3.1.9 Utilities and Service Systems

This section addresses the potential utilities and service systems impacts associated with implementation of The Villages – Escondido Country Club Project (Project). The utilities and services analyzed in this section include water supply, wastewater/sewer service, stormwater, and solid waste. The analysis in the this section is based on information derived from the following Project-specific technical reports prepared by Dexter Wilson Engineering Inc.: *Overview of Water for the Escondido Country Club Project in the City of Escondido* and *Overview of Sewer for the Escondido Country Club Project in the City of Escondido*. Copies of the reports are included in this Environmental Impact Report (EIR) as Appendices 3.1.9-1 and 3.1.9-2.

3.1.9.1 Existing Conditions

3.1.9.1.1 Environmental Setting

3.1.9.1.1.1 Water Supply and Service

The City of Escondido (City) is located in northern San Diego County. The City is served partially by its own water service area, which does not directly align with the City boundaries, as well as other water providers. The City's water service area is bounded by Rincon, the Vista Irrigation District, and the Vallecitos Water District to the west; Rincon and the City of San Diego to the south; and the Valley Center Municipal Water District to the north, with some of those districts providing water within the City boundaries. Of the City's 20,000 acres, approximately 9,000 acres are currently residential and represent the majority of the City's water demands. Most are single-family residential homes. The City's residential population has risen steadily over the past four decades. As of January 1, 2015, the San Diego Association of Governments (SANDAG) estimated that the City of Escondido supported 147,294 people, and by 2050 it is anticipated that the City's population would reach over 173,500 residents (SANDAG 2016, 2013). The City of Escondido supplies potable water to approximately 26,000 residential, commercial, industrial, and agricultural customers. The City's water sources are (1) purchased (raw) water and (2) local (runoff) water.

<u>Local and Regional Water Supply and Distribution</u>

Two water purveyors serve the Project site. The western portion of the Project site is located within the City service area, or Escondido Exchange Area, and the eastern portion is located within the Rincon district (see Figure 3.1.9-1, Proposed Project Water District Coverage). These agencies are members of the San Diego County Water Authority (SDCWA), the region's wholesale water provider, which in turn is a member of the Metropolitan Water District of Southern California (Metropolitan). Metropolitan supplies water to approximately 18 million people in a 5,200-square-mile service area that includes portions of Ventura, Los Angeles,

Orange, San Bernardino, Riverside, and San Diego Counties. Each of these agencies is discussed below, in addition to a discussion on water supply planning for the region. Water service to the Project would be provided by Rincon via master meters.

Metropolitan Water District of Southern California

Metropolitan supplies water to approximately 19 million people in a 5,200-square-mile service area that includes portions of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego Counties. The Metropolitan service area covers a 70-mile-wide strip of the Southern California coastal plain, extending from the City of Oxnard on the north to the U.S./Mexico international border on the south. Close to half of the water used in this region is supplied by Metropolitan, and about 90% of the regional population receives at least some of its water from Metropolitan. Metropolitan provides approximately 71% of the total water supply for San Diego County, including incorporated areas such as the City. SDCWA is one of Metropolitan's 27 member agencies and is the largest Metropolitan member agency in terms of deliveries. Metropolitan imports water from two primary sources for Southern California. One source is the Colorado River, which is connected to the Metropolitan's six-county service area through a 242-mile aqueduct. Another source is water from Northern California, which supplies water through a series of dams and aqueducts known as the State Water Project (SWP).

San Diego County Water Authority

The SDCWA service area covers approximately 951,000 acres, services a population of almost three million people, and encompasses the western third of San Diego County. SDCWA provides up to 90% of the water used in the San Diego region by way of imported water from Metropolitan, a transfer agreement with Imperial Irrigation District, and agreements for the lining of the All American and Coachella Canals, via the Quantification Settlement Agreement of October 2003. Most of this water is obtained from the Colorado River and the SWP through a massive system of pipes and aqueducts.

SDCWA has 24 member agencies, 15 of which provide water to unincorporated areas of the County. SDCWA is responsible for ensuring a safe and reliable water supply to support the region's economy and quality of life for more than 3 million residents.

