

5.16 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (EIR) addresses the proposed project's potential impacts on certain utilities and services: water, wastewater, stormwater, and solid waste. The analysis in this section is partially based on information provided in the *Water Demand Evaluation*, prepared by Tully & Young (October 2018) which is provided in Appendix 15.12, WATER DEMAND EVALUATION. Refer to Section 5.17, ENERGY, for an assessment of anticipated project electrical and natural gas demands. The following analysis of the potential environmental impacts related to utilities and service systems is derived from the following sources available for review at the City of Redding Development Services Department, Planning Division:

- City of Redding. *2000 - 2020 General Plan*. October 2000.
- City of Redding. *Redding Municipal Code Title 14, Utilities*. March 2018.
- City of Redding. *Redding Municipal Code Title 16, Buildings and Construction*. March 2018.
- City of Redding. *Storm Water Quality Improvement Plan*. August 2003.
- City of Redding. *2015 Urban Water Management Plan*. June 2016.
- City of Redding. *Wastewater Utility Master Plan 2016 Addendum*. September 2016.
- City of Redding. *Wastewater Utility Master Plan*. September 2012.
- Shasta County. *EIR for Operation of the Richard W. Curry/West Central Landfill*. August 2003.

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

5.16.1 ENVIRONMENTAL SETTING

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

WATER SERVICE AND SUPPLY

The City of Redding provides water service to all residential, industrial, and commercial users within a 58-square-mile water service area. The water service area includes the City and the proposed project, as well as the previously unincorporated areas of Buckeye, Twin View, and Quartz Hill. The current water service area does not match exactly the City's corporate boundary, as some areas within the City are served by neighboring water systems such as the Bella Vista Water District (in the northeast area of the City) and Centerville Community Service District (on the west side of the City). Residential and commercial service connections (roughly 60 percent and 15 percent of the total connections, respectively) account for most of the annual water demand.

Surface Water

The City's primary water source is the Sacramento River, which extends through the City. After the completion of nearby Shasta Dam, the City in 1966 entered into a settlement contract with the United States Bureau of Reclamation (USBR). The contract permits renegotiation at any time for more or less water, subject to need and availability of water in the Sacramento River. Water to be diverted consists of "base supply" and "Project Supply."

The City's USBR contracts allow for supply from the Sacramento River (the Redding Contract) andiskeytown Reservoir (the Buckeye Contract). Together the surface water supplies account for approximately 70 percent of the City's annual water production.

As shown in Table 5.16-1, WATER SUPPLY PROJECTIONS, the amount of water available to the City under the contract is a maximum of 27,140 acre-feet of water per year (AFY); however, the USBR reserves the right to reduce the supply in a "critical year" by up to 25 percent of the quantity taken during the period of April 1 through October 31 of the preceding year. Current and projected water supply quantities range from 25,570 AFY (2015) to 40,140 AFY (2035).

**Table 5.16-1
WATER SUPPLY PROJECTIONS
(Acre Feet Per Year)**

Water Supply Sources	2015	2020	2025	2030	2035
Redding Contract – Sacramento River	21,000	21,000	21,000	21,000	21,000
Buckeye Contract – Wiskeytown Reservoir	1,535	6,140	6,140	6,140	6,140
Redding Groundwater Basin	7,785	7,000	8,000	9,000	9,000
Anderson Cottonwood Irrigation District	500	4,000	4,000	4,000	4,000
Total Supply	25,570	38,140	39,140	40,140	40,140

Source: Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion*. October 2018.

The City Redding Contract allows diversions from the Sacramento River.¹ Water is diverted upstream of Diestelhorst Bridge with 5 pumps to lift raw water to the Foothill Water Treatment Plant. The raw water pumps currently have a 30.6 million gallons per day (mgd) of capacity and the Foothill Water Treatment Plant has a current capacity of 24 mgd with the ability to expand up to 42 mgd. The Redding Contract was extended for 40 years in 2005 and includes 17,850 AFY of base supply and 3,150 AFY of Project Supply (21,000 AFY total).²

The City's Buckeye Contract allows diversions directly from the Wiskeytown Lake via the Spring Creek Conduit.³ Water is gravity fed to the Buckeye Water Treatment Plant, capable of providing up to 14 mgd to the City of Redding. This contract was negotiated and extended for 40 years in 2005 to provide 6,140 AFY of Project Supply.

The City has a 40-year water transfer supply contract with Anderson Cottonwood Irrigation District. Negotiated around the time the *2015 Urban Water Management Plan* was prepared, this contract provides up to 4,000 AFY per year. In dry years, available supply would be reduced to a 3,000 AFY maximum. Actual water deliveries would be dependent on climate conditions and other factors detailed in the contract.

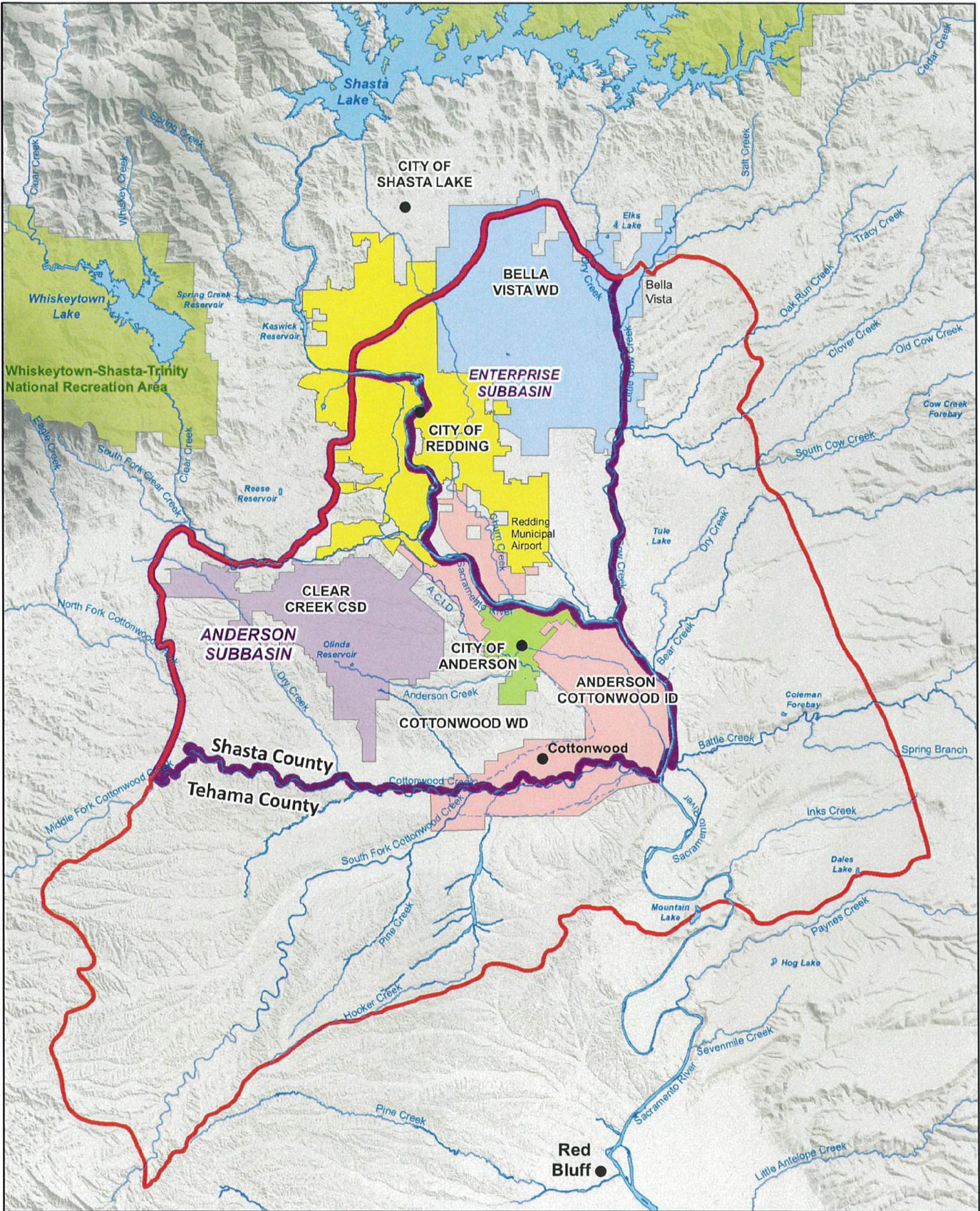
Redding Groundwater Basin

The Redding Groundwater Basin (RGWB) underlies approximately 544 square miles in the north end of the Sacramento Valley (refer to Figure 5.16-1, REDDING GROUNDWATER BASIN AND SUBBASINS). The project site is located over the Enterprise Subbasin that comprises approximately 95 square miles in the northeast portion of the RGWB.

¹ USBR. 2003. Contract #14-06-200-2871A.

² "Project Supply" defines the portion of the City's contract that is based upon USBR's water rights. The "base supply" represents the portion of the contract based upon the City's water rights that existed at the time Shasta Dam was originally constructed.

³ USBR. Contract #14-06-200-5272A.



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Print Date: March 19, 2018

- Service Areas**
- ACID
 - Bella Vista WD
 - City of Anderson
 - City of Redding
 - Clear Creek CSD
 - Redding Groundwater Basin
 - Anderson and Enterprise Subbasins
 - Cities

Enterprise-Anderson Groundwater Sustainability Agency



Dignity Health
North State Pavilion Project

Redding Groundwater Basin & Subbasins

Figure 5.16-1

The City is a member of the Redding Area Water Council (RAWC), a consortium of water purveyors that operate in Shasta County. In 1998, the Shasta County Water Agency, on behalf of the RAWC, prepared a comprehensive groundwater management plan for the RGWB (i.e., *Coordinated AB 3030 Groundwater Management Plan for the Redding Groundwater Basin*). The the groundwater management plan was prepared to provide a mechanism for both the puboic and private stakeholders in the Redding Basin to evaluate, manage, protect, and preserve local groundwater resources. The City is also participating in a consortium of nearby groundwater users to form a Groundwater Sustainability Agency (GSA) pursuant to the requirements of AB 1739, SB 1168, and SB 1319 collectively known as the Sustainable Groundwater Management Act.

As described in the City’s *2015 Urban Water Management Plan*, the RGWB is not an adjudicated basin.⁴ As the basin is not in overdraft, no legal pumping limit has been set; therefore, no overdraft mitigation efforts are currently underway. Though no safe yield has been established for the RGWB, groundwater modeling as part of the Coordinated AB 3030 Groundwater Management Plan indicates that the RGWB is resilient to severe drought conditions and is able to recover with one year of normal rainfall.

There were no limitations to pumping groundwater during the period 2006-2010, as groundwater wells supplement the surface water supply and are used primarily to meet increased water demand during the summer. During the spring, fall and winter months only a few wells out of the sixteen are operated, since operating the surface water treatment plants is less costly and produces higher water quality. The wells range in depth from 170 feet to 600 feet and are run primarily during periods of high water demand, especially the months of June, July and August. The return flow of groundwater to the river from the City’s wastewater treatment facilities contributes to water supplies for downstream users.

The RGWB provided the City with approximately 7,800 to 9,900 AF of water through sixteen wells during the years 2006-2010 (refer to Table 5.16-2, GROUNDWATER – VOLUME PUMPED 2006-2015).

