5.15 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (DEIR) addresses the potential for implementation of the Yucca Valley General Plan Update to impact utility and service systems in the Town of Yucca Valley, including water, wastewater, and solid waste services and systems. Water quality and discharge permits are discussed in Section 5.9, *Hydrology and Water Quality*, of this DEIR.

5.15.1 Water Supply and Distribution Systems

5.15.1.1 Environmental Setting

The Hi-Desert Water District (HDWD) provides municipal water to a 57-square-mile area, including much of the Town of Yucca Valley and some unincorporated surrounding area (see Figure 5.15-1, *Hi-Desert Water District Service Area*).

Regulatory Setting

State

20x2020 Water Conservation Plan

The 20x2020 Water Conservation Plan, issued by the Department of Water Resources (DWR) in 2010 pursuant to the Water Conservation Act of 2009 (SBX7-7), established a water conservation target of 20 percent reduction in water use by 2020 compared to the2005 baseline use.

Senate Bills 610 and 221

To assist water suppliers, cities, and counties with integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. They also require that this detailed information be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. Both measures recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA (defined in Water Code Section 10912[a]). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

A WSA is required for any project if it is a residential development of 500 units or more; a shopping center or business establishment project employing more than 1,000 persons or having more than 500,000 square feet of floor space; a commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space; or an 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. Individual development projects implemented under the proposed land use plan would be required to prepare a WSA if they meet these requirements.

The Hi-Desert Water District Urban Water Management Plan (UWMP) is a foundational document for compliance with both SB 610 and SB 221. In 1983, the California legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or

more customers, or that provides over 3,000 acre feet (af) of water annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes and important source documents for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent (CDWR 2003).

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply, and assesses reliability of each source of water supply, over a 20-year period in five-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 (SBX7-7)), which amends the act and adds new water conservation provisions to the Water Code. (Kennedy-Jenks Consultants 2011)

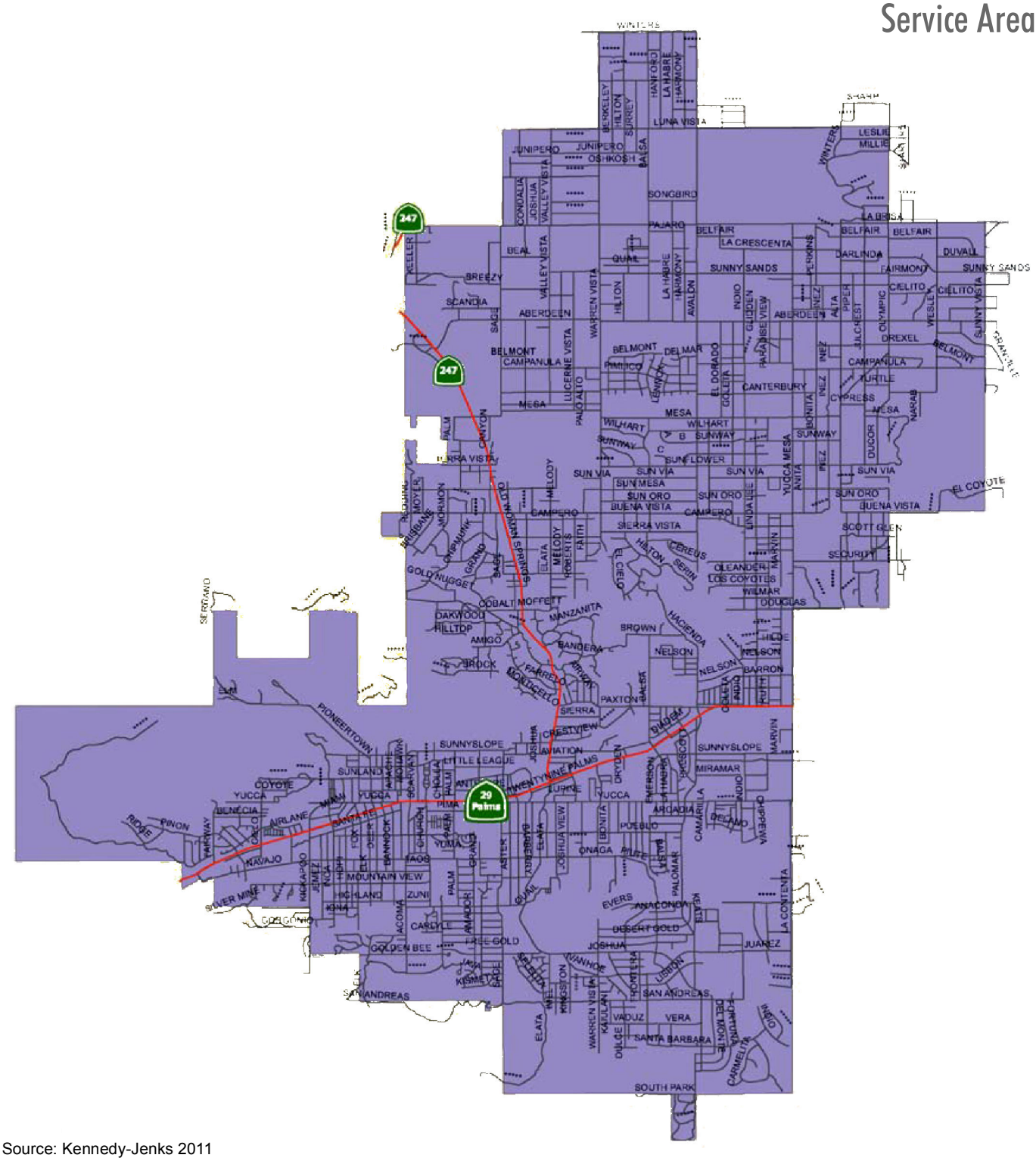
Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (February 1, 2007), the California Supreme Court articulated the following principles for analysis of future water supplies for projects subject to CEQA:

- To meet CEQA's informational purposes, the EIR must present sufficient facts to decision makers to evaluate the pros and cons of supplying the necessary amount of water to the project.
- CEQA analysis for large, multiphase projects must assume that all phases of the project will eventually be built and the EIR must analyze, to the extent reasonably possible, the impacts of providing water to the entire project. Tiering cannot be used to defer water supply analysis until future phases of the project are built.
- CEQA analysis cannot rely on "paper water." The EIR must discuss why the identified water should reasonably be expected to be available. Future water supplies must be likely, rather than speculative.
- When there is some uncertainty regarding availability of future water supply, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources. Where a full discussion still leaves some uncertainly about the long-term water supply's availability, mitigation measures for curtailing future development in the event that intended sources become unavailable may become a part of the EIR's approach.

Figure 5.15-1

Hi-Desert Water District Service Area



Source: Kennedy-Jenks 2011

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- The EIR does not need to show that water supplies are definitely assured because such a degree of certainty would be "unworkable, as it would require water planning to far outpace land use planning." The requisite degree of certainty of a project's water supply varies with the stage of project approval. CEQA does not require large projects, at the early planning phase, to provide high degree of assurances of certainty regarding long-term future water supplies.

- The EIR analysis may rely on existing urban water management plans, as long as the project's new demand was included in the water management plan's future demand accounting.

- The ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.

Water Sources

HDWD currently has four main sources of water supply—groundwater from Warren Valley Basin, groundwater from Reche/Ames/Means Valley Groundwater Basin, septic system and irrigation return flows to groundwater, and State Water Project (SWP) imports via the Mojave Water Agency (MWA) to recharge the Warren Valley Basin.

Groundwater

HDWD obtains water from two groundwater basins, shown on Figure 5.8-3, *Groundwater Basins Map*.

Warren Valley Basin

The Warren Valley Basin covers approximately 26.9 square miles and includes the water-bearing sediments beneath the Town of Yucca Valley and the surrounding area. The Warren Valley Basin is bounded on the north by the Pinto Mountain fault, on the south by the bedrock outcrop of the Little San Bernardino Mountains, on the east by a bedrock constriction called the "Yucca Barrier," and on the west by a bedrock constriction and a topographic divide between the Warren Valley and Morongo Valley. The Warren Valley Basin has an estimated total storage capacity of approximately 568,000 af, with an estimated usable storage capacity of approximately 160,000 af. Groundwater production from the Warren Groundwater Basin is regulated under a 1977 Superior Court judgment,[1] the 1991 Warren Valley Basin Management Plan, and 1996 Addendum thereto, issued pursuant to the court judgment. The Warren Groundwater Basin is recharged by percolation of rainfall and of ephemeral flows in Water Canyon and Covington Canyon; return flows from septic systems and irrigation; and recharge from the SWP, which began in 1995, at three percolation ponds operated by HDWD. Since recharge with SWP water began, groundwater levels in the Warren Basin have risen substantially. Of the 15 of 17 Warren Basin wells for which data are available, groundwater levels rose an average of 151 feet between the 1992–93 and 2011–2012 water years (HDWD 2012a).

The Warren Valley Basin began to be substantially overdrafted in or around the 1950s. As population grew in the Yucca Valley area, overdraft worsened and groundwater level decline accelerated. The usable groundwater supply was forecast to be depleted by the year 2000 if steps were not taken to correct the overdraft. A 1977 San Bernardino County Superior Court judgment ("Warren Valley Judgment") established rights to extract groundwater from the Warren Valley Basin by water rights holders in the Warren Valley Basin, including HDWD, the Yucca Water Company (which was acquired by HDWD in 1990), Blue Skies Country Club, the Institute of Mentalphysics, and 16 minimal pumpers.