Currently, SDCWA imports approximately half of the water used in the San Diego region from Metropolitan via the Colorado River and the SWP through a system of pipes, aqueducts, and associated facilities. In 1991, Metropolitan provided approximately 95% of the San Diego region's water supply. In addition, SDCWA has invested heavily in promoting water conservation. This effort has helped drive down per-capita water use in the San Diego region by 39% compared to 1990, and 32% since 2007. Regional potable water use in 2015 was 21% lower than it was in 1990,

despite adding 800,000 people to the County's population (SDCWA 2015, p. 107). Thus, over the past two decades, as discussed further below, SDCWA has successfully increased its water supply reliability through supply diversification and conservation efforts (SDCWA 2015, p. 107).

Both Metropolitan and SDCWA provide water to their member agencies to meet projected water demand based on regional population forecasts. SANDAG is responsible for providing and updating land use planning and demographic forecasts for the County. Metropolitan and SDCWA update their water demand and supply estimates based on the most recent SANDAG forecasts approximately every 5 years to coincide with preparation of their respective Urban Water Management Plans (UWMPs) (SDCWA 2016a).

SDCWA's 2015 UWMP water supply reliability section summarizes the total projected water supplies and demands over the next 25 years in 5-year increments (2020–2040) under normal, single dry, and multiple dry water years within SDCWA's service area (which includes Escondido and Rincon).

In summary, SDCWA's results from its reliability assessment demonstrates that, even with very conservative assumptions regarding the availability of dry year supplies from Metropolitan, the San Diego region's existing and projected water resource mix is increasingly drought-resilient, but shortages still occur during a single dry year by 2035 (23,907 acre-feet per year (afy)), and during a multiple dry year beginning in 2028 (29,314 afy) (SDCWA 2016a, Sections 9.1-9.3). These shortages would be eliminated should Metropolitan supplies approach the supply levels projected in Metropolitan's 2015 UWMP for single dry and multiple dry water year supply capabilities (SDCWA 2016a, Section 9.3). Further, SDCWA will address these shortages by the following methods:

a. Implementing extraordinary conservation measures, achieved through voluntary and mandatory water-use restrictions that were used during the 2012–2016 drought period, as explained in Section 11.2.3 of SDCWA's 2015 UWMP.

b. Implementing its carryover storage program, which includes (i) in-region surface storage of approximately 100,000 acre-feet at San Vicente Reservoir, secured as part of the San Vicente Dam Raise project completed in 2014, with the carryover pool of 100,000 acre-feet full by June 2016, and (ii) out-of-region permanent groundwater storage allocation of a total of 70,000 acre-feet in water banks located in Kern County.

c. If necessary, securing dry year water transfers, which SDCWA successfully acquired and used during the 2007–2011 shortage management period as described in Section 11.2.4 of SDCWA's 2015 UWMP (SDCWA 2016a, Sections 9.3, 11.2.3, 11.2.4).

As stated above, SDCWA also has applied very conservative assumptions regarding the availability of dry-year supplies from Metropolitan. For instance, SDCWA has assumed that: (i) Metropolitan is limited to 1.4 million acre-feet of supplies due to dry conditions and increased reductions in deliveries from the SWP (no Delta improvements) and/or a reduction in Colorado River deliveries; and (ii) SDCWA receives its preferential right based on Metropolitan's current method of calculating such rights. These assumptions are highly conservative for the following reasons:

a. Metropolitan's 2015 UWMP's single dry-year and multiple dry-year supply capability projections do not report a shortage (Metropolitan 2016, Section 2.3, Tables 2-4, 2-5).

b. California is in the process of modernizing the Delta's water conveyance system in compliance with the federal Endangered Species Act (ESA) through a Section 7 consultation process and the state ESA via a California Fish and Game Code Section 2081(b) incidental take permit as part of the California WaterFix proposed project, which is currently under environmental review (SDCWA 2016a, Section 6.2.2).