**Table 5.16-2
GROUNDWATER – VOLUME PUMPED 2006-2015
(Acre Feet)**

Basin Name	2006	2007	2008	2009	2010	2015
Redding Groundwater Basin	8,837	9,923	8,871	8,901	7,817	7,785
Total Supply	27,760	28,706	30,133	27,869	24,057	21,293
Groundwater as a % of Total Water Supply	32%	35%	29%	32%	32%	37%

Source: City of Redding. *2015 Urban Water Management Plan*. June 2016.

Between 2006 and 2010, groundwater volumes were sufficient as a seasonal supplement to surface water sources, providing approximately 30 percent of total annual water production. Groundwater wells can supply enough water to supplement existing surface water contracts with the USBR without any noted overdraft conditions in the local groundwater basin.

Table 5.16-3, GROUNDWATER SUPPLY AND DEMAND, indicates that anticipated future well pumping would be enough to continue supplying between 27 and 33 percent of projected overall water demand. In years of extreme drought a combination of increased and mandatory conservation measures and increased groundwater usage can result in as much as 60 percent of demand being supplied from groundwater.⁵

⁴ City of Redding. *2015 Urban Water Management Plan*. Page 28. June 2016.

⁵ Ibid. Page 29.

**Table 5.16-3
GROUNDWATER SUPPLY AND DEMAND
(Acre Feet Per Year)**

Basin Name	2020	2025	2030	2035
Redding Groundwater Basin	7,000	8,000	9,000	9,000
Groundwater as a % of Total Water Demand	27%	30%	33%	33%

Source: City of Redding. 2015 Urban Water Management Plan. Table 33, Page 40. June 2016.

Normal and Dry-Year Supply Reliability

The USBR defines a critical water year as one in which projected in-flows to Shasta Reservoir equal less than 3.2 million AF. When a critical-year condition is declared for Shasta Reservoir, the USBR can reduce the Redding Contract supply by up to 25 percent of the average April-October volumes withdrawn under that contract during the previous three non-critical water years. From initiation of the City's USBR contracts to present, the Sacramento River (Redding Contract) supply has been reduced in this manner in 1977, 1991, 1992, and 1994.

During a critical or constrained water year (less severe than a critical water year), the Buckeye Contract supply can be reduced to 75 percent of the average yearly use during the previous three non-constrained water years. Buckeye Contract supplies have been reduced in such fashion nine times since 1971: 1990-1994, 1999, 2001, 2008 and 2009. Only once since 1971 did the USBR reduce the Buckeye allotment further, to 65 percent of total contract allotment in 1977. Though a future 35 percent reduction is unlikely, this takes a conservative approach in calculating drought period supply by assuming a reduction to 65 percent of historical use in the third consecutive constrained water year.⁶

In summary, the USBR dry year policies stipulate a reduction of the Redding Contract by subtracting up to 25 percent of April-October historical use (previous three non-impacted years) from the contractual amount of 17,850 AFY and Buckeye Contract supply can be limited to 75 percent of total average use for the previous three non-constrained water years. In 2015 the California Governor declared a drought emergency which triggered a clause in the USBR contracts that allows curtailments to exceed the standard reductions. In that year the Redding Contract was reduced to 75 percent and the Buckeye Contract to 25 percent.

Table 5.16-4, NORMAL YEAR SUPPLY AND DEMAND, shows the anticipated supply and demand for the City during an average year through year 2035. As indicated in Table 5.16-4, the City is shown to have a surplus of over between 4,244 AFY and 12,507 AFY through 2035.

**Table 5.16-4
NORMAL YEAR SUPPLY AND DEMAND
(Acre Feet Per Year)**

Supply Source	2015	2020	2025	2030	2035
Redding Contract Supply	15,570	21,000	21,000	21,000	21,000
Buckeye Contract Supply	1,535	6,140	6,140	6,140	6,140
Groundwater Well Supply	7,785	7,000	8,000	9,000	9,000
ACID Supply	500	4,000	4,000	4,000	4,000
Supply Totals	25,570	38,140	39,140	40,140	40,140
Demand Totals	21,326	26,039	26,504	27,068	27,633
Surplus	4,244	12,101	12,636	13,072	12,507

Source: City of Redding. 2015 Urban Water Management Plan. June 2016; Tully & Young. Water Supply Evaluation for Dignity Health North State Pavilion. October 2018.

⁶ City of Redding. 2015 Urban Water Management Plan. June 2016.

During single dry year conditions, the City’s water supplies are projected to be sufficient to meet demand. As shown in Table 5.16-5, SINGLE DRY YEAR SUPPLY AND DEMAND, the surplus is projected to exceed 8,400 AFY in 2020 and 8,815 AFY in 2035.

**Table 5.16-5
SINGLE DRY YEAR SUPPLY AND DEMAND
(Acre Feet Per Year)**

	2020	2025	2030	2035
Supply Totals	34,448	35,448	36,448	36,448
Demand Totals	26,039	26,504	27,068	27,633
Surplus	8,409	8,944	9,380	8,815

Source: Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion*. October 2018.

Table 5.16-6, SUPPLY AND DEMAND COMPARISON – MULTIPLE DRY YEAR, provides an estimate of the projected multiple dry year supply and demand totals. As shown in Table 5.16-6, the City projects sufficient water supplies during multiple dry years through year 2035.

**Table 5.16-6
SUPPLY AND DEMAND COMPARISON – MULTIPLE DRY YEAR
(Acre Feet Per Year)**

	Water Use	2020	2025	2030	2035
Multiple-Dry Year First Year Supply	Supply Totals	34,448	35,448	36,448	36,448
	Demand Totals	26,039	26,504	27,063	27,663
	Surplus Totals	8,409	8,944	9,385	8,785
Multiple-Dry Year Second Year Supply	Supply Totals	34,448	35,449	36,448	36,448
	Demand Totals	26,039	26,504	27,063	27,663
	Surplus Totals	8,409	8,944	9,385	8,785
Multiple-Dry Year Third Year Supply	Supply Totals	34,448	35,449	36,448	36,448
	Demand Totals	26,039	26,504	27,063	27,663
	Surplus Totals	8,409	8,944	9,385	8,785

Source: Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion*. October 2018.

WASTEWATER SERVICE

Wastewater Collection

Currently, there are no sewer lines serving the project site; therefore, there is no existing sewage flow. Three sewer mains are in or next to roadways bounding the site: an 6-inch sewer main in Parkview Avenue, an 8-inch sewer main in Hartnell Avenue, and a 16-inch sewer main in Cypress Avenue north of the project site.

Wastewater Treatment and Disposal

The City of Redding is the sole provider of sanitary sewer service for the project area. The City currently operates and maintains approximately 370 miles of sanitary sewer pipeline, spanning 6 to 48 inches in diameter, 15 raw sewage lift stations, and 2 wastewater treatment plants (WWTPs). The City is divided into two major drainage basins: Clear Creek and Stillwater. In general, the Clear Creek collection system occupies the western half of the City servicing Redding, North Redding, Cascade, and Enterprise Areas; the Stillwater collection system serves occupies the eastern half of the City, servicing Twin View, Eastern Enterprise, and Stillwater Creek services areas. The proposed project is located in the Clear Creek WWTP service area. The Clear Creek Basin collection system includes 11 lift stations, including the

Hartnell Lift Station. The collection system terminates at the Clear Creek WWTP and treated effluent is discharged to the Sacramento River.⁷

The Clear Creek WWTP was opened in 1966 and was substantially updated in 1978. In 2014, a project was completed that included another round of significant upgrades to the facility, including treatment system improvements and wet-weather flow enhancements. The plant consists of a series of treatment processes which remove rags, solids, bacteria, nutrients, pathogens and other contaminants from the wastewater prior to discharge into the Sacramento River. The Clear Creek Wastewater Treatment Plant is operated and maintained safely and in compliance with National Pollutant Discharge Elimination System (NPDES) permit limits and best management practices. Current average dry weather design flow is 9.4 million gallons per day (mgd) with peak wet weather flows of over 40 mgd.⁸ Average daily flows in 2017 were 8.4 mgd.⁹ The Clear Creek WWTP has a residual average daily treatment capacity of approximately 1 mgd.

STORMWATER AND DRAINAGE

According to the City of Redding *General Plan*, the Redding Planning Area contains fifteen hydrologic basins. Storm drainage facilities within the City limits are operated and maintained by the City. Adjacent to incorporated cities, the responsibility resides with the County of Shasta. As new areas are annexed, the City assumes responsibility for stormwater management.

Existing storm drainage facilities consist of conventional drop inlet/storm drainage pipeline collection and conveyance systems located throughout the City. These systems typically outfall into natural ravines or tributaries to the Sacramento River where the water is ultimately discharged. Storm drainage facilities do not currently serve the proposed project site. The City of Redding maintains public storm drainage in Hartnell Avenue. Refer to Section 5.8, HYDROLOGY AND WATER QUALITY, for an assessment of existing and proposed stormwater conveyance.

SOLID WASTE

Solid waste generated by the proposed project would be disposed of at Shasta County's Richard W. Curry/West Central Sanitary Landfill located south of the community of Igo, 9.2 miles west of State Route 273 (SR-273). Through an agreement with Shasta County, the landfill receives all residential, commercial, and industrial solid waste generated within the City. Total capacity of the landfill is 13 million cubic yards (cy) with a remaining capacity of 5.2 million cy. The County estimates the landfill has approximately 15 years of remaining capacity (2033).¹⁰ This calculation assumes a 2.5 percent population growth in the service area. The landfill currently has additional capacity, is permitted for 700 tons per day, and has current disposal volume average 500 tons per day.¹¹ Although Shasta County owns the landfill, it has contracted with the City of Redding for the operation and management of the facility. All residential, commercial, and industrial refuse in Redding is collected by City personnel.

⁷ City of Redding. *Wastewater Utility Master Plan*. September 2012.

⁸ City of Redding. *Clear Creek Wastewater Treatment Plant*. [Online]: <https://www.cityofredding.org/departments/public-works/public-works-utilities/wastewater-utility/clear-creek-wwtp>. Accessed: October 4, 2018.

⁹ City of Redding Municipal Utilities Department. *Clear Creek WWTP 2017 Average Daily Flows*.

¹⁰ Heath, John (Shasta County Public Works). *Personal Communication with SHN*. October 11, 2018.

¹¹ Ibid.

The Solid Waste Utility has invested in equipment, facilities, and staffing in order to meet the State's mandated recycling and solid waste requirements. Recycling efforts within the City currently focus on the collection of residential, curbside recyclables and green waste, community education, and operation of a voluntary drop-off facility at the Solid Waste Transfer/Recycling Facility. Commercial recycling programs include the collection of corrugated cardboard, bar glass, office paper, newspaper, plastic containers, and the diversion of wood and metal wastes.

The City operates its own Solid Waste Transfer Station/Material Recovery Facility (MRF) for the transfer of City-collected residential, commercial, and industrial refuse and the transfer of self-haul public refuse. The facility also has the capability of processing materials collected by curbside recycling programs and contains a household hazardous waste drop-off/processing area, and a composting area. Recyclable materials are processed at this facility with a permitted maximum of 400 tons per day for industrial, mixed municipal, tires and other hazardous waste and 100 tons per day for green materials.¹²

UTILITIES

Redding Electric Utility (REU) currently provides electrical services to the City of Redding, while natural gas is provided by Pacific Gas & Electric Company (PG&E). These utility companies would provide services to the proposed project and are required by the California Public Utilities Commission (CPUC) to update existing systems to meet any additional demand. The following provides a brief background of each utility purveyor and a summary of existing facilities within the project area. Refer to Section 5.17, ENERGY, for an assessment of anticipated project electrical and natural gas demands.