In addition to limiting groundwater extraction rights in the Warren Valley Basin, the judgment ordered the development of a solution to basin overdraft. The judgment declared that supplemental water supplies would be require; and included the Warren Valley Basin within the service area of the MWA, which has a right to purchase supplemental water from the State Water Project. The court appointed HDWD as the Watermaster to administer and

[1] *Hi-Desert County Water District v. Yucca Water Company, Ltd.*, San Bernardino County Superior Court Case No. 172103.

enforce the provisions of the judgment, including the requirement to develop a means of bringing additional water to the basin.

The main component of the solution to overdraft ordered in the judgment is the 71-mile Morongo Basin Pipeline (MBP), extending from the California Aqueduct near Hesperia to the Yucca Valley area. Water deliveries via the MBP to HDWD percolation ponds began in 1995.

The HDWD, as Watermaster, performs a variety of monitoring and other management activities, including levying groundwater production assessments; groundwater monitoring; maintaining a basinwide water quality protection plan; implementing the basin management plan; establishing and administering groundwater storage agreements; and overseeing and approving all exchanges, purchases, transfers, sales, or leases of water.

Nitrate Pollution from Septic System Return Flow. The detected amount of nitrate in the District's groundwater, 12.8 parts per million (ppm), is well within the US Environmental Protection Agency's maximum contaminant level of 45 ppm. However, the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) has concluded that concentrations of nitrate in the Warren Valley Basin may be inconsistent with their water quality objectives. Partially treated wastewater, or septage, in septic tanks was identified as the primary source of nitrate to the groundwater system in 2003 by the US Geological Survey. Increasing groundwater use caused the groundwater level to drop over 300 feet between the 1940s and 1995, when recharge of the basin with imported SWP water began. During that time, groundwater levels dropped faster than nitrates from septic systems moved downward. However, groundwater levels in HDWD Warren Valley Basin wells have risen an average of 151 feet between the 1992–93 and 2011–2012 water years. High levels of nitrates from septic systems were found in some wells after recharge with SWP water began. An estimated 820 af of septic discharge currently reaches the groundwater annually (HDWD 2012b).

Because the Warren Valley Basin has elevated nitrates due to septic discharge, in 2011 the CRBRWQCB prohibited discharge from septic systems in areas of the Town of Yucca Valley (shown on Figure 5.8-4, *Wastewater Treatment Project Phasing Map)*. The prohibition will be phased, with areas of the Town prohibited from discharging beginning in 2016, 2019, and 2022. A wastewater treatment and water reclamation system that would collect, treat, and reclaim wastewater in a majority of Yucca Valley is currently being developed. The system, which is projected to begin operation in 2016, includes a sewer collection system, a wastewater treatment plant, and water reclamation recharge ponds. The wastewater treatment and water reclamation system is discussed further in Section 5.15.2, *Wastewater Treatment and Collection*, below.

Ames Valley Basin

This groundwater basin underlies Ames Valley, Homestead Valley, and Pipes Wash in the southcentral San Bernardino County. The basin is bounded by non-water-bearing rocks of the San Bernardino Mountains on the west, of Iron Ridge on the north, and of Hidalgo Mountain on the northeast. The Emerson, Copper Mountain, and West Calico faults form parts of the eastern and northern boundaries. The southern boundary and parts of the northern and eastern boundaries lie along surface drainage divides. The valley is drained northeastward by Pipes Wash to Emerson (dry) Lake. Total storage capacity was estimated to be 1,200,000 af in 1975; m and groundwater in storage was estimated at 540,000 af in 1972 (CDWR 2004). The Ames Valley Groundwater Basin is managed under a regional water management plan issued in 2004 by the Mojave Water Agency. An Ames Valley Recharge Project, under construction and with operation forecast by 2015, will intentionally recharge the Ames Valley Basin with imported water from the State Water Project. The Ames Valley Recharge Project will be managed under an Ames/Reche Groundwater Storage and Recovery Program and Management Agreement, and a groundwater management plan (GWMP) for the Ames Valley Basin, which were approved by HDWD, MWA, the County of San Bernardino, and the Bighorn-Desert View Water Agency (BDVWA)[2] in March 2012 (Kennedy-Jenks 2011). The Ames Valley Recharge Project is scheduled to begin operating at the end of 2013 (Ban 2013).

[2] The Bighorn-Desert View Water Agency provides water to unincorporated areas of San Bernardino County north of the Town of Yucca Valley, including the communities of Landers and Johnson Valley.

HDWD Groundwater Wells

HDWD has 18 groundwater wells, 13 of which are active. One active well is in the Ames Valley Basin, and the remainder of the wells are in the Warren Valley Basin (Kennedy-Jenks 2011; MWH 2007). Total water production capacity for all 18 wells is approximately 7.9 million gallons per day (Ban 2013). Capacity per well ranges from 80 to 1,467 gallons per minute (MWH 2007).

Imported Water

HDWD purchases water imported from northern California via the State Water Project from the MWA, one of the 29 entities holding contracts for receipt of SWP water. Water is conveyed via the 71-mile MBP extending from the California Aqueduct near Hesperia to the Yucca Valley area. SWP water is delivered via the MBP to three other water suppliers besides HDWD: BDVWA, San Bernardino County Service Area No. 70, and Joshua Basin Water District (JBWD). San Bernardino County Service Area No. 70 has two service areas near HDWD: one to the north near the community of Landers, and one to the west in the community of Pioneertown. JBWD's service area abuts the east side of HDWD's service area and is centered on the community of Joshua Tree. Pursuant to the 1991 Agreement for Construction, Operation, and Financing of the Morongo Basin Pipeline Project (MBP Agreement), HDWD was entitled to 4,282 acre-feet per year (afy) of SWP water (one acre-foot is about 325,851 gallons). MWA's allotment of SWP water increased from 50,800 afy in 1998 to 89,800 afy by 2020. HDWD's entitlement to SWP water, about 8.4 percent of MWA's allotment, is therefore expected to increase to approximately 7,569 afy by 2020. HDWD can also purchase portions of the MWA allotment allocated to BDVWA and JBWD, neither of which have chosen thus far to receive SWP supplies. The delivery capacity of the MBP is approximately 15,930 afy.

Imported water is used to recharge the Warren Valley Groundwater Basin at three percolation ponds owned and operated by HDWD. The total recharge capacity of the three ponds is approximately 6,800 to 7,000 afy. Average historical deliveries of SWP water within the Warren Valley Groundwater Basin have been 3,464 afy. A groundwater recharge system in the Ames Valley Groundwater Basin north of the Town of Yucca Valley is planned to begin operation by 2015 and is planned to recharge 703 afy (Kennedy-Jenks 2011). The total recharge capacity of the Ames Valley Recharge Project is 1,500 afy, consisting of 1,000 afy for HDWD and 500 afy for the County of San Bernardino (Ban 2013).

Water Banking

HDWD buys excess SWP water from MWA, when available, to store in the Warren Valley Basin for future use when SWP supplies are not available. As of January 2011, the HDWD had over 17,146 af of water banked in the Warren Valley Basin, purchased from MWA since 1995 (Kennedy-Jenks 2011). HDWD also plans to bank imported water in the Ames Valley Basin upon planned start of operation of the recharge project there at the end of 2013 (Ban 2013).

Septic and Irrigation Return Flows

Septic system and irrigation return flow is typically calculated as a percent of the total groundwater pumped. Average recharge due to septic and irrigation return was estimated in 2009 as 820 afy. A phased prohibition of septic system use in most of Yucca Valley will begin in 2016. Some septic return from areas to be served by Phases 2 and 3 of the proposed wastewater treatment and water reclamation system is expected to continue after 2016 (prohibitions will take effect in Phases 2 and 3 in 2019 and 2022, respectively). However, HDWD water supply forecasts assume no septic return flows after 2016 (Kennedy-Jenks 2011).

Water Sources for Residents Outside of HDWD

Residents outside of HDWD obtain water through a combination of local community water systems, hauling water to their properties or having it hauled by commercial water haulers, and private groundwater wells (Samara 2013).

Recycled Water

While a wastewater treatment and water reclamation system is planned, all treated wastewater from the system would be used for recharge of the Warren Valley Groundwater Basin. No system for recycled water delivery and use by HDWD water customers is planned.

Water Supplies

Existing and planned HDWD water supplies are shown in Table 5.15-1, as shown in HDWD's 2010 Urban Water Management Plan. As shown, total supplies—including existing and planned supply sources—are forecast to increase from 19,713 afy in 2010 to 37,470 afy in 2035.