SDCWA is in litigation with Metropolitan, challenging how Metropolitan calculates member agency preferential rights, and this litigation could result in significantly increased water supplies to SDCWA (VWD 2016, Section 6.1.1). SDCWA's 2015 Annual Report, titled *Beyond Drought: Reliable Water in an Era of Change*, states that SDCWA has diversified its supply sources to ensure water reliability in drought years when supplies from Metropolitan may be limited (SDCWA 2015). This diversification includes independent water transfers from the Colorado River, working with the member agencies to increase conservation, increasing the use of recycled water, and using local groundwater (SDCWA 2015). The report also states that SDCWA's most significant accomplishment of the year was proving the value of the region's long-term strategy to develop a diversified water portfolio. In a year of serious drought, SDCWA and its member agencies not only had enough water to meet demands, but they had enough to start storing water behind the raised San Vicente Dam, which was completed in 2014 (SDCWA 2015).

As part of that diversified portfolio, the Carlsbad Desalination Plant began commercial operations in December 2015, and can provide a highly reliable drought-resilient local potable water supply of up to 56,000 afy for the region, available in both normal and dry year conditions. Of the total plant production, SDCWA provided the opportunity for its member agencies to enter into contracts to purchase desalinated water.

In summary, water agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water supply, such as court rulings regarding listed fish species, State Water Resources Control Board (SWRCB) water quality restrictions, and recent drought conditions. Challenges such as these will always be present.

Nonetheless, the regional water supply agencies, Metropolitan and SDCWA, contemplate sufficient, reliable supplies to serve existing and projected future demand.

Further, for long-term planning purposes, water supplies and facilities are added on an incremental basis and ahead of need. It would be economically unsound to immediately, or in the short-term, acquire all the facilities and water supplies needed for the next 20 to 25 years. This would unfairly burden existing customers with costs that should be borne by future customers. There are numerous ongoing efforts to produce an adequate and reliable supply of good quality water for the San Diego region. Water consumers expect that their needs will continue to be met with a high degree of reliability and quality of service.

To that end, Metropolitan's and SDCWA's overall reliability goal is to deliver an adequate, reliable, and high-quality water supply for their customers, even during dry periods or severe droughts (SDCWA 2016, Section 1; Metropolitan 2016, Section 1). Based on conservative water supply and demand assumptions contained in Metropolitan's and SDCWA's 2015 UWMPs for a long-term planning horizon over the next 25 years, in combination with conservation of non-essential demand during certain dry years, Metropolitan and SDCWA have determined that implementing their related and coordinated water plans will successfully achieve this goal.

City of Escondido Water Service Area

Escondido's water service area, which is not aligned with the City's incorporated boundary, is comprised of a variety of land uses including residential, commercial, industrial, agricultural, open space, and orchards. Water is supplied to the City and its sphere of influence by five water agencies: the City of Escondido, the Rincon district, the Vallecitos Municipal Water District, the Valley Center Municipal Water District, and the Vista Irrigation District. The City serves water to 22 square miles within the 33-square-mile incorporated area, plus approximately 9 square miles outside the incorporated area. Rincon provides water service to approximately 11 square miles within the Escondido city limits. The City maintains service exchange agreements with Rincon, Vallecitos Water District, Valley Center Municipal Water District, and Vista Irrigation District.

City of Escondido

The City of Escondido is a retail water district, which supplies potable water to approximately 26,000 residential, commercial, industrial, and agricultural customers over a 20,000-acre service area. The City operates and maintains approximately 440 miles of pipe, 11 water reservoirs, 5 pump stations, 2 dams and associated lakes, and the Escondido–Vista Water Treatment Plant (EVWTP) (City of Escondido 2017).

Escondido has multiple sources of raw water, local water, and imported water from SDCWA. Local sources supply approximately 20% of the City's average potable water demand, and

purchased water supplies approximately 80% of the City's average potable water demand. Local water originates from the Escondido Creek watershed and well fields located near Lake Henshaw. This water is transferred to Lake Wohlford via an open canal. Additional water is purchased from the Colorado River and from Northern California via the SWP, through Metropolitan and SDCWA. The water is stored in Dixon Lake (City of Escondido 2017).