Redding Electric Utility

As a California municipal corporation, the City of Redding owns, operates, and maintains a power transmission and distribution system within the City limits. REU serves approximately 44,000 residential and commercial customers within the City of Redding, with 800,000 megawatt hours of electricity provided annually and a peak load of over 250 megawatts. REU has also transitioned its resource mix to include renewable generation and has enhanced its capability in demand-side management¹³ through energy efficiency rebates and a thermal energy storage program. REU has overhead electric lines running north/south along Hartnell Avenue. REU has indicated that adequate capacity exists within the area to serve to proposed project.¹⁴

Pacific Gas & Electric

Pacific Gas and Electric (PG&E) provides electric and natural gas services to 70,000 square miles within California.¹⁵ Currently, there are lines that serve the surrounding area with the nearest gas distribution facilities located at the intersection of Henderson Road (North) and Hartnell Avenue. The close proximity of natural gas facilities would allow services to be extended to the proposed project site. In addition, there is an overhead PG&E line that currently crosses through the property and will be relocated underground as part of the proposed project.¹⁶

¹² CalRecycle. *Facility Summary Details: City of Redding Transfer Station/MRF (45-AA-0059)*. [Online]: <http://www.calrecycle.ca.gov/SWFacilities/Directory/45-AA-0059/Detail/>. Accessed: October 4, 2018.

¹³ The term "demand-side management" is the modification of consumer demand for energy through various methods such as financial incentives and behavioral changes through education.

¹⁴ Redding Electric Utility. Letter from Jeremy Ross. July 2, 2018.

¹⁵ PG&E. [Online]: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed: October 5, 2018.

¹⁶ Redding Electric Utility. Letter from Jeremy Ross. July 2, 2018.

OTHER SERVICE SYSTEMS

Telephone Service

AT&T provides telephone service to the majority of the Redding area, including the proposed project site. Currently, the proposed project has no telephone landline infrastructure or services; however, existing AT&T facilities are located Hartnell Avenue that could serve the proposed project. If required, extension of service infrastructure from the Hartnell Avenue would occur below ground and implemented concurrent with onsite improvements.

Charter Communications

Charter Communications provides cable television within urban areas of Redding, including the proposed project area. Currently, there are no cable services directly serving the proposed project site; however, service is available in the surrounding area. If desired, extension of cable service infrastructure would occur below ground and implemented concurrent with improvements proposed along the project frontages.

5.16.2 REGULATORY SETTING

This section summarizes the laws, ordinances, regulations, and standards that are applicable to the project. The following is a description of federal, State, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

FEDERAL

Federal Clean Water Act

The federal Clean Water Act (CWA) 33 USC§ 1251 et seq. places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states. Although the Act does establish certain guidelines for the states to follow in developing their programs, it also allows the EPA to withdraw control from states with inadequate implementation mechanisms. The CWA requires National Pollutant Discharge Elimination System (NPDES) permits for discharges of pollutants from a point source to navigable waters of the United States. (Section 402; (33 USC §1342 et seq.) A "discharge" can include any addition of a pollutant to navigable waters, including lakes, rivers, streams, bays, the ocean, dry streambeds, wetlands, and storm sewers that are tributary to any surface water body. (33 USC§ 1362 et seq.)

STATE

California Department of Water Resources

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

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) was established in 1967 to administer state water rights and water quality functions. The SWRCB and its nine Regional Water Quality Control Boards administer water rights and enforce pollution control standards throughout the state. Shasta County is located within the Central Valley Regional Water Quality Control Board Region 5. The SWRCB is responsible for granting water rights through appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water rights permits, the SWRCB must consider all beneficial uses, including water for downstream human and environmental needs. In addition to granting water rights, the SWRCB also issues water quality related certification to developers of water projects under Section 401 of the Federal Clean Water Act.

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

California Water Code

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

Each RWQCB must formulate and adopt one or more water quality control plans for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste. The proposed project is within the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan).¹⁷

The California Water Code also requires urban water suppliers within the state to prepare and adopt UWMPs for submission to DWR. The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983, including amendments that have been made to the Act and other applicable regulations. The UWMPA requires urban water

¹⁷ Central Valley Regional Water Quality Control Board. *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*. [Online]: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf. Accessed: October 11, 2018.

suppliers servicing more than 3,000 connections or supplying more than 3,000 AF of water annually, to prepare a UWMP. The proposed project is within the area governed by City of Redding's *2015 Urban Water Management Plan*.

California Model Water Efficient Landscape Ordinance

The Water Conservation in Landscaping Act was enacted in 2006, requiring the California Department of Water Resources (DWR) to update the Model Water Efficient Landscape Ordinance (MWELO).¹⁸ In 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required a retail water supplier or a county to adopt the provisions of the MWELO by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELO provisions.¹⁹

In response to the Governor's executive order dated April 1, 2015, (EO B-29-15), DWR updated the MWELO and the California Water Commission approved the adoption and incorporation of the updated State standards for MWELO on July 15, 2015.²⁰ The changes included a reduction to 45 percent for the maximum amount of water that may be applied to a landscape for non-residential projects, which effectively reduces the landscape area that can be planted with high water use plants. The MWELO applies to all types of new construction with a landscape area greater than 500 square feet (the prior MWELO applied to landscapes greater than 2,500 sf).²¹ For non-residential projects, the coverage of high water use plants is reduced due to the new 45 percent water maximum and turf is limited. The City of Redding adopted a new landscaping ordinance in 2015 which complies with MWELO provision requires the planned projects submit landscaping plans.²² For the purposes of this WSE it is assumed that the landscape ordinance will result in a maximum irrigation demand in line with MWELO as required by law.²³

In addition to MWELO, the City also has water conservation measures it continually encourages to limit water waste and promote conservation, which will be updated to reflect the newly mandated state-wide prohibitions authorized under the Governor's Executive Order B-37-16.²⁴

Senate Bill 610 – Water Supply Assessment

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

¹⁸Gov. Code §§ 65591-65599

¹⁹ California Code of Regulations (CCR), Tit. 23, Div. 2, Ch. 27, Sec. 492.4. The MWELO provides the local agency discretion to calculate the landscape water budget assuming a portion of landscape demand is met by precipitation, which would further reduce the outdoor water budget.

²⁰ These updated changes have been incorporated into California Code of Regulations (CCR), Tit. 23, Div. 2, Ch. 27, Sec. 490-495.

²¹ CCR Tit. 23, Div. 2, Ch. 27, Sec. 490.1.

²² City of Redding Municipal Code Chapter 16.70, *Water Efficient Landscape*.

²³ The City of Redding will be responsible for reviewing and approving the proposed project's landscape plan as part of its authorities authorized under the MWELO provisions and as a condition of service.

²⁴ Executive Order B-37-16 (issued in May 2016) includes a directive for the State Water Resources Control Board to permanently prohibit a defined set of practices that waste potable water.

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

SB 610 amended Public Resources Code Section 21151.9 to provide that whenever a city or county decides that a project meets any of the above criteria, it must comply with Section 10910 et seq. of the Water Code. Section 10910 et seq. of the Water Code was also amended by SB 610 to require a city or county to coordinate the CEQA analysis with the water agency proposed to serve the project. Section 10910 et seq. requires a city or county to identify any public water system that may supply water to a proposed project.

The city or county must ask each of these water providers to indicate whether its "total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses." If the city or county does not receive this information from the water provider, it must provide the water supply assessment itself. The proposed project is not subject to SB 610 because it does not meet any of the above criteria; therefore, a water supply assessment is not required.

Sustainable Groundwater Management Act of 2014

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA; Water Code Section 10720 et seq.). SGMA, and related amendments to California law, require that all groundwater basins designated as high or medium priority in the DWR California Statewide Groundwater Elevation Monitoring (CASGEM) Program, and that are subject to critical overdraft conditions, must be managed under a new Groundwater Sustainability Plan (GSP) or a coordinated set of GSPs, by January 31, 2020. High or medium priority basins that are not subject to a critical overdraft must be regulated under one or more GSPs by 2022.

Within the Redding Area Groundwater Basin, the Enterprise Subbasin is identified as a medium priority under the CASGEM program, while the Millville Sub-Basin is identified as very low priority. This is in contrast with the majority of the Central Valley, which encompasses the Sacramento River, San Joaquin River, and Tulare Lake hydrologic regions, where almost all of the basins from the City of Sacramento south to the southern boundary, have been designated as high priority under the CASGEM program. Where GSPs are required, one or more local Groundwater Sustainability Agencies (GSAs) must be formed to implement applicable GSPs. A GSA has the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and to request revisions of basin boundaries, including establishing new subbasins.

Each GSP must include a physical description of the covered basin, such as groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans. As defined by the Act, “sustainable groundwater management” means that groundwater use within basins managed by a GSP will not cause any of the following “undesirable results:” (a) chronic lowering of groundwater levels (not including overdraft during a drought, if a basin is otherwise managed); (b) significant and unreasonable reductions in groundwater storage; (c) significant and unreasonable seawater intrusion; (d) significant and unreasonable degradation of water quality; (e) significant and unreasonable land subsidence; and (f) surface water depletions that have significant and unreasonable adverse impacts on beneficial uses (Water Code Section 10721(w)). The City is an active participant in the Redding Area Water Council who worked with the County of Shasta to prepare the AB 3030 Groundwater Management Plan for the Redding Groundwater Basin.

Recently, the Enterprise Anderson Groundwater Sustainability Agency (EAGSA) was formed consisting of the overlying members of the Redding Area Groundwater Basin, including the City of Redding. The EAGSA was formed by Memorandum of Understanding (MOU) agreed to by the City of Anderson, the County of Shasta, the Clear Creek Community Services District (CCCSD), the Bella Vista Water District, the Anderson Cottonwood Irrigation District (ACID), and the City of Redding. As required, the EAGSA shall prepare and implement a Groundwater Sustainability Plan (GSP) for the Enterprise and Anderson sub-basins by 2022.

Through the efforts of the EAGSA, the GSP will identify the long-term management and use of groundwater within the Enterprise and Anderson sub-basins in a manner that can be maintained without causing the above noted undesirable results. The GSP will ultimately establish a measurable objective reflecting the basin’s desired groundwater conditions and provide for achievement of the sustainability goal within 20 years.

State Mandated Water Reductions

Most of California was in extremely severe drought conditions for the five-year period 2011-2016. Governor Brown declared a drought state of emergency on January 17, 2014. Governor Brown issued Executive Order B-37-16 on May 9, 2016, including the following provisions:

- Making permanent several previous temporary prohibitions on wasteful outdoor water uses such as hosing off paved areas, washing automobiles with hoses not equipped with a shut-off nozzle, and watering lawns in a manner that causes runoff.
- Water providers’ Water Shortage Contingency Plans must be strengthened to include plans for droughts lasting at least five years.
- The Department of Water Resources and the State Water Resources Control Board will require urban water suppliers to report water use, conservation, and enforcement monthly; and will develop new water efficiency targets for water suppliers.²⁵

²⁵ Executive Department, State of California. *Executive Order B-37-16*. [Online]: https://www.gov.ca.gov/wp-content/uploads/2017/09/5.9.16_Attested_Drought_Order.pdf. Accessed: October 4, 2018.

