that does not have adequate and assured water supplies for cumulative development has the potential to result in a **significant** cumulative impact on water resources. No mitigation measure that is within the control of the USACE is available to address the potentially significant

cumulative impact. Therefore the effect would be **significant and unavoidable**.

Off-Site Alt. Development of the Off-Site Alternative, along with other foreseeable future development within Placer County, including current demands on PCWA contracted water, would not exceed the PCWA's existing currently contracted surface water supplies. Buildout of the project is expected by 2035. The cumulative effect from the Off-Site Alternative on water supply would be **less than significant.**

The PCWA projects that 262,838 afy (32,421 hmy) of water supplies will be available to western Placer County in 2035. Total cumulative water demand in 2035 for western Placer County (Zones 1 and 5) served by PCWA, including the water needed to serve the Off-Site Alternative, is estimated at 215,921 afy (26,633 hmy) as shown in **Table 3.15-6, Cumulative Water Demand in 2035**. As the data shows, there would be adequate supply to serve the cumulative demand, including the demand associated with the Off-Site Alternative. The cumulative impact would be **less than significant**.

Table 3.15-6
Cumulative Water Demand in 2035

Development Area	Surface Water Demand (afy)
PCWA Zones 1 and 5[1]	214,955
Off-Site Alternative	966
Total Demand	**215,921**
PCWA Water Supply to Zones 1 and 5	262,838
PCWA Surplus	**46,917**

Source: Mackay & Somps 2012; Placer County Water Agency 2011
Notes:
[1] *Includes contracted demand from the San Juan Water District, the Sacramento Suburban Water District, and the City of Roseville.*

The water supply infrastructure is capable of serving the existing needs and the Off-Site Alternative. However, cumulative growth in western Placer County would require infrastructure improvements. There are no infrastructure limitations on the delivery of Yuba/Bear River water. However, existing infrastructure is not currently able to deliver all water contracted to PCWA from the American River and Sacramento River. PCWA has a variety of completed and planned infrastructure projects which would provide enough water to accommodate the cumulative demand for water. A new American River Pump Station was completed in 2008, which increased the raw water delivery capacity to western Placer County (PCWA 2008). An additional pipeline would be needed to supply the alternative site with water from the American River Pump Station. Two water conveyance projects are underway currently. The Auburn Tunnel Outlet Modification Project would supply water from the North Fork of the American River to western Placer County. The

project was completed at the end of 2012 and operational testing is ongoing as of this year (PCWA 2013). The Ophir Road Pipelines Project would construct part of the transmission main for the future Ophir Road Water Treatment Plant to deliver irrigation water from the American River and is expected to be complete in mid-2013 (PCWA 2012b). Given the small amount of water needed for the development under the Off-Site Alternative and the proximity of the alternative site to existing and planned infrastructure, the Off-Site Alternative would not contribute substantially to the need for pipeline improvements.

In summary, the cumulative water demand in the PCWA service area would be supplied by PCWA's existing currently contracted surface water supplies and cumulative impact to long-term water supply would be **less than significant.**

3.15.8 REFERENCES

CalRecycle. 2011. "Jurisdiction Diversion and Disposal Profile: California Waste Stream Profiles." http://calrecycle.ca.gov/DataCentral/default.htm.

California Department of Water Resources. 1974. *Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County*.

California Department of Water Resources. 2011. "Climate Change," http://www.water.ca.gov /climatechange/.

California State Lands Commission. 2009. *Pacific Gas and Electric Company Line 406-407 Natural Gas Pipeline Project Revised Final Environmental Impact Report*.

City of Roseville. 2012. "Water Supply Assessment for the Sierra Vista Specific Plan Westbrook Amendment." March.

City of Roseville. 2011. "City of Roseville Aquifer Storage & Recovery." http://www.roseville.ca.us/eu/ water_utility/aquifer_storage_n_recovery.asp.

City of Roseville. 2010a. *Final Environmental Impact Report for the Sierra Vista Specific Plan*.

City of Roseville. 2010b. *City of Roseville General Plan 2025*. Adopted May 5.

City of Roseville. 2009. "Water Supply Assessment for the Sierra Vista Specific Plan." City of Roseville Environmental Utilities Department.

City of Roseville. 2006. *City of Roseville Urban Water Management Plan*.

City of Roseville. 2003. "Groundwater Impact Analysis for Proposed Reasons Farm Land Retirement Plan." Prepared by Montgomery Watson Harza (MWH).

City of Roseville. 2004. *West Roseville Specific Plan Final Environmental Impact Report*.

Corral, Richard. 2012. Electrical Engineer. Technical Supervisor, Roseville Electric. Personal communication via electronic mail with Paul Stephenson, Impact Sciences, October 11.

HydroScience Engineers, Inc. 2009. "Sierra Vista Potable Water Master Plan." Amended July 2009.

HydroScience Engineers, Inc. 2009. "TM-1 Sierra Vista Specific Plan Water Conservation Plan."

HydroScience Engineers, Inc. 2009. "Sierra Vista Recycled Water Master Plan." Amended July 2009.

MacKay & Somps Civil Engineers, Inc. 2012. Westbrook PotableWater, Recycled Water, and Wastewater Estimates. September 11.

MWH. 2007. "Western Placer Groundwater Management Plan (WPCGMP) for the Cities of Roseville and Lincoln along with PCWA and the California American Water Company (CAW)."

MWH. 2003. "Groundwater Impact Analysis for Proposed Reasons Farms Land Retirement Plan."

National Marine Fisheries Service (NMFS). 2009. "Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project."

Natural Resources Defense Council v. Kempthorne. 2007. 506 F.Supp.2d 322 (E.D. Cal. 2007))

Placer County Water Agency (PCWA). 2013. *Auburn Tunnel Outlet Modification Project – Ophir.* http://www.pcwa.net/public-information/construction-projects/auburn-tunnel-outlet-modification-project-ophir.html. May 2013.

Placer County Water Agency (PCWA). 2011. *Placer County Water Agency 2010 Urban Water Management Plan*. Adopted by PCWA Board of Directors, June 2011.

Placer County Water Agency (PCWA). 2006. *Updated Placer Vineyards Base Specific Plan Water Supply Assessment.* February 3.

Placer County Water Agency (PCWA). 2005. *Placer County Water Agency 2005 Urban Water Management Plan*. Prepared by Brown and Caldwell.

Placer County Water Agency (PCWA). 2003. "The Placer Groundwater Management Plan."

Metropolitan Water Planning. 1999. *Water Forum Proposal Final EIR*.

RMC Water and Environment (RMC). 2009. "South Placer Regional Wastewater and Recycled Water Systems Evaluation." Updated Final Report, December 2009.

Water Forum. 2000. "Water Forum Agreement."

United States Fish and Wildlife Service (USFWS). 2005. "Reinitiation of Formal and Early Section 7 Endangered Species Consultation on the Coordinated Operations of the Central Valley Project and State Water Project and the Operational Criteria and Plan to Address Potential Critical Habitat Issues." (Service file # 1-1-05-F-0055).

United States Fish and Wildlife Service (USFWS). 2008. "Formal Endangered Species Act Consultation on the Proposed Coordinated operations of the Central Valley Project and State Water Project."

U.S. Department of Energy and U.S. Environmental Protection Agency. 2006. "National Action Plan for Energy Efficiency."