Table 5.15-1
Existing and Planned Water Supplies and Demands, acre-feet per year

Water Source	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*
Existing Supplies						
Groundwater, Warren Valley Basin	1,622	1,622	1,622	1,622	1,622	1,622
Groundwater, Ames Valley Basin	800	0	0	0	0	0
Returns from Septic Tanks and Irrigation	820	820	0	0	0	0
Groundwater Recharge (imported SWP Water)	2,569	2,569	2,569	2,569	2,612	2,612
Banked Groundwater (cumulative) from SWP imported water	15,524	20,416	24,480	27,676	29,957	31,279
Subtotal	**19,713**	**23,805**	**27,049**	**30,245**	**32,569**	**33,891**
Planned Supplies						
Treated Wastewater (recharge, Warren Valley Basin)	0	0	1,863	2,604	2,737	2,876
Ames Valley Recharge Project	0	703	703	703	703	703
Subtotal	**0**	**703**	**2,566**	**3,307**	**3,440**	**3,579**
Total Supplies	**19,713**	**24,508**	**29,615**	**33,552**	**36,009**	**37,470**
Total Estimated Demands	**3,147**	**3,483**	**3,567**	**3,727**	**3,888**	**4,029**

Source: Kennedy-Jenks 2011.

Water Supply Reliability

Each water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state may affect the availability of supplies to HDWD's service area. For example, the three years 2000–2002 were dry years in southern California, but northern California had one dry year and two average years in the same period. Local groundwater supplies in southern California are typically used more when imported supplies are reduced due to dry conditions in the north, and more imported water is used during wetter conditions in northern California. This pattern of "conjunctive use" has been in effect since SWP supplies first came to the Yucca Valley area in 1995 via the MBP. Since the MBP was constructed, SWP supplies from MWA have supplemented the overall supply of HDWD and helped offset the historical overdraft of the Warren Valley Basin.

The amount of SWP water allocated to contractors each year depends on several factors than can vary significantly. The main factors affecting SWP supply availability include hydrologic conditions in northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints, and the total amount of water requested by the contractors. The availability of SWP supplies to MWA and the other SWP contractors is generally less than contractors' requests in many years and can be significantly less in very dry years.

DWR's "State Water Project Delivery Reliability Report 2009", issued in August 2010, assists SWP contractors in assessing the reliability of the SWP component of their overall supplies. The report updates DWR's estimate of the current (2009) and future (2029) water delivery reliability of the SWP. The analysis shows that deliveries will be less under current and future conditions, when compared to the preceding report.

DWR estimates assumed existing SWP facilities and operating constraints for both the 2009 and 2029 studies. The major differences between the two studies are an increase in projected SWP contractor demands and an increase in forecast upstream demands (which affects SWP supplies by reducing the amount of inflows available for the SWP). DWR presents the SWP delivery capability resulting from these studies as a percent of full contractor request amounts, which is 60 percent of requests as the long-term average supply until 2029, and 61 percent in 2029 and after.

To estimate supply capability between 2009 and 2029, DWR interpolates between the results of those studies. HDWD has used and relied upon the information and analyses prepared by DWR and MWA for purposes of quantifying the amounts of SWP supplies available to the District.

HDWD recognizes that various factors may affect the consistency of SWP water supplies and the amount and timing of SWP exports. Those factors include legal, regulatory, environmental, and water quality issues affecting threatened and endangered fish species in the Sacramento River Delta, drought conditions, seismic or other emergencies, climate change, or other extraordinary and unforeseen circumstances. Such uncertainty regarding SWP water supplies is incorporated into HDWD's 2010 UWMP.

Water Conservation Measures

Water conservation practices and programs conducted by HDWD include:

- Water loss control, including replacement of leaking pipelines
- Tiered water pricing
- Public education and school education programs
- Rebates for purchases of high-efficiency clothes washers
- Required retrofits with water-efficient fixtures on resale of properties
- Requirements for new construction, including water-efficient landscaping and air conditioning

The SBX7-7 2020 demand reduction goal for HDWD is 117 gallons per capita per day (gpcd). Water use in 2009 was 120 gpcd. HDWD expects to meet the 2020 demand reduction goal through continued implementation of existing water conservation measures as well as new measures being considered.

Water Shortage Planning

HDWD has mandatory water use restrictions for responding to a catastrophic loss of water supply, such as a natural disaster.

Growth Restriction

The District restricted future sales of new water meters for new developments—relative to groundwater reserves in the Warren Valley Basin—in 2004 through Policy No. 26-04, so that recharge of the Basin with SWP water, begun in 1995, could replenish the basin rather than be consumed by new developments.

Restrictions in sales of new water meters are specified below in Table 5.15-2; restrictions are only in effect during years when reserves in the basin are equal or less than five years water demand in that year. Policy 26-04 is based upon the amount of SWP water obtained by HDWD less the amount of extracted groundwater used to supply demand. Years of reserve are determined using a conservative annual production value of 3,000 afy. Currently, the amount of water in reserves using this method is approximately 5.5 years. It has not grown much because the District is managing its groundwater levels to ensure that groundwater does not rise into nitrate-contaminated soil above the aquifer. However, reserves are not declining to near the values outlined within the policy for limiting meter sales. Should the annual water demand increase, HDWD would simply take more of its SWP allocation to ensure that reserves, as measured per Policy 26-04, stay above the 5-year threshold for limiting meter sales (Ban 2013).

Table 5.15-2
Growth Restriction: Sales of New Water Meters for New Developments

Stage	*Restriction: sale of new water meters for new developments, as percentage of total existing meters*	*Triggering Condition, Warren Valley Basin Groundwater Reserves*
1	2 percent	Reserves equal or less than five years of water demand for that particular year
2	1 percent	reserves equal or less than four years of water demand for that particular year
3	0 percent	reserves equal or less than three years of water demand for that particular year

Source: Kennedy-Jenks 2011.

Water Storage

HDWD has two means of intentional water storage:[3]

- Reservoirs: 16 reservoirs, mostly in the southern and central parts of its service area, with total capacity of 12.9 million gallons (MWH 2007).
- Water banking of imported water in the Warren Valley Basin, described above under "Imported Water." HDWD will also be able to bank imported water in the Ames Valley Basin once the recharge project there begins operating, planned for the end of 2013 (Ban 2013).

[3] Naturally occurring storage capacity in the Warren Valley Basin, described above under *Groundwater*, is not included in this description of water storage capacity.

Water Conveyance

HDWD's pipeline system consists of 312.5 miles of pipeline ranging up to 12 inches diameter, shown in Figure 5.15-2, *Existing Water Facilities*. HDWD replaces water mains within its service boundaries at a rate of 25,000 to 40,000 linear feet per year. The program is intended to mainly replace aging steel water mains that are undersized and failing. Additional mains built of materials other than steel and also insufficient in capacity are also scheduled for replacement.

There are no water systems in the Town other than that of HDWD; thus, residents outside of HDWD's service area rely on water hauling or private wells (Ban 2013).

5.15.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-2 Would 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.

U-4 Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.

5.15.1.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.15-1: PROJECTED WATER SUPPLIES ARE ADEQUATE TO ACCOMMODATE WATER DEMAND FOR THE TOWN OF YUCCA VALLEY AT GENERAL PLAN BUILDOUT. [THRESHOLDS U-2 (PART) AND U-4]

Impact Analysis:

Water Demand Forecasts

Total projected water demand for the Town of Yucca Valley is 2,923 afy in 2012, 2,754 afy in 2020, 3,040 afy in 2035 (SCAG), and 7,989 afy at post-2035 General Plan buildout.[4]

Water Demands Compared to Water Supplies

HDWD is required to update its UWMP once every five years; each update must assess the reliability of HDWD water supplies over a 20-year period. Forecast water demands due to General Plan buildout, relative to forecast HDWD water supplies, are shown below in Table 5.15-3.

[4] In million gallons per day (mgd), the water demands are 2.61 mgd in 2012, 2.46 mgd in 2020, 2.71 mgd in 2035 (SCAG), and 7.13 mgd (post-2035 General Plan buildout). The reduction in total projected water demands for the Town between 2012 and 2020 reflects the water conservation requirement in SBX7-7, the Water Conservation Act of 2009.

Table 5.15-3
Forecast General Plan Update Water Demands Compared to Forecast Water Supplies, Acre-Feet per Year

	2020	*2035*	*Post-2035 Full Buildout*
Water Demands, Proposed General Plan	2,754	3,040	7,989
Water Supplies (HDWD)[1]	29,615	37,470	No available forecast

[1] Source: Kennedy-Jenks 2011.

Total forecast HDWD water supplies in 2035, 37,470 afy, are more than four times larger than total forecast water demands in the Town of Yucca Valley at General Plan buildout, 7,989 afy. Approximately 83 percent of forecast HDWD water supplies in 2035 are cumulative reserves of banked groundwater obtained from the SWP. Uncertainty about future annual SWP deliveries also applies to forecasts of cumulative banked groundwater derived from SWP imports.

The Town of Yucca Valley and applicants for future projects considered for approval under the proposed General Plan would comply with state laws governing water supply planning and water conservation, as well as with the restriction in sales of new water meters relative to groundwater reserves in the Warren Valley Basin set forth as HDWD Policy 26-04, discussed above in Section 5.15.1.1. With these restrictions, forecast 2035 HDWD water supplies would be adequate for water demands resulting from General Plan buildout.

Groundwater Well Pumping Capacity

Maximum daily water demand was estimated in the Water System Master Plan as 6,642 afy at 33 percent service area buildout; 13,507 afy at 67 percent buildout; and 20,171 afy at 100 percent buildout.

Water Storage

HDWD's service area is divided into 17 pressure zones, shown on Figure 5.15-2. Additional reservoir capacity would be needed in two pressure zones to accommodate growth pursuant to the General Plan Update.