The State Water Resources Control Board issued an emergency regulation on May 18, 2016 requiring water providers to certify that they had sufficient water supplies to meet demands in their service areas for three consecutive dry years.²⁶

On April 7, 2017 Governor Brown issued Executive Order B-40-17 ending the drought state of emergency except for Fresno, Kings, Tulare, and Tuolumne counties, where emergency drinking water projects will continue to help address diminished groundwater supplies. The regulations issued by the SWRCB in May 2016 regarding water supplies remain in effect statewide.²⁷

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, required the implementation of integrated waste management plans²⁸, and mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less than significant levels. With the passage of Senate Bill (SB) 1016 (the Per Capita Disposal Measurement System) in 2006, only per capita disposal rates are measured to determine if a jurisdiction's efforts are meeting the intent of AB 939.

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

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

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

²⁶ State Water Resources Control Board. 2016. *Adopted Text of Emergency Regulation*. [Online]: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/emergency_reg/oal_approved_reg053116.pdf. Accessed: October 4, 2018.

²⁷ State Water Resources Control Board. 2017. *Water Conservation Portal – Emergency Conservation Regulation*. [Online]: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.html. Accessed: October 4, 2018.

²⁸ CalRecycle approved the Shasta County Integrated Waste Management Plan in 2012, which includes the West Central Landfill, as it is owned by the County, but operated by the City.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and the Recycling Access Act of 1991 (AB 1327) is codified in Public Resources Code Sections 42900-42911. As amended, AB 1327 requires each local jurisdiction to adopt an ordinance requiring commercial, industrial, or institutional building, marina, or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The size of these storage areas are to be determined by the appropriate jurisdictions' ordinance. If no such ordinance exists in the jurisdiction, the CalRecycle model ordinance shall take effect. The City of Redding Municipal Code (RMC) §18.40.120 establishes design and location criteria for the construction of trash and recycling-container enclosures as required by AB 1327.

California Green Building Standards

The California Green Building Standards Code, referred to as the CALGreen Code, sets minimum standards requiring new structures to minimize the State's overall carbon output. California requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. Each local jurisdiction still retains the administrative authority to exceed the CALGreen standards. Refer to Section 5.6, GREENHOUSE GASES AND CLIMATE CHANGE, of this EIR for an evaluation of carbon output.

Appendix F of the State CEQA Guidelines

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act (CEQA) requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. Refer to Section 5.17, ENERGY, of this EIR for an evaluation of the proposed project's energy demands.

REGIONAL

Coordinate AB 3030 Groundwater Management Plan for the Redding Groundwater Basin

In November 1998 the Shasta County Water Agency prepared the Coordinated AB 3030 Groundwater Management Plan for the Redding Groundwater Basin for the Redding Area Water Council pursuant to Water Code Section 10750. This groundwater management plan was updated in May 2007. Groundwater management plans developed under AB 3030 and Water Code Section 10750 allows local entities to efficiently manage groundwater supplies, assure long-term water supplies, and distributes costs, benefits, and water sharing in a locally determined equitable manner. The following participating member agencies are part of the Redding Area Water Council: City of Anderson, City of Redding, City of Shasta Lake, Shasta County Water Agency, Anderson-Cottonwood Irrigation District, Bella Vista Water District, Clear Creek Community Services District, Centerville Community Services District, Cottonwood Water District, Shasta Community Services District, Mountain Gate Community Services District, and the McConnell Foundation (advisory member).

LOCAL

City of Redding General Plan

The elements within the City of Redding *General Plan* provide goals, policies, and implementation measures in order to reduce impacts of projects on utilities and service systems. Applicable goals relative to the proposed project within these elements are listed in Table 5.16-7, CONSISTENCY WITH APPLICABLE CITY OF REDDING GENERAL PLAN GOALS AND POLICIES FOR UTILITIES AND SERVICE SYSTEMS, below, followed by a brief explanation of how the proposed project complies with the goals and policies.

City of Redding Municipal Code

The RMC Title 16, *Buildings and Construction*, Chapter 16.08, *Green Building Standards Code*, adopts and incorporates by reference the California Green Building Standards Code. Section 16.08.010 of the RMC include the current revisions related to the CAL Green Code. RMC Title 14, *Utilities*, provides construction standards and long-term maintenance provisions for public utilities within the City. RMC Title 18, *Zoning*, provides development and site regulations to provide guidance when developing or maintaining all land uses. RMC §18.40.120 establishes design and location criteria for the construction of trash and recycling-container enclosures as required by AB 1327.

City of Redding 2015 Urban Water Management Plan

In 1983 the California Legislature approved Assembly Bill 797, Division 6, Part 2.6, Sections 10610 – 10656 of the California Water Code. This legislation, the Urban Water Management Planning Act, requires urban water suppliers providing water for municipal purposes to more than 3,000 service connections or supplying more than 3,000 acre-feet (AF) of water annually to prepare and adopt an Urban Water Management Plan (UWMP) which is filed with the State Department of Water Resources (DWR) in years ending in five and zero. The UWMP supports long-term water resource planning to ensure that adequate water supplies are available to meet existing and future water demands.

The City of Redding is a retail water supplier and served approximately 29,000 residential and commercial accounts with almost 23,000 AF of water in 2010. The 2015 UWMP addresses the City's water system and includes information about water supply sources, historical and projected water use and water shortage contingency measures.

City of Redding Source Reduction and Recycling Element

CalRecycle (formerly known as the California Integrated Waste Management Board) approved the City's Source Reduction and Recycling Element in 1997, as part of the Integrated Waste Management Plan (IWMP). The IWMP is mandated by state law to identify and reserve sites for solid waste facilities and ensure that land uses adjacent to or near solid waste facilities are compatible with those facilities. The Source Reduction and Recycling Element addresses the City's waste generation characteristics, source reduction, recycling, composting, education and public information, funding and integration of solid waste management issues.

**Table 5.16-7
CONSISTENCY WITH APPLICABLE CITY OF REDDING GENERAL PLAN
GOALS AND POLICIES FOR UTILITIES AND SERVICE SYSTEMS**

General Plan Goals and Policies	Consistency Analysis
<p>GENERAL PLAN GOAL PF1 <i>ENSURE THAT ADEQUATE PUBLIC SERVICES ARE FACILITIES ARE AVAILABLE TO SUPPORT DEVELOPMENT IN AN EFFICIENT AND ORDERLY MANNER.</i></p>	
<p>Policy PF1A: Require that all new development, including major modifications to existing development, construct necessary onsite infrastructure to serve the project in accordance with City standards.</p>	<p>Consistent. All onsite infrastructure would be developed in accordance with City standards. The development of the proposed project will be coordinated with infrastructure improvements. In addition, the proposed project will contribute fair share funding for public services as required by the through payment of development impact and connection fees, as required. Refer to Section 5.12, PUBLIC SERVICES, Section 5.14, TRAFFIC AND CIRCULATION, and discussions below under Subsection 5.16.4, <i>Potential Impacts and Mitigation Measures</i>.</p>
<p>Policy PF1B: Require that all new development, including major modifications to existing development, construct or provide a fair share contribution toward the construction of any offsite improvements necessary to offset project impacts and/or support the project.</p>	<p>Consistent. the City collects a development impact fee for improvements to its wastewater collection system prior to occupancy. This fee is utilized to help finance those improvements identified in the <i>Wastewater Utility Master Plan</i> as necessary for system improvements and to accommodate growth of the City. The proposed project would pay any applicable impact fees.</p>
<p>Policy PF1D: Require that the provision of streets, sewer, electric, water, drainage, and other needed infrastructure be coordinated in a logical manner between adjacent developments so as to reduce design, construction and maintenance costs.</p>	<p>Consistent. Development of needed infrastructure would be coordinated with adjacent properties as needed. Public service agencies have been contacted to identify required services to accommodate the proposed project. The proposed project would also contribute toward infrastructure improvements and the payment of development impact and connection fees, as required.</p>
<p>Policy PF1E: Require that infrastructure be designed and constructed to meet ultimate capacity needs, pursuant to a master plan, so as to avoid the need for costly retrofitting.</p>	<p>Consistent. Development of infrastructure would be designed for the site's maximum buildout. Any construction to meet ultimate capacity needs beyond the proposed project's requirements would need to be funded by the City.</p>
<p>Policy PF1F: Utilize reimbursement agreements, where appropriate, when upgraded or oversized facilities are installed by an individual developer and the cost of the facilities exceeds the development's proportional share of responsibility.</p>	<p>Consistent. Refer to Policy PF1E, above. The proposed project does not anticipate having infrastructure reimbursements.</p>
<p>Policy PF1G: Direct growth toward areas which already have infrastructure capacity available by providing incentives for quality infill development.</p>	<p>Consistent. The areas to the east and south of the proposed project site along Hartnell Avenue is developed and has existing infrastructure. Infrastructure will be extended from Hartnell Avenue and Hederson Open Space (North) as need to serve the site.</p>
<p>GENERAL PLAN GOAL PF5 <i>MAINTAIN AN ADEQUATE LEVEL OF SERVICE IN THE CITY'S WATER SYSTEM TO MEET EXISTING AND FUTURE NEEDS.</i></p>	
<p>Policy PF5C: Require water distribution systems to be interconnected (looped) wherever feasible to facilitate the reliable delivery of water anywhere in the City.</p>	<p>Consistent. . The proposed project would connect to an existing 8-inch water main located at Henderson Road (North) and a 12-inch water main along Parkview Avenue to the south. In addition, all new connections to the City's water system require payment of capital improvement fees, when applicable.</p>
<p>GENERAL PLAN GOAL PF7 <i>PROVIDE SAFE, RELIABLE, COMPETITIVELY PRICED ELECTRICITY FOR EXISTING AND FUTURE CITY ELECTRIC CUSTOMERS.</i></p>	
<p>Policy PF7C: Require main electric distribution lines to be interconnected (looped) wherever feasible to facilitate the reliable delivery of electricity within the City.</p>	<p>Consistent. REU has overhead electric lines running north/south along Hartnell Avenue. The normal extension of distribution facilities throughout the proposed project would be necessary to</p>

Table 5.16-7 (Continued)
CONSISTENCY WITH APPLICABLE CITY OF REDDING GENERAL PLAN
GOALS AND POLICIES FOR UTILITIES AND SERVICE SYSTEMS