The EVWTP treats all raw water before it is delivered to Escondido customers. This treatment plant, which was constructed in 1976, has a capacity of 75 million gallons per day (mgd). The treatment of water includes coagulation, sedimentation, filtration, and disinfection to ensure destruction of pathogenic organisms. After treatment, water is distributed from the EVWTP to the City through a system of pipelines and reservoirs (City of Escondido 2017).

The City of Escondido owns and operates a recycled water treatment facility, the Hale Avenue Resource Recovery Facility (HARRF). Opened in 1959 and upgraded in 1973, 1980, 1998, and 1999, the HARRF is located in the southwestern portion of the City and has a treatment capacity of 18 mgd. The HARRF treats influent from the City of Escondido and the Rancho Bernardo community in the City of San Diego. The HARRF includes conventional treatment facilities in addition to providing full Title 22 recycled water capacity. The HARRF produces approximately 4 mgd of tertiary treated recycled water for use as irrigation on local golf courses, parks, school grounds, greenbelts, roadway medians, open spaces, and industrial use (City of Escondido 2017). The City maintains an existing recycled water line beneath Country Club Lane (New Urban West Inc. 2017).

The majority of homes in the City are single-family residences, with other residences including apartments and condominiums and mobile homes. SANDAG's 2030 forecast shows a projected 14% increase in population and 10% increase in housing units within the City.

As discussed previously, the Escondido water service area is not aligned with the City's incorporated boundary. The 2010 population within the water service area is approximately 132,300, and the 2030 forecast is 151,300, which is an increase of approximately 19,000 residents, or 14%. The population projection for 2035, which is the build-out year for the Escondido General Plan Study Areas, is 154,600. This is nearly a 17% increase over the 2010 water service area population.

From the late 1990s to 2002 there was an overall increase in water demands, and the highest historical annual water usage was recorded in 2002 at 28.7 mgd (32,100 afy). For the next 5 years, water use leveled off and decreased slightly, despite an annual population growth of over 2%. The overall reduction in water demands per-capita during this period can be partly attributed to the reduction in agriculture demands and lasting effects of water conservation programs (low-flow toilets and showerheads, drip irrigation systems, etc.).

Since 2007, water demands have dropped off rather dramatically. This recent decline is due to a combination of factors, most notably the economic recession, rising water rates, and drought conditions. Escondido declared a Water Shortage Level 1–Water Watch Condition in October 2008, and a Stage 2–Water Alert Condition in July 2009. Mandated water-use restrictions included limited watering days and times, plus an 8% water use reduction. Lower than average summer temperatures in both 2009 and 2010 also contributed to the reduction in demand.

Residential water use, which includes single-family, multifamily, and mobile home residential accounts, comprised 61% of the total water demand while 15% was for agriculture. In 1996, agricultural water use comprised 17% of the total demand, and the 1987 Water Master Plan estimated agriculture demand as 24% of the total water demand.

The existing service area of the Escondido water distribution system is calculated to be approximately 18,100 acres based on the City of Escondido GIS for the water service pressure zone areas. This area calculation includes parcels that are outside of the City boundaries but within the existing City sphere of influence, and excludes the Country Club pressure zones that are supplied water from Rincon Municipal Water District, and the San Diego Zoo Safari Park, which are off-site delivery areas.

The 2030 service area will potentially increase by approximately 390 acres and the future annexed areas will be comprised primarily of low-density rural and residential estate land use. The existing service area boundary with Rincon Municipal Water District is assumed to remain unchanged. The average annual water demand projected for the City in 2030 is approximately 33,400 afy (29.8 mgd). The maximum day demand for 2030 is projected to be approximately 51.3 mgd (35,600 gallons per minute (gpm)).

Approximately 0.6 mgd of recycled water is currently delivered to customers within the Escondido water service area. The Project proposes to use recycled water for landscape irrigation.