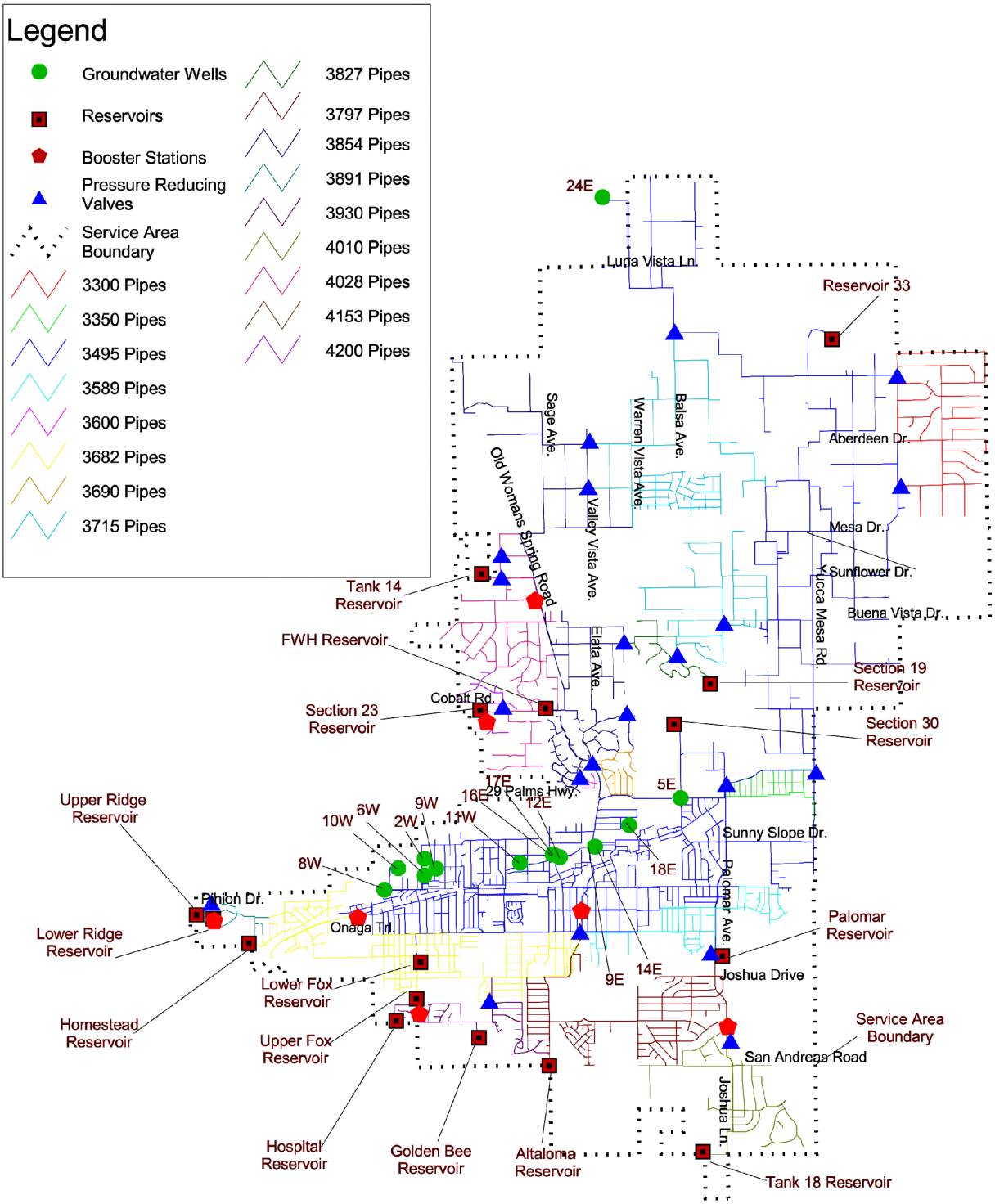
- Pressure Zone 3797 in the southeast part of the Town: Additional storage of 0.25 million gallons or more would be needed to accommodate planned residential growth.

- Pressure Zone 3589 in the east-central part of the Town: Pressure Zone 3589 does not contain a water storage reservoir to provide an emergency water supply during electrical outages or fire suppression efforts. The pressure zone is controlled utilizing stored water from pressure zone 3797, which is reduced through the use of pressure-reducing valves on Joshua Lane crossing Onaga Trail and Palomar crossing Onaga Trail. Increased residential growth within this area, would require the construction of an additional water storage reservoir (1.25 MG) and booster station capable of delivering 600 gpm of "firm" capacity (Ban 2013).

Construction of the needed reservoirs described above would be subject to independent CEQA review for each project to ensure sufficient water storage for each project.

Figure 5.15-2

Existing Water Facilities



Source: MWH 2007

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Water Delivery

Buildout of the General Plan would require construction of additional water pipelines; existing pipelines are shown in Figure 5.15-2. HDWD replaces water mains within its service boundaries at a rate of 25,000 to 40,000 linear feet per year. The program is intended to mainly replace aging steel water mains that are undersized and failing. Additional mains built of materials other than steel and also insufficient in capacity are also scheduled for replacement. As a result, some of the proposed changes listed within the General Plan Update may be met with inadequate capacity for fire flow/high demand conditions. Replacement of mains serving such areas should be considered as development occurs. These improvements are generally covered by HDWD rates and fees; however, in the event development occurs prior to replacement by the HDWD, the developer may be required to replace water mains or other infrastructure.

Additional water mains would generally be built in roadways. Impacts of construction of additional water mains would be part of the impacts of construction of General Plan buildout as a whole that are analyzed throughout Chapter 5 of this Draft EIR. No additional impacts would occur.

5.15.1.4 Relevant General Plan Update Policies

Land Use Element

Balanced Land Uses

LU 1-1 Encourage infill development to maximize the efficiency of existing and planned public services, facilities, and infrastructure.

LU 1-3 Require new projects to pay their fair share cost of, or make necessary improvements to, public facilities, infrastructure and services that are impacted by the new demands generated by new development.

LU 1-16 Require high quality building design, property maintenance, amenities for pedestrian access, and adequate circulation, utilities, and infrastructure.

Open Space and Conservation Element

Water Resources

OSC 5-1 Support Hi-Desert Water District efforts to promote water conservation and efficiency in existing and new development.

OSC 5-2 Protect open spaces, natural habitat, floodplains, and wetland areas that serve as groundwater recharge areas; and participate in regional transportation/flood control planning to increase groundwater recharge concurrent with flood plain management practices.

OSC 5-3 Protect groundwater recharge and groundwater quality when considering new development projects.

OSC 5-4 Participate in regional water planning efforts to protect groundwater resources and to assist the HDWD in implementation of its wastewater collection and treatment system.

OSC 6-1 Coordinate with the Hi-Desert Water District to share information on potential groundwater contaminating sources.

OSC 6-2 Coordinate with the Hi-Desert Water District to implement the wastewater collection and treatment system.

OSC 6-3 Require low water use, drought resistant landscape planting to reduce water demand.

5.15.1.5 Existing Regulations

State

- California Water Code Sections 10800 et seq. and 10608 et seq.: Water Conservation Act of 2009
- California Public Resources Code Section 21151.9 and California Water Code (various sections):
  - SB 610: Water Supply Assessments
  - SB 221: Written Verification of Water Supply
- California Water Code Section 10631: Urban Water Management Planning Act

5.15.1.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, Impact 5.15-1 would be less than significant.

5.15.1.7 Mitigation Measures

No mitigation is required.

5.15.1.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.15.2 Wastewater Treatment and Collection

5.15.2.1 Environmental Setting

Existing Wastewater Generation and Disposal

Nearly all land uses in Yucca Valley currently rely on individual septic systems to treat wastewater; a few commercial and residential developments rely on packaged wastewater treatment systems. Wastewater generation is assumed to be 80 gallons per person per day (Ban 2013), or about 1.7 million gallons per day (mgd) for the Town based on the existing population of 21,282.

Pollution from Septic Tanks and CRBRWQCB Groundwater Quality Objectives

Nitrate, total dissolved solids (TDS), and/or pathogen pollution from septic tanks have been identified by the CRBRWQCB. The CRBRWQCB's groundwater quality objective is to "minimize the quantities of contaminants reaching any groundwater basin…the objective will be to maintain the existing water quality where feasible" (CRBRWQCB 2011).

Proposed Wastewater Treatment and Water Reclamation System

On November 1, 2011, the CRBRWQCB amended its basin plan to prohibit discharge from septic systems in the Town of Yucca Valley. The prohibition will be phased, with areas of the Town prohibited from discharging beginning in 2016, 2019, and 2022 (see Figure 5.8-4, *Wastewater Treatment Project Phasing*). A wastewater treatment and water

reclamation system that would collect, treat, and reclaim wastewater in a majority of Yucca Valley is currently being developed. The system, which is projected to begin operation in 2016, includes a sewer collection system, a wastewater treatment plant, and water reclamation recharge ponds (HDWD 2012b). The wastewater treatment facility would be south of SR-62 and near the east Town boundary.

Treatment technology

Two treatment technologies are being considered for the treatment facility: extended aeration and membrane bioreactors.