General Plan Goals and Policies	Consistency Analysis
supply electricity to the project and would be interconnected, where required.	
<u>GENERAL PLAN GOAL PF8</u>	
<i>PROVIDE FOR EFFICIENT COLLECTION AND DISPOSAL OF SOLID WASTE WHILE MAINTAINING AN ADEQUATE WASTE DISPOSAL CAPACITY.</i>	
<p>Policy PF8B: Continue to require solid waste collection service for residential, commercial and industrial uses within the incorporated area.</p>	<p>Consistent. The proposed project would be served by the City of Redding Solid Waste Utility. As noted below under Impact 5.16-6, the addition of approximately 1.03 tons per day associated with daily onsite project operations represents an increase of less than 1 percent to Richard W. Curry Landfill's current daily intake volume of 500 tons. With Richard W. Curry Landfill's current capacity, the proposed project would not be expected to significantly impact landfills within Shasta County. The proposed project would be required to comply with all federal, State, and local statues and regulations related to solid waste.</p>
<p>Policy PF8C: Continue to implement the City's Source Reduction and Recycling Element and expand identified programs, when feasible, in order to meet or exceed state mandated waste diversion goals.</p>	<p>Consistent. Project construction and operation wastes would be collected and disposed of in accordance with applicable provisions of the City's Source Reduction and Recycling Element. The City Solid Waste Utility offers curbside recycling services for greenwaste, mixed recycling, and office paper. In addition, cardboard recycling services are also available. The Solid Waste Utility also participates in public education and outreach to help customers know what options for recycling are available and what State mandates affect them.</p>
<p>Policy PF8D: Promote recycling and other measures designed to reduce the generation of solid waste.</p>	<p>Consistent. Project implementation would generate solid waste during construction and operation. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. The proposed project would comply with AB 939, SB 1016, AB 341, and AB 1826. Compliance would serve the City in meeting specific waste diversion goals.</p>
<p>Source: City of Redding, 2000 – 2020 General Plan. October 2000.</p>	

5.16.3 STANDARDS OF SIGNIFICANCE

SIGNIFICANCE CRITERIA

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

- *Exceed wastewater treatment requirements of the applicable regional water quality control board. Refer to Impact 5.16-1.*
- *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Refer to Impact 5.16-2.*
- *Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Refer to Impact 5.16-3.*
- *Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed. Refer to Impact 5.16-4.*
- *Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Refer to Impact 5.16-5.*
- *Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs. Refer to Impact 5.16-6.*
- *Fail to comply with federal, State, and local statutes and regulations related to solid waste. Refer to Impact 5.16-7.*

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

5.16.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The potential impacts of the proposed project were evaluated qualitatively by comparing the anticipated project effects on existing utilities and service systems. Information in this section is based on, but not limited to, the City's *General Plan*, available literature, other publicly available information from the affected agencies and utility providers. Data on solid waste generation is based on information

provided by City of Redding Solid Waste Utility. In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment.

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

IMPACT 5.16-1	<i>Implementation of the proposed project would not exceed wastewater treatment requirements of the Central Valley RWQCB.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: The project site is located within the jurisdiction of Central Valley Region of the RWQCB. The proposed project would comply with all applicable construction and post-construction water quality requirements adopted by the Central Valley RWQCB (Region 5). The proposed project would be served by the Clear Creek WWTP located approximately 5.5 miles southwest of the project site. The proposed project includes construction of an onsite private sewer lift station and an 8-inch sewer force main to convey onsite generated wastewater to the existing sewer main in Cypress Avenue. The connection point is proposed at the existing manhole located at the easterly approach to the intersection of Cypress Avenue and Hartnell Avenue (refer to Figure 3-15b, UTILITY PLAN – BUILDING ‘A’ & ‘C’, in Section 3.0, PROJECT DESCRIPTION).

Short-Term Construction

Wastewater generated during construction of the proposed project would be composed primarily of sanitary waste, which would be managed through the utilization of portable toilets. No impacts are anticipated during construction.

Long-Term Operation

Implementation of the proposed project as described in Section 3.0, PROJECT DESCRIPTION, is estimated to generate approximately 6,071 gallons per day (gpd)²⁹ of wastewater based on the indoor water demand of 6.8 AFY (refer to analysis under Impact 5.16-4, below).

The Clear Creek WWTP has undergone major upgrades during the past ten years, including improvements to the preliminary, primary, secondary, filtration, disinfection, and solids treatment processes. The multi-year rehabilitation and expansion project has increased treatment capacity (design dry weather flow from 8.8 mgd to 9.4 mgd) and overall reliability of the facility. As described above, in 2017 the Clear Creek WWTP treated an average of 8.4 mgd of wastewater. The projected wastewater generation of the proposed project is estimated to be 6,071 gpd, representing less than a 1 percent increase in wastewater flows to the Clear Creek WWTP. As a result, the Clear Creek WWTP has the operating and treatment capacity to accommodate the additional wastewater generated by the proposed project.

²⁹ Wastewater generation (gpd) was derived by using the following equation: 6.8 AFY x 325,851 gallons per AF/365 = 6,070.4 gpd.

The proposed project would generate municipal wastewater that would be treated at the City of Redding’s Clear Creek WWTP. Waste discharge requirements for treated effluent from the Clear Creek WWTP are set forth in Order No. R5-2017-0010 (National Pollutant Discharge Elimination System [NPDES] CA 0079731) issued by the Central Valley Regional Water Quality Control Board in 2017. The plant consists of a series of treatment processes which remove rags, solids, bacteria, nutrients, pathogens and other contaminants from the wastewater prior to discharge into the Sacramento River and is currently operated and maintained in compliance with NPDES permit limits and best management practices.

The ability of the Clear Creek WWTP to meet the waste discharge requirements depends on dischargers to sewers in the WWTP’s service area complying with the discharge limits. Discharge limits for concentrations of substances that could damage the WWTP, applicable mainly to discharges from industrial land uses, are set forth in RMC §14.16.495. The proposed project does not propose industrial or agricultural land uses that would generate industrial wastewater requiring separate treatment or pre-treatment. Wastewater generated by the proposed project would be comparable in quality to other similar non-industrial uses served by the Clear Creek WWTP.

Based on the overall quantity of the generated wastewater and treatment capacity of the existing Clear Creek WWTP, the proposed project will not exceed wastewater treatment requirements of the Central Valley RWQCB. Impacts are therefore considered *less than significant*.

Mitigation Measures: No mitigation measures are required.

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

IMPACT 5.16-2	<i>Implementation of the proposed project would not result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: The proposed project would require connections to existing water and wastewater infrastructure to serve the proposed project as discussed in Section 3.0, PROJECT DESCRIPTION. Existing water and wastewater infrastructure is located immediately east of the proposed project along Hartnell Avenue, Henderson Road (North) and Parkview Avenue.

Short-Term Construction

Wastewater. Wastewater generated during construction would be composed primarily of sanitary waste, which would be managed through the utilization of portable toilets temporarily installed onsite. Impacts would be *less than significant*.

Water Delivery. During construction, water trucks would be used to provide watering required for dust suppression and other incidental water uses. Water would be obtained by connecting to metered fire hydrants identified during consultation the City of Redding Department of Public Works. The proposed

project would require approximately 1 AF of water during the course of construction.³⁰ The construction period is anticipated to require up to four years. No new water facilities or expansion of existing facilities would be needed during construction activities. Impacts would be *less than significant*.

Long-Term Operation

Wastewater. As discussed above under Impact 5.16-1, wastewater from the proposed project would be treated by the City of Redding at the existing Clear Creek WWTP. The Clear Creek WWTP treatment capacity was recently improved to 9.4 mgd. Approximately 8.4 mgd is estimated to be currently treated by the Clear Creek WWTP. Implementation of the proposed project would result in approximately 6,071 gpd of wastewater generated by onsite operations. As a result, Clear Creek WWTP has the capacity to accommodate the additional wastewater produced by the proposed project.

In addition, the City collects a development impact fee for improvements to its wastewater collection system prior to occupancy. This fee is utilized to help finance those improvements identified in the *Wastewater Utility Master Plan* as necessary for system improvements and to accommodate growth of the City. Therefore, impacts with regard to the construction of new wastewater treatment facilities or expansion of existing facilities would be *less than significant*.

Water Delivery. The proposed project is located within the water service boundary of the City of Redding's Water Utility Department; therefore, the proposed project would not require annexation into a public water district for water service. The proposed project would connect to an existing 8-inch water main located at Henderson Road (North) and a 12-inch water main along Parkview Avenue to the south. No new groundwater wells would be required to serve the proposed project. In addition, all new connections to the City's water system require payment of capital improvement fees, when applicable.

As discussed below under Impact 5.16-4 and referenced in Table, 5.16-8, ESTIMATED WATER DEMAND, the proposed project would generate a total water demand of 12 AFY, or approximately 10,713 gpd. The two surface water treatment facilities (Foothill Water Treatment Plant and Buckeye Water Treatment Plant) from which Redding obtains most of its water supplies have total capacity of 38 mgd. As noted above in Table 5.16-4, NORMAL YEAR SUPPLY AND DEMAND, the City's total water demand in 2015 was 21,326 AFY, or approximately approximately 19 mgd. In 2020, the City's total water demands are projected to increase to 26,039 AFY, or approximately 23.2 mgd, and in 2035 increase to 27,633 AFY, or approximately 24.7 mgd. Therefore, based on the City's total treatment capacity of 38 mgd, sufficient water treatment is available for project-related increase in water demand (10,713 gpd), and proposed project development would not require construction of new or expanded water treatment facilities. Impacts would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

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

³⁰ Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion*. August 7, 2018.

IMPACT 5.16-3	<i>Implementation of the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: The grading of the project site and introduction of impervious surfaces could result in a change in site-specific drainage patterns. All project grading would comply with City standards, ordinances, and codes, including RMC Title 16, *Buildings and Construction*, and RMC Title 18, *Zoning*. Grading activities would also comply with the requirements of the State of California Construction General Permit and SWPPP.

While the proposed project alters existing site hydrology and increases impervious surfaces, the proposed project includes stormwater infrastructure that would continue to discharge stormwater runoff at the same rate as existing conditions. As a result, an increase in peak runoff from the site would not occur. The proposed project would be designed consistent with requirements contained in RMC Chapter 16.12, *Clearing, Grading, Fills and Excavation*, to minimize the flow of stormwater during project operation. The design and capacity of the proposed project's drainage system provides sufficient runoff storage to reduce the 100-year post-project peak flows to the flows that are at or below those of existing conditions (refer to Section 5.8, HYDROLOGY AND WATER QUALITY). Therefore, the construction of the proposed project stormwater infrastructure would have a *less than significant* impact.

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

Mitigation Measures: No mitigation measures are required.

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

IMPACT 5.16-4	<i>Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: The primary water supply for the City is through the Redding Contract and Buckeye Contract with the USBR. As previously noted above under Subsection 5.16.1, *Environmental Setting*, the Redding Contract was extended for 40 years in 2005 and includes 17,850 AFY of base supply and 3,150 AFY of Project Supply (21,000 AFY total). The City's Buckeye Contract allows diversions of up to 6,140 AFY was extended for 40 years in 2005. Total water supply from the CVP entitles the City to 27,140 AFY annually. CVP water furnished to the City is allocated and managed in accordance with the

USBR's Shortage Policy and RMC Chapter 14.09, *Water Shortage Contingency Plan*, which establishes a municipal and industrial Water Shortage Contingency Plan (WSCP) in order to conserve the available water supply and protect the integrity of City water supply facilities.

The proposed project would generate demand for water during both short-term construction and long-term operation. The increase in water demand as a result of the proposed project would not exceed the City's existing or projected water supply as analyzed below.

The *Water Supply Evaluation* reflects a detailed assessment of the availability of water supplies available to meet the needs of the proposed project. The *Water Supply Evaluation* analyzes the water demands of the proposed project as well as the City of Redding's water supplies that could be made available to satisfy those demands. The *Water Supply Evaluation* is based upon the City's *2015 Urban Water Management Plan* and the calculated demands based upon the proposed project's design and location. The following analysis incorporates information contained in the *Water Demand Evaluation*, prepared by Tully & Young (October 2018) (refer to Appendix 15.12, WATER DEMAND EVALUATION) and the City's *2015 Urban Water Management Plan*. This technical information complies with State *CEQA Guidelines* §15155 as amended.