A conventional extended aeration process uses the activated sludge process, secondary clarification, and tertiary filters to produce a filtered effluent ready for disinfection (see Figure 5.15-2, *Extended Aeration Process Flow Schematic*). Disinfection would be carried out using ultraviolet light.

The high-rate membrane bioreactor (MBR) alternative uses the activated sludge process in combination with submerged membrane filtration to provide the functions normally provided by aeration basins, secondary clarification, and tertiary filtration. As a result, there is no need for clarifiers or filters. Disinfection is accomplished with ultraviolet light (see Figure 5.15-3, *Membrane Bioreactor Process Flow Schematic*) (MWH 2009a).

Treatment Capacity

Planned wastewater treatment system capacity is shown below in Table 5.15-4.

Table 5.15-4
Wastewater Treatment System Capacity

Phase	*Initial Operation Date, planned*	*Capacity, million gallons per day*
1	2016	1.5 to 2
2	2019	3
3	2022	4
Ultimate Buildout	To be determined	6

Source: HDWD 2009.

Treatment System Cost and Funding

The cost of Phase 1 of the wastewater treatment and water reclamation system is $125 million. HDWD has over $7.5 million in hand toward system construction and is seeking federal, state, and local grants, loans, and other funding sources to cover part of the cost. A loan from the State Revolving Fund will be used to fund the project, and the payments by property owners will repay the loan. An assessment district to finance Phase 1 of the project is currently being planned by HDWD. An assessment district election would be required to establish the assessment district. Payments from property owners to repay the state loan would be made through the assessment district. Additional assessment districts would be required to finance Phases 2 and 3 of the project (Ban 2013; HDWD 2012b).

The cost of a private property connection averages about $2,000. HDWD is applying for low-interest loans to help finance private property connections over 30 years. Property owners who opt to finance under this program would pay $4 to $8 per month over 30 years. Property owners would also pay a monthly service charge for the cost to operate the treatment plant and sewer network, Charges for residential properties in Phase 1 are expected to range from $36 per single-family residence to $21.60 per mobile home.

Wastewater Collection

Approximately 77 miles of sewers are planned for Phase 1 of the water reclamation system, consisting of approximately 74.7 miles of gravity sewers and 2.3 miles of force mains, that is, pressurized sewers conveying wastewater from a pump station to another gravity sewer. Sewers would range from 8 to 36 inches in diameter (MWH 2009b).

Treated Wastewater Disposal

All treated wastewater would be percolated into the Warren Valley Basin at ponds next to the proposed wastewater treatment facility.

Regulatory Setting

The regulatory setting for wastewater treatment and collection includes the federal Clean Water Act (United States Code, Title 33, Sections 1251 et seq.); National Pollutant Discharge Elimination System regulations (Code of Federal Regulations Title 40 Parts 122 et seq.); the California Water Quality Control Act, also known as the Porter-Cologne Act (California Water Code Sections 13000 et seq.); and the Basin Plan for the Colorado River Basin issued by the CRBRWQCB in 2006. These are described in detail in Section 5.8.1, Environmental Setting, of Section 5.8, *Hydrology and Water Quality*, of this DEIR.

5.15.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

U-2 Would 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.

U-5 Would result in a determination by the wastewater treatment provider which serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

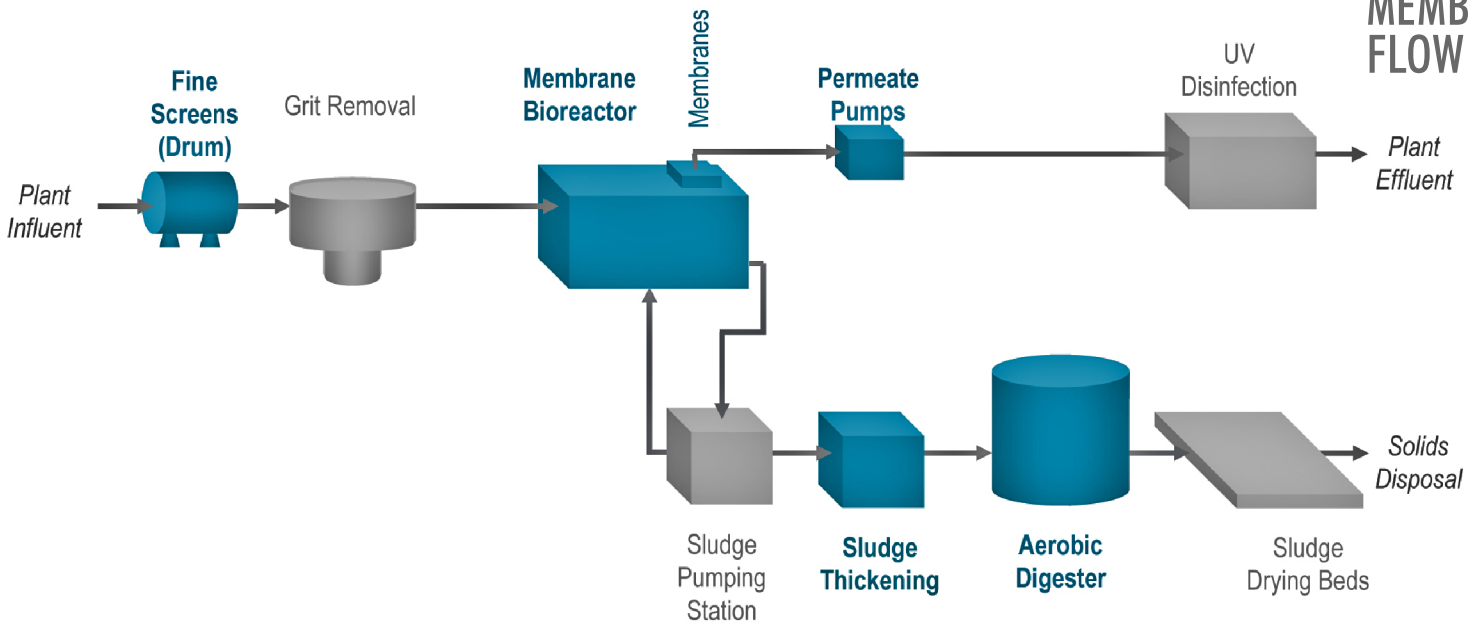
5.15.2.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.15-2: ***THE HI-DESERT WATER DISTRICT WOULD NEED TO EXPAND EXISTING WASTEWATER TREATMENT AND WATER RECLAMATION SYSTEMS TO SERVE THE TOWN OF YUCCA VALLEY AT GENERAL PLAN BUILDOUT. [THRESHOLDS U-1, U-2 (PART), AND U-5]***

Figure 5.15-3

MEMBRANE BIOREACTOR PROCESS FLOW SCHEMATIC



<u>UV Disinfection</u> Type Design Dose Design Effluent Transmittance	 Low pressure, high intensity 100 mW-sec/cm^2 55%
<u>Solids Handling</u> Net Yield Ratio Dewatering Equipment	 0.80 lb TSS/lb BOD_{rem} Sludge drying beds

YUCCA VALLEY GENERAL PLAN DRAFT EIR

TYV-01 08.26.13

Source: MWH 2009

THE PLANNING CENTER DC&E

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Impact Analysis:

Forecast Wastewater Generation Due to General Plan Update Buildout

Wastewater generation of 80 gallons per person per day (gpcd) was assumed in design of the proposed wastewater treatment system for Yucca Valley (Ban 2013). No reduction in wastewater generation in future years related to water conservation measures is assumed. Therefore, at General Plan Update buildout population of 64,565, estimated wastewater generation is approximately 5.17 mgd.

Most of the northern part of the Town and the southwest corner of the Town are outside of the service area of the proposed wastewater treatment and water reclamation system. Until or unless HDWD chooses to expand the wastewater treatment and collection system beyond Phase 3, residents and businesses in those areas would continue to dispose of wastewater via septic tanks or packaged wastewater treatment systems.

Planned Wastewater Treatment Capacity

At completion of Phases 1, 2, and 3, the wastewater treatment system would have capacity of 4 mgd. Completion of Phase 3 is scheduled for 2022. In 2035, wastewater generation in HDWD's entire service area is forecast at about 2.57 mgd (Kennedy-Jenks 2011).

Wastewater generation from the Town of Yucca Valley at full buildout of the General Plan Update, 5.17 mgd, would exceed the 4 mgd capacity of the wastewater treatment system at completion of Phase 3. At ultimate buildout, the wastewater treatment system would have capacity of 6 mgd, adequate for wastewater generation from the Town at full General Plan buildout. Expansions of the wastewater treatment system beyond Phase 3 have not been planned or funded. Such expansions would be planned and funded as required by growth in the Town and in HDWD's service area.

5.15.2.4 Relevant General Plan Update Policies

Land Use Element

Balanced Land Uses

LU 1-1 Encourage infill development to maximize the efficiency of existing and planned public services, facilities, and infrastructure.

LU 1-3 Require new projects to pay their fair share cost of, or make necessary improvements to, public facilities, infrastructure and services that are impacted by the new demands generated by new development.

LU 1-16 Require high quality building design, property maintenance, amenities for pedestrian access, and adequate circulation, utilities, and infrastructure.

Special Policy Areas

LU 2-9 Coordinate with the Hi-Desert Water District to facilitate development of a new wastewater treatment plant in the area (East Side SPA).

Open Space and Conservation Element

Water Resources

OSC 5-4 Participate in regional water planning efforts to protect groundwater resources and to assist the HDWD in implementation of its wastewater collection and treatment system.

OSC 6-2 Coordinate with the Hi-Desert Water District to implement the wastewater collection and treatment system.

5.15.2.5 Existing Regulations

Federal

- United States Code, Title 33, Sections 1251 et seq.: Clean Water Act
- Code of Federal Regulations Title 40 Parts 122 et seq.: National Pollutant Discharge Elimination System.

State

- California Water Code Sections 13000 et seq.: Porter-Cologne Water Quality Act

Regional

- Basin Plan, Colorado River Basin Regional Water Quality Control Board

5.15.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, Impact 5.15-2 would be less than significant.

5.15.2.7 Mitigation Measures

No mitigation measures are required.

5.15.2.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.15.3 Storm Drainage Systems

5.15.3.1 Environmental Setting

Existing Conditions

Precipitation in the Lucerne Valley Planning Area of the Colorado River Basin occurs mostly as rainfall, with some snowfall in the San Bernardino Mountains. Rainfall is sporadic, and amounts vary widely with location. Mean annual precipitation ranges from 16 inches in the San Bernardino Mountains to less than 3 inches in the Bristol Lake (dry) area. The average annual rainfall over the entire planning area is 5 inches. Little of the rainwater percolates into the groundwater table; most is lost by evaporation and by evapotranspiration.

A significant portion of Yucca Valley encompasses alluvial fans or plains that slope gradually from the base of the mountains. Most of these areas have at least scattered development; however, higher density development is

present on the alluvial fans in the main valley, between the Sawtooth and Little San Bernardino Mountains. Most of the existing development in Yucca Valley has been completed without significant alteration to the natural terrain. As a result, natural drainage courses pass through developed or semideveloped areas. Small channels pass through private yards, and some structures are built within the flow paths of shallow drainages. Most streets, many of which are unpaved, follow the natural contours of the land, crossing arroyos and gullies without the benefit of culverts or bridges. These crossings can quickly become filled with fast-moving floodwaters, trapping vehicles or washing them downstream. Where flows are concentrated or obstructed, the sandy soils that are prevalent can easily erode, forming new gullies and undermining structures.

Development in Yucca Valley has occurred in a piecemeal fashion over the years, much of it before the Town incorporated, and without the benefit of a planned drainage network. Many existing drainage courses are unimproved, and brief but intense storms can quickly overwhelm them, pushing water and sediment over low-lying areas and making unpaved roads impassable. The number of flood control facilities in the Town is limited, and these are mostly in the lowest part of the main valley along Yucca Wash. Some of these improvements have been made under the direction of the San Bernardino County Flood Control District (SBCFCD), and others have been constructed by developers as a condition of approval for their projects.

Regional Facilities. The SBCFCD operates and maintains regional flood control facilities along Yucca Wash and small portions of several tributaries, including Old Woman Springs Creek, Covington Wash, Burnt Mountain Creek, Long Canyon, High School Canyon, Hospital Canyon, and Church Street. These improvements consist mostly of open, graded earth channels, locally with rock reinforcements. Levees are present along the eastern portion of the Yucca Wash and Burnt Creek channels. Desilting basins are present in Long Canyon and Old Woman Springs Creek (see Figure 5.8-2, *Drainage Facilities*).

Local Facilities. The Town of Yucca Valley has the responsibility of maintaining local flood control improvements. These mostly consist of small unlined earth channels, although some sections are locally lined with concrete or have some form of slope protection. Some streets are constructed with high curbs, so that they function as flood control channels during storms.

Master Plan of Drainage

A Master Plan of Drainage (MPD) for the Town of Yucca Valley was prepared for the San Bernardino County Flood Control District in 1999 (Tettemer 1999). The MPD analyzed and estimated costs of two general scenarios: a detained system using detention basins and a nondetained system. The detained system was found to be less costly, $102 million compared to $121 million for the nondetained system. Proposed drainage improvements identified in the 1999 MPD include:

Channels

- Water Canyon (partly revetted soft bottom, partly rock lined)
- Acoma Outlet Channel (rock lined)
- West Burnt Mountain (part soft-bottom, part rock lined)
- East Burnt Mountain (part concrete;, part underground concrete; part rock lined, part revetted soft bottom)
- Buena Vista Wash (soft bottom)
- Sage (rock lined)
- Old Woman Springs (part rock lined, part rock-revetted soft bottom)
- Covington Wash (rock-revetted soft bottom)
- Sierra Vista Wash (part rock lined, part rock-revetted soft bottom)

Drains

- La Honda (underground)
- Inca Trail
- Palm Avenue
- Kickapoo

Street drains: Improvements to several additional streets were planned, similar to those of existing street drains.

Basins

Seven basins were included in the MPD: one existing basin (Old Woman Springs), an expansion to a second existing basin (Long Canyon), and five planned basins. All basins except Old Woman Springs Basin were sized to hold the debris volume from a 100-year storm. Selected characteristics of the five planned and one expanded basins are provided below.

- Water Canyon Basin: 438 af storage capacity, 126,000 cubic yards (cy) debris capacity, 35 acres.
- Kickapoo Basin: 32 af storage capacity, 26,500 cy debris capacity, 8 acres.
- Acoma Basin: 90 af storage capacity, 57,000 cy debris capacity, 10 acres.
- Long Canyon Basin (expanded): 130 af storage capacity, 108,000 cy debris capacity, 15 acres.
- East Burnt Mountain Basin: 194 af storage capacity, 39,000 cy debris capacity, 20 acres.
- West Burnt Mountain Basin: 96 af storage capacity, 50,000 cy debris capacity, 20 acres.

Based on a survey of locations of proposed facilities using Google Satellite View in May 2013, the Old Woman Springs Channel has been built, both upstream and downstream of Old Woman Springs Basin. Remaining proposed facilities in the 1999 MPD have not yet been built.

Flood Zones

There are 100-year flood zones in the Town along Pinyon Creek, Water Creek, Yucca Wash, Hospital Canyon, Long Canyon, West and East Burnt Mountain Creeks, Covington Wash, as well as a few other drainages (see Figure 5.8-5, *Flood Hazard Zones*).

Regulatory Setting

Drainage

Town of Yucca Valley

The Town of Yucca Valley charges a development impact fee for construction and maintenance of general facilities, park facilities, trail facilities, storm drain facilities, and street and traffic facilities, authorized by Municipal Code Chapter 3.40. The fee amounts set forth by Ordinance No. 217 on October 19, 2010, are as follows:

- Single-family residential development $9,081.00 per unit
- Multi-family residential development $6,352.00 per unit
- Commercial development $7,735.00 per 1,000 square feet
- Office development $7,038.00 per 1,000 square feet
- Industrial development $3,176.00 per 1,000 square feet

The amounts of the development impact fees are amended from time to time by the Town Council.

Flood Hazards and Flood Insurance

Regulations pertaining to the National Flood Insurance Program and Federal Emergency Management Agency flood hazard zones are described in Section 5.8, *Hydrology and Water Quality*.

5.15.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-3 Would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.15.3.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.15-3: ***DEVELOPMENT PURSUANT TO THE PROPOSED GENERAL PLAN UPDATE WOULD INCREASE SURFACE WATER FLOWS INTO DRAINAGE SYSTEMS WITHIN THE AFFECTED WATERSHEDS AS A RESULT OF AN INCREASE IN IMPERVIOUS SURFACES IN THE TOWN. HOWEVER, THE TOWN'S MASTER PLAN OF DRAINAGE WOULD ACCOMMODATE ANTICIPATED STORMWATER FLOWS WITHIN THE TOWN OF YUCCA VALLEY. [THRESHOLD U-3]***

Impact Analysis:

Increases in Impervious Areas and Drainage Flows

The proposed General Plan Update would apply to the entire Town. At buildout of the General Plan Update, 98.5 percent of the Town's 25,492 acres—that is, 25,106 acres—would be designated for some type of developed land use, with the remaining 386 acres designated for Open Space – Conservation. Currently, 16,661 acres, or 65.4 percent of the Town, consist of vacant land. Therefore, General Plan Update implementation would involve development of 16,275 acres (that is, 16,661 – 386; or 63.8 percent of the Town's area) of currently vacant land. Buildout of the proposed General Plan Update would increase the amount of impervious surfaces in the Town, thus increasing surface water flows into drainage systems within the four watersheds in the Town.

Required Drainage Improvements

Buildout of the General Plan Update would require completion of all of the planned facilities in the MPD. Each development pursuant to the General Plan Update would be required to pay a Development Impact Fee to the Town of Yucca Valley to pay for construction and maintenance of public infrastructure facilities, including drainage facilities. Each development would be subject to independent CEQA review that would analyze impacts of construction of required offsite infrastructure improvements to ensure no flooding on- or offsite. In addition, once the Town reaches the threshold population density to be included in the Statewide Small MS4 Permit, SRWCB Order No. 2013-0001-DWQ, (1,000 persons per square mile), projects developed pursuant to the General Plan Update that build or replace 5,000 square feet of impervious surfaces would be required to minimize runoff per provisions of the Small MS4 Permit.

5.15.3.4 Relevant General Plan Update Policies

Land Use Element

Balanced Land Uses

LU 1-1 Encourage infill development to maximize the efficiency of existing and planned public services, facilities, and infrastructure.