Proposed Water Demand

Refer to Impact 5.16-2. Water for construction would be supplied via water trucks. Water would be obtained by connecting to metered fire hydrants identified during consultation with the City Department of Public Works. Water would be used for purposes of dust control during grading and construction, as well as for minor activities such as washing of construction equipment and vehicles. The proposed project would require approximately 1 AF throughout construction. Project buildout is anticipated to require up to four years. Existing water supplies are adequate to meet the water demand needs during the construction phase and no new water infrastructure would be required for construction purposes. As such, new or expanded water supply entitlements would not be required in support of construction activities. Impacts would be *less than significant*.

The proposed project does not meet any "project" thresholds outlined in Senate Bill 610, nor does the project require annexation into a special district or agency for operational water supply; however, a *Water Demand Evaluation* was prepared to estimate the additional water demands of the project and to analyze the water supply elements of Senate Bill 610 (refer to Appendix 15.9, WATER DEMAND EVALUATION).

The proposed project would have outdoor and indoor water demand, as well as a loss factor. Outdoor water demand would be associated with project landscaping. For the indoor water demand, the size of the different facilities in the buildings, type of use, and operational hours combine to impact the total proposed project water demand. The loss factor is the percent of water that does not reach paying customers and is considered non-revenue water in the *2015 Urban Water Management Plan*, which includes loss due to system leaks, fire protection, construction water, unauthorized connections, and inaccurate meters. Indoor demand factors are represented as the quantity of water in gallons per year per square foot (gpy/sf). Outdoor demand factors are represented as the quantity of water in acre-feet per acre (af/ac) per year. Indoor water use, outdoor water use, and infrastructure water loss quantities are combined to determine the total water demand for the proposed project and are further described below:

-
- *Outdoor Use.* The proposed project's landscape elements include the following assumed type and areas of landscaping that transition from a typical commercial style to the more natural landscape towards the Sacramento River (refer to Figure 3-11g, IRRIGATION ZONES, in Section 3.0, PROJECT DESCRIPTION):
 - *High Water Use Turf Areas.* This landscape area is located adjacent to the public entrances to Building 'A' and adjacent to the existing landscaping on Hartnell Avenue. This turf area totals approximately 10 percent of the total landscape area.
 - *Medium Water Use Landscape Areas.* This landscape area is located primarily around Building 'A' and Building 'C' to transition from the landscape style on Hartnell Avenue. This area totals approximately 30 percent of the total landscape area.
 - *Low to Medium Water Use Landscape Areas.* This landscape area is located south of Building 'A' and around Building 'B' as well as in the larger parking area. This area totals approximately 30 percent of the total landscape area.
 - *Low Water Use Landscape Areas.* This landscape is located around in the outlying parking areas and adjacent to the non-landscaped areas along the Sacramento River. This area totals approximately 30 percent of the total landscape area.

The actual water use of each landscape area will be determined by the specific plants used and spacing. Total water demands must be equal to or less than the MWELO Maximum Applied Water Allowance (MAWA) limit.³¹

The proposed project includes approximately 2.11 acres of landscaped area, including perimeter landscaping, parking island plantings, and landscaping. Using the local ETo data of 54.7 inches per year, with a landscape area of 2.11 acres (converted to square feet), the total demand for irrigation was found to be approximately 4.3 AF/year.³²

- *Indoor Use.* The proposed project includes a number of medical demands characteristic of an outpatient care facility. These include the following:
 - *Medical Related Office Space.* The proposed project anticipates a portion of the project to be office space. Water use data for office space is readily available and well defined, however there is a wide range of use numbers due to a long service life for commercial buildings. The analysis assumes data from the more efficient side of the spectrum to reflect the impact of low and zero water use fixtures. Based upon national averages, office water demand for newer buildings is approximately 15 gpy/sf (gallons per year per square-foot).³³
 - *Outpatient Care Facilities.* The proposed project fits the descriptions of an outpatient care facility and some data exists providing some national averages for care facilities. The analysis uses data from the more efficient side of the spectrum to reflect the impact

³¹ MAWA = (ETo) (0.62) (0.45 x LA), where ETo is the reference evapotranspiration in inches per year, LA is the landscape area, and 0.62 is a conversion factor. The resulting value is in "gallons per year."

³² Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion Project*. October 2018.

³³ US Energy Information Administration. *Commercial Buildings Energy Consumption Survey*. [Online]: www.eia.gov/consumption/commercial/data.

of low and zero water use fixtures. Based upon national averages, outpatient water demand for newer buildings is approximately 16 gpy/sf (gallons per year per square-foot).³⁴

- *Historic Billing Data from Other Dignity Health Facilities.* The proposed project is similar to a number of other Dignity Health Facilities located within the State, therefore, billing information for similar facilities, which were also analyzed. A Dignity Health facility located in Elk Grove appears most similar to the proposed project, with a water usage of approximately 17 gpy/sf.

Since the water use data for an existing, similar facility is consistent with the above noted national averages, the the indoor water demand analysis assumes a demand of 17 gpy/sf. This demand factor provides a slightly more conservative value, and allows for flexibility in actual uses.

- *Water Loss.* In an effort to provide a comprehensive assessment of total water demand, distribution system losses are factored into the water demand calculations. The City reported a 5.9 percent loss factor to be representative of non-revenue water based on its historical data in the City’s *2015 Urban Water Management Plan*. This value represents the additional water the City must treat, convey and deliver water to assure the proposed project’s demand is satisfied. Non-revenue demand the the proposed project is estimated to be approximately 0.7 AFY.^{35, 36}

Taking the outdoor, indoor, and loss factors into account, Table 5.16-8, ESTIMATED PROJECT WATER DEMAND, provides the total estimated water demand for the proposed project through year 2040. As shown in Table 5.16-8, the proposed project is estimated to have a total annual water demand of approximately 12 AFY following completion of the project.

**Table 5.16-8
ESTIMATED PROJECT WATER DEMAND**

Category	Unit Count or SF						Demand Factor (gpy/sf or gpy each)	Demand (af/yr)					
	Current	2020	2025	2030	2035	2040		Current	2020	2025	2030	2035	2040
Indoor													
Office Space	0	129,600	129,600	129,600	129,600	129,600	17.00	0	6.8	6.8	6.8	6.8	6.8
Outdoor													
Landscaping	0	2.1	2.1	2.1	2.1	2.1	2.04	0	4.3	4.3	4.3	4.3	4.3
Other Uses													
Construction	0	1	0	0	0	0	1	0	1	0	0	0	0
<i>Outdoor Subtotal</i>								0	1	0	0	0	0
<i>Indoor Subtotal</i>								0	6.8	6.8	6.8	6.8	6.8
<i>Outdoor Subtotal</i>								0	5.3	4.3	4.3	4.3	4.3
<i>Project Subtotal</i>								0	12	11	11	11	11
Indoor Non-Revenue Water 5.9 percent								0	0.3	0.3	0.3	0.3	0.3
Outdoor Non-Revenue Water 5.9 percent								0	0.4	0.4	0.4	0.4	0.4
Total Indoor								0	7.2	7.2	7.2	7.2	7.2
Total Outdoor								0	5.6	4.6	4.6	4.6	4.6
Total Proposed Project Demand								0	12.8	11.7	11.7	11.7	11.7

Source: Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion*. October 2018.

³⁴ Ibid.

³⁵ Tully & Young. *Water Supply Evaluation for Dignity Health North State Pavilion Project*. October 2018.

³⁶ Ibid.

A summary of the demands calculated by the City in the *2015 Urban Water Management Plan* is provided above in Table 5.16-4, NORMAL YEAR SUPPLY AND DEMAND. The proposed project, considering its location within the City's water service area, is therefore represented within the projected growth of the *2015 Urban Water Management Plan*. Given the proposed project's demand estimate of 12 AFY, this demand represents less than 1 percent the total City demand between 2020 and 2035.

As mentioned in Subsection 5.16.2, *Regulatory Setting*, EO B-37-16 emphasizes wise water use and less water waste to become permanent requirements in order to prepare for more frequent and persistent periods of limited water supply. In addition, maximum allowable flowrates for fittings and fixtures are required to be consistent with the California Health and Safety Code, California Plumbing Code, and the California Energy Commission's proposed Appliance Efficiency Regulations, which have recently been updated in response to the Governor's EO B-37-16.

The proposed project would comply with the California Health and Safety Code, California Plumbing Code, California Energy Commission's proposed Appliance Efficiency Regulations, and with City rules, regulations and policies, which include adopted shortage measures. Compliance would result in building features that would address indoor and outdoor water efficiency measures, and would ensure that the project would comply with EO B-37-16, in addition to the other federal, State, and local laws and regulations.

Environmental Impacts of Supplying Water to the Project

As previously described above under Subsection 5.16.1, *Environmental Setting*, the City of Redding has two Central Valley Project (CVP) contracts. The first contract is a "Settlement Contract" that settles disputes between the City of Redding and the United States upon construction of the CVP.³⁷ The second contract is a water service contract entered into between the City of Redding and the United States Bureau of Reclamation for CVP Project Supply water.³⁸ Both of these contracts have undergone extensive environmental review that address the environmental impacts associated with the City's use of the water made available through the contracts, including the proposed project's water use.

The Settlement Contracts' environmental impacts – including the City's Settlement Contract – were analyzed in the United States Bureau of Reclamation's Sacramento River Settlement Contractors Environmental Impact Statement.³⁹ This document addressed environmental impacts associated with entering settlement contracts with water diverters from the Sacramento River watershed. This document has been relied upon by the City for the purpose of this analysis (refer to Subsection 5.16.5, *Cumulative Setting, Impacts, and Mitigation Measures*, below, for additional discussion and evaluation).

The environmental impacts associated with the CVP Project Supply contracts – including the City's CVP Project Supply contract – were also thoroughly analyzed when those contracts were renewed. The environmental impacts were assessed in the *Long-Term Contract Renewal for the Shasta and Trinity River Divisions Environmental Assessment*.⁴⁰ Based on the findings of the Environmental Assessment,

³⁷ United States Bureau of Reclamation. *Contract Between the United States and the City of Redding, Diverter of Water From Sacramento River Sources, Settling Water Rights Disputes and Providing for Project Water*, Contract No. 14-06-200-2871A-R-1. July 1, 2005.

³⁸ United States Bureau of Reclamation. *Long-Term Renewal Contract Between the United States and City of Redding Providing for Project Water Service from the Sacramento River, Shasta, and Trinity River Divisions*, Contract No. 14-06-200-5272A-LTR1. April 14, 2005.

³⁹ United States Bureau of Reclamation. *Sacramento River Settlement Contractors Draft Environmental Impact Statement*. September 2004.