LU 1-3 Require new projects to pay their fair share cost of, or make necessary improvements to, public facilities, infrastructure and services that are impacted by the new demands generated by new development.

LU 1-16 Require high quality building design, property maintenance, amenities for pedestrian access, and adequate circulation, utilities, and infrastructure.

Open Space and Conservation Element

Water Resources

OSC 5-2 Protect open spaces, natural habitat, floodplains, and wetland areas that serve as groundwater recharge areas; and participate in regional transportation/flood control planning to increase groundwater recharge concurrent with flood plain management practices.

OSC 5-3 Protect groundwater recharge and groundwater quality when considering new development projects.

OSC 5-4 Participate in regional water planning efforts to protect groundwater resources and to assist the HDWD in implementation of its wastewater collection and treatment system.

5.15.3.5 Existing Regulations

Town of Yucca Valley

- Municipal Code Chapter 3.40: Development Impact Fees

5.15.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, Impact 5.15-3 would be less than significant.

5.15.3.7 Mitigation Measures

No mitigation is required.

5.15.3.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.15.4 Solid Waste

5.15.4.1 Environmental Setting

Solid Waste Collection and Disposal

Solid waste from all land uses in the Town of Yucca Valley is collected by Burrtec Waste Industries.

Solid waste generated by land uses in Yucca Valley is received by landfills owned and operated by the San Bernardino County Department of Public Works Solid Waste Management Division (SWMD). In 2011, approximately 97 percent of solid waste generated in the town was disposed of at the Landers Sanitary Landfill in the unincorporated community of Landers, approximately 10 miles north of Yucca Valley. Landers Sanitary Landfill has permitted throughput of 1,200 tons per day; a remaining capacity of 765,000 cubic yards, or about 408,000 tons; actual disposal in 2011 averaged 155 tons per day;[5] and an estimated closing date of August 2018 (CalRecycle 2013a, 2013b).

SWMD plans to expand the Landers Sanitary Landfill and will be seeking a permit from CalRecycle for such expansion (Richardson 2013).

Solid Waste Diversion

The Integrated Waste Management Act (2000) requires all local jurisdictions to divert 50 percent of total annual solid waste tonnage to be recycled. In 2008, the requirements were modified to reflect a per capita requirement, rather than a tonnage. Each jurisdiction has both a per capita and per employee target diversion rate, which are calculated from the average of 50 percent of generation between base years 2003 through 2006, expressed in terms of per capita disposal.

The Town of Yucca Valley's target diversion rates are 9.2 pounds per capita per day and 42.3 pounds per employee per day. Table 5.15-5 provides the actual disposal tonnage and diversion rates between 2007 and 2011. The Town met both its per capita and per employee diversion target rates every year during that period.

Table 5.15-5
Yucca Valley Solid Waste Generation and Diversion Rates, 2005-2010

Year	Total Solid Waste (Tons)	Diversion Rate Per Capita (Pounds Per Day)		Diversion Rate Per Employee (Pounds Per Day)	
		Target	Actual	Target	Actual
2007	21,728	9.2	5.7	42.3	24.5
2008	18,189	9.2	4.7	42.3	20.5
2009	17,469	9.2	4.5	42.3	21.0
2010	16,471	9.2	4.4	42.3	22.0
2011	17,512	9.2	4.6	42.3	22.5

Sources: CalRecycle 2013c, Cal Recycle 2013d.
Note: Actual disposal rates at or below target rates are one of several measures of compliance with the diversion requirements of AB 939.

[5] Based on 300 operating days per year. Landers Sanitary Landfill is open six days per week, Monday–Saturday (SWMD 2013), except certain holidays.

Regulatory Setting

State

AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates; actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years disposal capacity for all jurisdictions within the county, or show a plan to transform or divert its waste.

Assembly Bill 341 (AB 341; Statutes of 2011, Chapter 476) increases statewide goal to increase waste diversion to 75 percent by 2020 and mandates commercial recycling (multifamily recycling also mandatory). AB 341 does not change requirements for local jurisdictions regarding solid waste diversion per AB 939 (CalRecycle 2012e).

5.15.4.2 *Thresholds of Significance*

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-6 Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

U-7 Would not comply with federal, state, and local statutes and regulations related to solid waste.

5.15.4.3 *Environmental Impacts*

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.15-4: ***EXISTING AND/OR PROPOSED FACILITIES WOULD BE ABLE TO ACCOMMODATE PROJECT-GENERATED SOLID WASTE AND COMPLY WITH RELATED SOLID WASTE REGULATIONS. [THRESHOLDS U-6 AND U-7]***

Impact Analysis:

Forecast Solid Waste Generation

Solid waste generation from the Town of Yucca Valley, including both residential and employment-generating land uses, was estimated in modeling for the greenhouse gas emissions analysis. The forecast is based on average solid waste generation during the three years 2009–2011, using data from CalRecycle, and is adjusted for estimated future increases in population and employment. Forecast generation in tons per year is:

- Existing Conditions: 17,151
- 2020: 18,174
- 2035 (SCAG):[6] 20,092
- Full buildout: 56,983

[6] Uses 2035 population and employment estimates for Town of Yucca Valley from SCAG 2012 Regional Transportation Plan growth forecast.

Landfill Capacity

The Landers Sanitary Landfill is described in Section 5.15.4.1, above. Landers Sanitary Landfill is scheduled to close in 2018 (Richardson 2013), but SWMD plans to expand the Landers Sanitary Landfill. Permitted capacity at the facility after the expansion has not been determined yet. Postexpansion capacity is expected to comply with the requirement of AB 939 that counties identify 15 years solid waste disposal capacity for all jurisdictions within the county; thus, it is anticipated to be adequate solid waste disposal capacity for the Town at least through 2030.

5.15.4.4 Relevant General Plan Update Policies

Land Use Element

Balanced Land Uses

LU 1-1 Encourage infill development to maximize the efficiency of existing and planned public services, facilities, and infrastructure.

LU 1-3 Require new projects to pay their fair share cost of, or make necessary improvements to, public facilities, infrastructure and services that are impacted by the new demands generated by new development.

LU 1-16 Require high quality building design, property maintenance, amenities for pedestrian access, and adequate circulation, utilities, and infrastructure.

Safety Element

Hazardous Materials

S 6-3 Encourage businesses to utilize practices and technologies that will reduce the generation of hazardous waste.

S 6-4 Promote the proper disposal, handling, transport, delivery, treatment, recovery, recycling, and storage of hazardous materials.

5.15.4.5 Existing Regulations

State

California Public Resources Code 40050 et seq.: AB 939, Integrated Solid Waste Management Act of 1989.

5.15.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, Impact 5.15-4 would be less than significant.

5.15.4.7 Mitigation Measures

No mitigation is required.

5.15.4.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.15.5 Utilities

5.15.5.1 Environmental Setting

Electricity

Electricity Supplies

Southern California Edison (SCE) supplies electricity to Yucca Valley. SCE's service area spans much of southern and eastern California, from parts of Riverside County on the southeast to part of Santa Barbara County on the southwest to Mono County on the north (CEC 2011a). Total electricity consumption in SCE's service area in gigawatt-hours is forecast to be 103,791 GWh in 2015 and to increase to 112,535 GWh in 2022 (CEC 2012a).

Electric-Generating Capacity in California

Existing

In 2011, about 200,000 GWh of electricity were generated in California, including that generated by government agencies, utilities, and commercial generators. Net imports of electricity into the state in 2011 amounted to approximately 85,000 GWh (CEC 2013). One electric generating facility in the Morongo Basin is shown on the California Energy Commission "California Power Plants" map, a solar facility near the City of Twentynine Palms (CEC 2012b).[7]

Planned and Under Construction

Renewable Generation: The California Public Utilities Commission has approved contracts with roughly 7,700 MW of in-state central-station resources that have yet become operational (a share of these have begun construction, but many have not.) Note that, despite contracts, a not-insignificant share of these will ultimately fail to come online. The state has implemented programs for distributed renewable generation—for example, rooftop solar—that have various targets that have yet to be reached. For example, the California Solar Initiative has a 3,000 MW target, 1,600 MW of which has been constructed. The Renewable Auction Mechanism and the Solar Photovoltaic Program have targets totaling roughly 2,100 MW, perhaps 500 MW of which have been contracted, less than 200 MW of which have begun operation. The Governor's Office has set an overall target of 12,000 MW of renewable distributed generation by 2020; existing programs (including those listed above) have targets totaling 9,000 MW, meaning that programs totaling 3,000 MW would need to be developed. Some 3,000 MW of this 12,000 are operational (Vidaver 2013).

Fossil Fuel Generation. 2,030 MW of gas-fired generation is under construction as of May 2013 (Vidaver 2013).

Electricity Transmission

Two transmission lines serve Yucca Valley, each carrying between 116 to 161 kV capacity; the two lines connect to higher-capacity transmission lines in the Coachella Valley. One SCE substation, the Yucca Substation, is in Yucca Valley (CEC 2012c).

[7] SCE obtains electricity from many sources distributed over a wide area; energy sources include natural gas, nuclear, and renewable energy, coal, and hydroelectric (SCE 2012).