⁴⁰ United States Bureau of Reclamation. [Online]: https://www.usbr.gov/mp/cvpia/3404c/env_docs/final_ea_fonsi/shasta_trinity/index.html. Accessed: April 10, 2019.

the USBR concluded “that an environmental impact statement is not required for the proposed execution of the renewal of water service contracts for ten water service contractors of the Shasta and Trinity River Divisions” – which includes the City of Redding.⁴¹

The assessment of environmental impacts associated with using either of the City’s contracted surface water supply sources were evaluated in the National Environmental Policy Act documents cited above (see footnotes 37 through 40). Those documents included an analysis of impacts associated with diverting the entire volumes under those contracts which would include the 12 AFY made available for the proposed project. It is important to note that on February 25, 2005 the USBR concluded the environmental review of the renewal of water service contracts for ten water service contractors of the Shasta and Trinity River Divisions through issuance of a Finding of No Significant Impact (FONSI). The FONSI found that implementation of the proposed action will result in no significant impact to the quality of the human environment.⁴² Thus, no further analysis of environmental impacts related to surface water use is warranted.

Water Availability Analysis

Water Supply Availability Normal-Year (Average) Conditions. As discussed above, Table 5.16-4, NORMAL YEAR SUPPLY AND DEMAND, shows that the City obtains water supplies from three sources during normal years: USBR, ACID, and groundwater. As indicated in Table 5.16-4, the City is shown to have a surplus of over between 4,244 AFY and 12,507 AFY through year 2035 (i.e., more supply than demand) during average rainfall years.

Water Supply Availability Dry-Year Conditions. During single dry year conditions, the City’s water supplies are projected to be sufficient to meet demand. As shown in Table 5.16-5, SINGLE DRY YEAR SUPPLY AND DEMAND, the surplus is projected to exceed 8,400 AF, thereby accommodating the proposed project’s water demand of 12 AFY. Under multi-dry year dry conditions, the City’s surface supplies are still subject to USBR-imposed shortages, with specific reductions similar to the single dry year for year one and year two and beyond. These assumptions are included in Table 5.16-6, SUPPLY AND DEMAND COMPARISON – MULTIPLE DRY YEAR, above. As shown in Table 5.16-6, the City projects sufficient water supplies to meet projected demands during multiple dry years through year 2035. Therefore, adequate water supplies are available to accommodate the proposed project’s water demand of 12 AFY during multiple dry year conditions. Impacts are *less than significant*.

Mitigation Measures: No mitigation measures are required.

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

IMPACT 5.16-5	<i>Project implementation would not result in inadequate wastewater capacity to serve existing and projected demand within the Clear Creek Basin Collection Area.</i>
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Significance: Less Than Significant Impact.

⁴¹ Ibid.

⁴² Ibid.

Impact Analysis: As discussed under Impact 5.16-1, wastewater from the proposed project would be treated by the City’s Clear Creek WWTP. The Clear Creek WWTP treatment capacity was recently improved to 9.4 mgd with an average daily flow of approximately 8.4 mgd. As noted, the proposed project would generate approximately 6,071 gpd of wastewater. As a result, Clear Creek WWTP has the capacity to accommodate the additional wastewater demand associated with the proposed project. Therefore, provision of wastewater treatment services would be adequately accommodated and would not adversely affect the existing and projected demand within the Clear Creek Basin Collection Area. Impacts would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

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

IMPACT 5.16-6	<i>Project implementation would increase the demand for solid waste disposal services.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: Solid waste in the City is disposed of at the Richard W. Curry/West Central Sanitary Landfill. The landfill currently has 14 years of remaining capacity and is currently estimated to be full by 2033. The facility has one constructed but unused solid waste cell, and two future cells yet to be constructed for solid waste. All of the solid waste is in the current permitted landfill operation area. The landfill currently receives approximately 182,500 tons of solid waste a year (approximately 500 tons per day). The Landfill is permitted for 700 tons per day and has current disposal volume average of 500 tons per day.⁴³ As discussed above, the landfill is owned by Shasta County but operated by the City of Redding.

Short-Term Construction

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

According to the EPA’s (2003) “Construction and Demolition Amounts,” the overall waste generation rate of non-residential construction to be 4.34 pounds of waste per square foot constructed. The project will also require the demolition of an existing 7,500 square-foot building and 64,000 square feet of concrete foundations. Table 5.16-9, NON-RESIDENTIAL CONSTRUCTION AND DEMOLITION ESTIMATES, provides an estimate of waste generated during onsite construction activities.

⁴³ Heath, John (Shasta County Public Works). *Personal Communication with SHN*. October 11, 2018.

**Table 5.16-9
NON-RESIDENTIAL CONSTRUCTION AND DEMOLITION ESTIMATES**

Construction / Demolition Type	Amount (square feet)	Unit (lbs/sf)	Total (Pounds / Tonnage)
New Construction	129,600	4.34	562,462 / 281.2
Building Demolition	7,500	158	1,185,000 / 592.5
Concrete Foundations	64,000	173	11,072,000 / 5,536
TOTAL			12,819,462 / 6,410

Source: U.S. EPA. *Construction and Demolition Amounts*. 2003.

Using the EPA waste generation rates as noted in Table 5.16-9, the proposed project is estimated to generate approximately 6,410 tons of construction and demolition waste.⁴⁴ Application of the California Building Code requirements regarding recycling of construction waste will divert a minimum of 50 percent of the construction waste from the landfill. This results in a total estimated construction solid waste generation of 3,205 tons, or 10.3 tons per day during construction (assumes 312 construction days per year for up to four years).

Richard W. Curry/West Central Landfill utilized by the City has approximately 200 tons per day of capacity; therefore, the landfill would support a temporary increase in solid waste during construction of the proposed project. Recycling of construction debris (a 50 percent requirement) would reduce the potential amount of waste disposed of at the Richard W. Curry/West Central Landfill and would contribute to the recycling goals set forth by the City of Redding, California Building Code, and AB 939. Construction activities would be required to comply with all federal, State, and local statutes and regulations related to solid waste. As a result, a *less than significant* would occur.

Long-Term Operation

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

The proposed project would result in the construction of up to 129,600 square feet for a wellness campus. Using ratios obtained from CalRecycle's *2016 Per Capita Disposal Rate Estimate*, the proposed project is estimated to generate approximately 11.4 pounds of solid waste per employee each day.⁴⁵ As described in Section 3.0, PROJECT DESCRIPTION, the project estimates up to 180 new employees as a result of the proposed project. This employee population is estimated to generate 2,052 pounds (1.03 tons) of solid waste each day and 748,980 pounds (374.5 tons) of solid waste annually (assuming 365 working days per year per employee).

The Environmental Impact Report for the Operation of the Richard W. Curry West Central Landfill (Shasta County, 2003) projected that an average of 163,161 tons of solid waste per year (447 tons per day) would be delivered to the landfill between 2007 and 2017. The addition of 1.03 tons per day associated with daily project operations represents an increase of less than 1 percent to the current daily intake volume of 500 tons. With Richard W. Curry Landfill's current capacity, the proposed project

⁴⁴ U.S. EPA. *Construction and Demolition Amounts*. Page 15 (Nonresidential Demolition). 2003.

⁴⁵ CalRecycle. *California's 2016 Per Capita Disposal Rate Estimate*. [Online]: <https://www.calrecycle.ca.gov/LGCentral/GoalMeasure/DisposalRate/MostRecent>. Accessed: October 4, 2018.

would not be expected to significantly impact landfills within Shasta County. The proposed project would be required to comply with all federal, State, and local statutes and regulations related to solid waste. As a result, *less than significant* impacts would occur.

Mitigation Measures: No mitigation measures are required.

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

IMPACT 5.16-7	<i>Implementation of the proposed project would comply with federal, State, and local statutes and regulations related to solid waste.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: The 1989 California Integrated Waste Management Act (AB 939) requires the City to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. Reuse and recycling of construction debris would reduce operating expenses and save valuable landfill space.

Project implementation would generate solid waste during construction and operation. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 939, SB 1016, AB 341, and AB 1826 require the City to meet specific waste diversion goals. The Richard W. Curry West Central Landfill has available capacity to accommodate solid waste generated by the proposed project. Therefore, impacts are considered to be *less than significant*.

Mitigation Measures: No mitigation measures are required.

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

5.16.5 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

The analysis of cumulative impacts focuses on those effects that, when combined together with other similar activities or projects could result in a large enough effect or impact that would be considered cumulatively significant. If the individual project’s contribution is substantial enough, it may be considered cumulatively significant. In some instances, a project-specific impact may not combine with effects from other activities, in which case, the project’s contribution to a cumulative effect would be less than considerable.

The cumulative setting for wastewater, water supply, and solid waste services is provided below. The geographic context for wastewater, water supply, and solid waste services is the establish service area of the utility purveyor or service provider. This geographic extent is appropriate because increases in demand are generally limited to the service area of the utility purveyor or service provider. If constructed, the proposed project, combined with other past, present, and reasonably foreseeable

future development, could potentially contribute to cumulatively considerable burdens on the following utilities and service systems:

Wastewater. The cumulative setting for wastewater is the Clear Creek Basin Collection Area serviced by the Clear Creek WWTP as identified in the City of Redding’s *Wastewater Utility Master Plan*. The Clear Creek Collection Basin Collection Area is comprised of the areas west of the Sacramento River, the western portion of the Enterprise area, and areas served upstream of the North Market Street Lift Station.

Water Supply. The cumulative setting for water supply includes the City of Redding’s 58-square-mile water service area covered within the *2015 Urban Water Management Plan*. The water service area includes the City and the proposed project, as well as the previously unincorporated areas of Buckeye, Twin View, and Quartz Hill. Additionally, the geographic area considered for cumulative impacts to groundwater includes the Redding Groundwater Basin. This geographic extend is appropriate as the cumulative groundwater impacts are generally limited to the groundwater basin in which cumulative development would occur. Projects identified within Section 4.0, BASIS OF CUMULATIVE ANALYSIS, would likely use, in part, groundwater resources of the Redding Groundwater Basin.

Solid Waste. The cumulative setting for solid waste service includes the City of Redding’s service area and solid waste transported and disposed at the Richard W. Curry/West Central Sanitary Landfill, as well as portions of Shasta County, Anderson, and Shasta Lake, all of which also transport waste to the Richard W. Curry/West Central Sanitary Landfill.

IMPACT 5.16-8	<i>Implementation of the proposed project, combined with other past, present, and reasonably foreseeable future development, would not contribute to cumulative demands for wastewater, domestic water, and solid waste disposal.</i>
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Significance: Less Than Significant Impact.

Impact Analysis: The proposed project’s contribution to an increased need for utilities and service systems is considered in the context of other past, present, and reasonably foreseeable future projects in the area serviced by City services. If constructed, these projects would cumulatively contribute to impacts on utilities and service systems; however, public agencies and utilities are given an opportunity to respond to an inquiry for information regarding the potential increase in demand for their services. Development fees, if applicable, would be assessed on a project-specific basis to possibly mitigate any increased demand on public utilities and service systems.

Wastewater. As discussed above, the City’s Clear Creek WWTP currently operates below its 9.4 mgd design capacity. The facility has recently undergone improvements to upgrade the facility and ensure reliable and continued compliance with permit requirements and the WWTP’s capacity to meet future demands as a result of growth. The proposed project would generate approximately 6,071 gpd (.006 mgd) of wastewater. Based on 2017 average daily flows of 8.4 mgd to the Clear Creek WWTP, the proposed project would not exceed the residual service capacity of 1 mgd. This amount represents less than one percent of the remaining capacity of the WWTP. Therefore, the proposed project’s incremental contribution to the increase in wastewater delivery to the Clear Creek WWTP is not cumulatively considerable.

The City forecasts that total wastewater generation in the Clear Creek Basin Collection Area will increase to approximately 10.2 mgd by 2035, an increase of about 0.8 mgd, or approximately 9 percent.⁴⁶ The total capacity of the Clear Creek WWTP is 9.4 mgd, which would require expansion of existing facilities, or construction of a new treatment facility to treat the anticipated citywide growth by 2035. City rates to treat wastewater, and connection fees charged to new projects, fund improvements to the wastewater treatment system. All systems are monitored by the City and regulated by the State for compliance with regulations, including design capacity. Because future projects have a funding source, the City regularly updates the wastewater master plan, and all facilities have both City and State oversight, proposed project impacts when combined with other past, present, and reasonably foreseeable future development would not result in cumulatively significant impacts. Thus, wastewater impacts are considered cumulatively *less than significant*.

Water Supply. The City of Redding forecasts that total water demands in normal water years will increase from 26,039 AFY in 2020 to 27,633 AFY in 2035, an increase of 1,594 AFY or approximately 6 percent. The forecasts are based on the City's assumption that total water demands for all land uses will be proportional to population and housing growth. The City projects that it will have adequate water supplies to meet demands through the 2020-2035 period in normal and dry conditions. In addition, the total water treatment capacity available to the City is substantially greater than forecast 2035 water demands.

- *Surface Water Supply.* As evaluated above under Impact 5.16-4, during single dry year conditions, the City's water supplies are projected to be sufficient to meet demand with the surplus is projected to exceed 8,400 AF, thereby accommodating the proposed project's water demand of 12 AFY. Under multi-dry year dry conditions, the City's surface supplies are still subject to USBR-imposed shortages, with specific reductions similar to the single dry year for year one and year two and beyond. The City projects sufficient water supplies to meet projected demands during multiple dry years through year 2035. Therefore, adequate water supplies are available to accommodate the proposed project's water demand of 12 AFY during multiple dry year conditions. Impacts would *less than significant* and not cumulatively considerable.

As previously evaluated under Impact 5.16-4 above, the environmental impacts associated with the CVP Project Supply contracts, including the City's CVP Project Supply contract, were previously analyzed by the USBR under the *Long-Term Contract Renewal for the Shasta and Trinity River Divisions Environmental Assessment*. In this document, the USBR concluded "that an environmental impact statement is not required for the proposed execution of the renewal of water service contracts for ten water service contractors of the Shasta and Trinity River Divisions" – which includes the 21,000 AFY to the City of Redding. The USBR concluded the environmental review of the long-term renewal of CVP water service contracts through issuance of a Finding of No Significant Impact (FONSI) on February 25, 2005. The FONSI made the following findings regarding environmental effects of the contract renewals:

- Indirect effects to land use could occur due to growth accommodated by the continued availability of water. These effects are largely governed by Shasta County's General Plan or the City of Redding's General Plan, not renewal of the water service contracts. The indirect effects of the proposed action on growth will be minor.

⁴⁶ City of Redding. *Wastewater Utility Master Plan Addendum*. 2016.

- A *Biological Assessment for the Shasta and Trinity River Division Long-Term Water Service Contract Renewal* was prepared in August 2003. National Oceanic and Atmospheric Administration Fisheries and the United States Fish and Wildlife Service (USFWS) have concurred that the renewals of these six contracts is not likely to adversely affect listed species.
- The proposed action will not have an adverse effect on human health or the environment, as defined by environmental justice policies and directives. The proposed action will not disproportionately affect any socioeconomic or low-income groups. Rather, renewal of the contracts will provide a long-term water supply that will meet the projected future water demand and need, which have been previously documented in the Shasta County General Plan and the general plans of affected cities.
- No Indian Trust Assets occur within the Contractors' service areas. Therefore, no direct or indirect impacts to Indian Trust Assets are anticipated.
- The proposed action will not introduce new structures such as dams, canals, or reservoirs, construction activities, or result in physical changes to the environment and would, therefore, not directly affect prehistoric, historic, or traditional cultural properties. Minor indirect effects to cultural resources could result from the planned growth and development projected permitted by County and community planning jurisdictions. No impacts to cultural resources due to the proposed action are expected as a result of the contract renewal.

The environmental impacts associated with the City's full allocation under CVP surface water contracts were previously addressed and found not to be significant. Therefore, environmental consequences of proposed project's surface demand of 12 AFY previously accounted within the City's CYP contract are not considered cumulatively significant.

- *Groundwater Supply.* The proposed project does not include groundwater wells and would receive water 12 AF annually from the City of Redding's municipal supply, which relies predominantly Central Valley Project (CVP) surface water resources. Between 2006 and 2010, groundwater, as a supplement to surface water sources to the City, provided approximately 30 percent of total annual water production. According to the City's *2015 Urban Water Management Plan*, groundwater wells can supply enough water to supplement existing surface water contracts with the USBR without any noted overdraft conditions in the local groundwater basin.

As represented in the City's *2015 Urban Water Management Plan*, adequate water supplies are available from the City to serve the proposed project and uses within the City's service area under normal wet year and multiple dry year conditions through year 2035. In addition, the proposed project would comply with federal, State, and local regulations and policies regarding water conservation. For these reasons, the proposed project would have a *less than significant* impact on groundwater supplies and groundwater recharge and the project's incremental contribution to groundwater withdrawal would not be cumulatively considerable.

It is important to note that the Redding Groundwater Basin is not an adjudicated basin. As the basin is not in overdraft, no legal pumping limit has been set; therefore, no overdraft mitigation efforts are currently underway. Though no safe yield has been established for the Redding Groundwater Basin, groundwater modeling as part of the Coordinated AB3030 Groundwater Management Plan indicates that the Redding Groundwater Basin is resilient to severe drought

conditions and is able to recover with one year of normal rainfall.⁴⁷ However, the Enterprise Sub-Basin of the Redding Groundwater Basin, in which the project is located, has been identified as a medium priority basin under the SGMA. As a result, the Enterprise Anderson Groundwater Sustainability Agency (EAGSA) was formed consisting of the overlying members of the Redding Area Groundwater Basin. The EAGSA was formed by Memorandum of Understanding (MOU) agreed to by the City of Anderson, the County of Shasta, the Clear Creek Community Services District (CCCS), the Bella Vista Water District, the Anderson Cottonwood Irrigation District (ACID), and the City of Redding. As required, the EAGSA shall prepare and implement a Groundwater Sustainability Plan (GSP) for the Enterprise and Anderson sub-basins by 2022.

Through the efforts of the EAGSA, the GSP will identify the long-term management and use of groundwater within the Enterprise and Anderson sub-basins in a manner that can be maintained without causing undesirable results. Undesirable results are generally defined with these sustainability indicators: (a) chronic lowering of groundwater levels (not including overdraft during a drought, if a basin is otherwise managed); (b) significant and unreasonable reductions in groundwater storage; (c) significant and unreasonable seawater intrusion; (d) significant and unreasonable degradation of water quality; (e) significant and unreasonable land subsidence; and (f) surface water depletions that have significant and unreasonable adverse impacts on beneficial uses (Water Code Section 10721(w)).

Each of these indicators will be evaluated in the GSP. The GSP will also document the minimum threshold conditions at which a sustainability indicator becomes significant and unreasonable. Then, the GSP must establish a measurable objective reflecting the basin's desired groundwater conditions, and provide for achievement of the sustainability goal within 20 years.

Given the current and foreseeable status of the Redding Groundwater Basin as a non adjudicated basin, coupled with the requirements of the Sustainable Groundwater Management Act, MS4 permits and federal, State, and local regulations and policies regarding water conservation, impacts to groundwater supplies and groundwater recharge within the Redding Groundwater Basin would be cumulatively *less than significant*.

Solid Waste. Under existing State permits, the Richard W. Curry/West Central Landfill has sufficient capacity to accommodate the disposal of solid waste at least to the year 2033. As previously discussed, AB 939 also requires all cities and counties to divert 50 percent of solid waste from landfills, by recycling, as of January 1, 2000.

The proposed project would generate approximately 1.03 tons per day associated with daily project operations. This represents an increase of less than 1 percent to the current daily intake volume of 500 tons currently received at the landfill. Therefore, the proposed project's incremental contribution to the landfill's daily solid waste intake volume would not be cumulatively considerable.

In July 2018, the Carr Fire was responsible for burning 229,651 acres in Shasta County, destroying approximately 1,604 structures (1,077 homes) while causing damage to 277 additional residences. The fire impacted large areas of unincorporated Shasta County, including a large segment of west Redding. The Carr Fire resulted in over \$1.7 billion in damages, including \$1.5 billion in insured losses. In discussing potential cumulative solid waste impacts it is important recognize and address debris generated by the Carr Fire.

⁴⁷ City of Redding. 2015 Urban Water Management Plan. June 2016.

Wildfire debris removal programs are implemented under the leadership of the Governor's Office of Emergency Services (CalOES) and local governments. In August 2018, CalOES tasked CalRecycle to manage debris removal operations in Shasta County, including the City of Redding. With the support of Cal OES and private contractors in the area, the City and County have made significant progress in clearing the 1,100 plus home sites that were burned in the fire. Currently, Cal OES has 40 construction crews on the ground working six days a week to remove ash and debris from over 900 homes where homeowners have chose to participate in the state sponsored debris removal program. Approximately 75 homeowners have chosen to contract for debris removal on their own (opt-out).⁴⁸

The City anticipates cleanup efforts necessary to prepare most of the affected properties for rebuilding to last until the end of 2018.⁴⁹ In terms of fire-related debris disposal, both concrete and metal debris collected during clean up are recycled, with concrete materials delivered to Crystal Greek Aggregate in Redding and metal delivered to Steel Mill Recycling that is colocated with Crystal Greek Aggregate. The County anticipates up to 95 percent of ash and other debris to be transported and disposed of at the Anderson Landfill. The Richard W. Curry/West Central Sanitary Landfill has and will continue to receive a limited amount of fire-related debris generally associated with structures that have limited to 50 percent damage and those residents that opt-out of the State offered clean up through CalRecycle. However, the County does not anticipate a significant impact to landfill capacity.⁵⁰ As a result, debris removal associated with Carr Fire clean up efforts are not included in the cumulative solid waste discussion, below, related to the Richard W. Curry/West Central Sanitary Landfill.

The generation of waste from cumulative projects, including residential and commercial developments, as well as other projects, would result in a cumulative impact; however, all handling and disposal of solid waste and recyclable materials associated with cumulative development would occur in compliance with applicable State and local regulations. Similarly, other planned projects would be required to comply with State and local waste reduction policies. Thus, the proposed project would not combine with impacts from past, present, or reasonably foreseeable projects and result in a cumulative impact on area landfills. Impacts are therefore considered cumulatively *less than significant*.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Cumulative utility and service system impacts are *less than significant*.

⁴⁸ Shasta County. [Online]: <https://stories.opengov.com/reddingca/published/bDZJVvdJK>. Accessed: October 11, 2018.

⁴⁹ Redding Record Searchlight. Article Titled: *28 percent of Carr Fire Propertied Cleared*. [Online]: <https://www.redding.com/story/news/2018/10/09/28-percent-properties-destroyed-carr-fire-cleared-debris/1581904002/>. Accessed: October 10, 2018.

⁵⁰ Heath, John (Shasta County Public Works). *Personal Communication with SHN*. October 11, 2018.