Natural Gas

Supplies

The Southern California Gas Company (SoCalGas) supplies natural gas to Yucca Valley. SoCalGas serves most of southern California, from Imperial County on the south to San Luis Obispo County and part of Fresno County. Total supplies of natural gas available to SoCalGas are expected to remain stable at 3.875 billion cubic feet per day (bcfd) between 2015 and 2030. Total natural gas consumption in SoCalGas's service area is forecast to be 2,615 bcfd in 2015 and 2,619 bcfd in 2030 (CGEU 2012).

Transmission

Two natural gas transmission pipelines, part of SoCalGas's transmission pipeline network, pass east–west through the Morongo Basin. The pipelines connect to other SoCalGas pipelines in the Coachella Valley to the southwest, and in eastern San Bernardino County to the northeast (CEC 2011b).

Telephone

Verizon provides landline telephone service in Yucca Valley.

Cable

Time-Warner Cable provides cable television service in Yucca Valley.

Regulatory Setting

State

Assembly Bill 32, the Global Warming Solutions Act (2006)

Current State of California guidance and goals for reductions in greenhouse gas (GHG) emissions are generally embodied in Assembly Bill 32 (AB 32), the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05.

AB 32 directed the California air Resources Board (CARB) to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. Based on the GHG emissions inventory conducted for the Scoping Plan by CARB, GHG emissions in California by 2020 are anticipated to be approximately 596 million metric tons of CO_2 equivalence ($MMTCO_2e$). In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the State. The 2020 target requires a total emissions reduction of 169 $MMTCO_2e$, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e. 28.5 percent of 596 $MMTCO_2e$) (CARB 2008).[8]

In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO_2 per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and

[8] CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

programs to implement the plan by 2012. The Climate Action Registry Reporting Online Tool was established through the Climate Action Registry to track GHG emissions.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. Key elements of CARB's GHG reduction plan that may be applicable to the proposed project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress);
- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020);
- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011);
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted);
- Adopting and implementing measures pursuant to State laws and policies, including California's clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).[9]
- Creating target fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

California Building Code

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and updated triannually (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which go into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as CALGreen) was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011.

[9] On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and nonfederally regulated appliances.

5.15.5.2 *Thresholds of Significance*

Although not specifically in Appendix G of the CEQA Guidelines, the following additional threshold is also addressed in the impact analysis: a project would normally have a significant effect on the environment if the project:

U-8 Would increase demand for other public services or utilities.

5.15.5.3 *Environmental Impacts*

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.15-5: EXISTING AND/OR PROPOSED FACILITIES WOULD BE ABLE TO ACCOMMODATE PROJECT-GENERATED UTILITY DEMANDS. [NO SPECIFIC THRESHOLD]

Impact Analysis:

Electricity Demands

Electricity demands resulting from implementation of the General Plan Update are forecast as follows in kilowatt hours (Kwh) per year (one Gwh is 1,000,000 Kwh):

- 2012: 118 million
- 2020: 126 million
- 2035 SCAG:[10] 139 million
- Full buildout: 426 million

Total electricity consumption in SCE's service area is forecast to be 103,791 GWh in 2015 and to increase to 112,535 GWh in 2022 (CEC 2012a). SCE is forecast to have adequate electricity supplies to meet electricity demands resulting from General Plan Update buildout. Buildout of the General Plan Update would not require SCE to obtain additional electricity supplies beyond its currently forecast supplies. Electricity demands of full buildout would likely require new substations to transmit electricity for peak demands. Proposed substations would be subject to independent CEQA review; impacts of construction and operation of any additional needed substations would be identified and mitigated in CEQA review for those projects by SCE.

Natural Gas Demands

Forecast natural gas demands resulting from General Plan Update buildout, in therms per year,[11] are:

- 2012: 3.50 million

[10] Uses 2035 population and employment estimates for Town of Yucca Valley from SCAG 2012 Regional Transportation Plan growth forecast.

[11] One therm is equivalent to 97.1 cubic feet of natural gas.

- 2020: 3.71 million
- 2035 SCAG:[12] 4.10 million
- Full buildout: 11.49 million

Total supplies of natural gas available to SoCalGas are expected to remain stable at 3.875 billion cubic feet per day (bcfd), that is, 14.57 billion therms per day, between 2015 and 2030 (CGEU 2012). SoCalGas expects to have adequate natural gas supplies to meet demands from General Plan Update buildout, and buildout would not require SoCalGas to obtain new or expanded natural gas supplies.

5.15.5.4 Relevant General Plan Update Policies

Land Use Element

Balanced Land Uses

LU 1-1 Encourage infill development to maximize the efficiency of existing and planned public services, facilities, and infrastructure.

LU 1-3 Require new projects to pay their fair share cost of, or make necessary improvements to, public facilities, infrastructure and services that are impacted by the new demands generated by new development.

LU 1-16 Require high quality building design, property maintenance, amenities for pedestrian access, and adequate circulation, utilities, and infrastructure.

Open Space and Conservation Element

Energy Resources

OSC 9-1 Develop, promote, and implement long-term energy efficiency and demand management policies and standards for Town facilities, vehicles, and new development.

OSC 9-2 Support the development of renewable energy generation within the Town, provided that significant adverse environmental impacts associated with such development can be successfully mitigated.

OSC 9-3 Encourage the use of clean and/or renewable alternative energy sources for transportation, heating, and cooling and construction.

OSC 9-4 Encourage the reduction and recycling of household and business waste.

OSC 9-5 Ensure that any planned construction, demolition, addition, alteration, repair, remodel, landscaping, or grading projects divert all reusable, salvageable, and recyclable debris from landfill disposal.

OSC 9-6 Promote use of ride-sharing and mass transit as means of reducing transportation-related energy demand.

[12] Uses 2035 population and employment estimates for Town of Yucca Valley from SCAG 2012 Regional Transportation Plan growth forecast.

OSC 9-7 Encourage development proposals to participate in state, federal, and/or regional solar rebate and incentive programs.

OSC 9-8 Encourage new construction provided for in whole or in part with Town funds, to incorporate passive solar design features, such as daylighting and passive solar heating, where feasible.

OSC 9-9 Promote building design and construction that integrates alternative energy systems, including but not limited to solar, thermal, photovoltaics and other clean energy systems.

Greenhouse Gases

OSC 11-1 Continue to participate in and support the provisions of the San Bernardino Regional Greenhouse Gas Reduction Plan.

OSC 11-2 Encourage new development to be designed to take advantage of the desert climate through solar orientation, shading patterns, and other green building practices and technologies.

OSC 11-3 Maintain General Plan Land Use, Housing, and Transportation goals and policies to be aligned with, support, and enhance SCAG's Regional Transportation Plan and Sustainable Communities Strategy to achieve reductions in GHG emissions.

Implementation Actions

Land Use Element

LU2 Amend Development Code to require new residential subdivisions to have pads above the adjacent street grade. All lots must drain to the street frontage of the individual lot, unless otherwise approved by the Town Engineer.

LU3 Prioritize infrastructure improvements in areas with existing and expected concentrated forms of development, and consistent with the phasing of the Wastewater Treatment and Water Reclamation Plan developed by the Hi-Desert Water District.

Open Space and Conservation Element

OSC 23 Continue to support the Hi-Desert Water District's groundwater recharge program, while protecting recharge sites from potential impacts of proposed development.

OSC 24 Track data collected by HDWD's groundwater quality data monitoring program.

OSC 25 Continue to work with HDWD in the pursuit of outside financial resources to reduce the costs to property owners for wastewater system implementation.

OSC 26 Update water efficient-landscape guidelines, which address the use of drought-tolerant plant materials and irrigation standards in the Development Code in accordance with State law.

OSC 27 Provide development standards and guidelines for the construction of on-site storm water retention facilities that are consistent with community design standards and local and regional drainage plans.

OSC 36	Participate in the regional energy management and conservation efforts and encourage the expanded use of energy efficient and alternative fuels, buses with bike racks, and other system improvements including infrastructure for alternative energy vehicles that enhance overall energy efficiency and conservation.
OSC 37	Coordinate with the County to review land use applications proposing to develop solar or windfarms to protect view sheds and scenic resources of the community.
OSC 38	Continue the Town's efforts on community participation in reducing, reusing, and recycling household and business waste.
OSC 39	Provide informational materials and non-Town incentive program information to residents regarding available alternative energy and energy efficiency programs and rebates.
OSC 40	Evaluate the Town's ability to create a program to waive or reduce the permit fees on solar installation projects and promote state, federal, and private rebate programs.
OSC 45	Establish a goal for solar installations on new and existing homes as well as new commercial/industrial development to be achieved before 2020.
OSC 46	Pursue partnerships with other governmental entities and with private companies and Southern California Edison to establish incentive programs for renewable energy.

5.15.5.5 Existing Regulations

State

- Assembly Bill 32, the Global Warming Solutions Act (2006)
- CARB 2008 Scoping Plan
- 2013 Building and Energy Efficiency Standards, California Energy Commission
- California Code of Regulations, Title 24, Part 11: California Green Building Standards Code
- California Code of Regulations, Title 20, Sections 1601-1608: 2006 Appliance Efficiency Regulations

5.15.5.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, impact 5.15-5 would be less than significant.

5.15.5.7 Mitigation Measures

No mitigation is required.

5.15.5.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.15.6 References

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