Rincon Del Diablo Municipal Water District

The City also has numerous properties that receive water service through a 1994 exchange agreement with Rincon. These properties, referred to as the "Country Club" service area, are located north of State Route 78 (SR-78) and west of Interstate 15 (I-15) and are billed by Escondido but receive water from Rincon. Rincon, in turn, serves some areas of the City that can receive water service most efficiently from their distribution system. The exchange agreements are designed to provide the most efficient service to all residents within the City's boundary and sphere of influence.

Rincon is located in northern San Diego County, within the greater Escondido Valley, and is comprised of a parent district, two water improvement districts, and a fire district. Rincon is a

special district providing water and fire protection service within the cities of Escondido, San Marcos, and San Diego, and unincorporated areas of San Diego County. Rincon delivers potable and recycled water to a population of 30,000, through nearly 8,000 connections, representing residential, agricultural, landscape, and commercial/industrial water users.

Rincon covers 26,760 acres, has 129 miles of pipeline, 4 lift stations, 10 reservoirs, and 7,400 connections. Rincon imports 100% of its water from SDCWA and 100% of its recycled water from the HARRF. Rincon provides recycled water to large landscape sites for irrigation and to commercial sites for cooling towers and fire suppression (Rincon 2016b). Rincon's potable water distribution system and reservoirs have a total storage capacity of 25.7 million gallons. Average distribution is calculated at 10 mgd. Rincon's recycled water system consists of 6.7 miles of water mains, 2 pump stations, and 75 service connections. According to Rincon's 2015 UWMP, by 2030 Rincon's service area will contain only 400 undeveloped acres, indicating that the service area is nearly built out.

Factors Affecting Water Demand and Supply

Numerous factors affect water demand and sources of supply to meet demand. Primary factors include climate/weather and drought response, climate change, area demographics, population, economic conditions, and environmental and regulatory constraints. Each factor is described below.

Climate and Drought Response

The City's service area is situated in a semi-arid coastal environment characterized by mild temperatures throughout the year. Prolonged rainstorms are rare, with more than 80% of the region's rainfall occurring between November and March (City of Escondido 2016a). Variations in weather patterns affect regional short-term water requirements, causing reductions in water use during wet cycles and demand spikes during hot, dry periods. However, since a regional drought began gripping the American Southwest in 2002, only five water years (year ending September 30) have experienced above-average rainfall locally: 2003, 2005, 2010, 2011, and 2015. Temperatures also have been above average for the past few years, with new record warm years attained in 2014 and 2015 for the coastal region of Southern California, which includes SDCWA's service area. Water use typically has increased in accordance with the prevailing warmer, drier weather patterns. However, recent patterns show a divergence from the past, as drought restrictions statewide contributed to a year-over-year water use decrease in fiscal years 2015 and 2016 (SDCWA 2016, Section 1.7.2).

Governor Brown declared the statewide drought officially over in April 2017, due to a wetter than average rainy season. The normal precipitation for San Diego is 12.1 inches per rain year, which is

defined as October 1 to September 30. As of April 27, 2017, the water-year-to-date precipitation was 15.61 inches, which is 136% of the normal water-year-to-date precipitation (Graphiq 2017).

Regionally, over the past decade, California's water supplies have been limited as a result of increased environmental restrictions due to litigation affecting the SWP and the Central Valley Project operations (to protect listed fish species), coupled with two significant droughts: one from 2007 to 2011 and the other from 2012 to 2016 (SDCWA 2016, Section 11.2.3). Further, the American Southwest has been in the midst of a prolonged drought that began in the early 2000s and that has affected Colorado River water supply availability to Metropolitan (SDCWA 2016, Sections 1.7.2 and 11.2.3).

Drought conditions can adversely affect and reduce water supplies. However, agency drought responses, summarized below, have culminated in planning and actions taken by the California Department of Water Resources (DWR), Metropolitan, SDCWA, and its member agencies (including Escondido and Rincon). Based on SDCWA's analysis, such actions, addressed below, were effective in managing severe multi-year droughts.

In summary, since 2012, California has been in the midst of an unprecedented multi-year drought following record-breaking dry and warm weather across the state. In response to drought conditions, on January 17, 2014, Governor Brown proclaimed a state of emergency throughout California, calling for increased conservation across the state. In February 2014, SDCWA activated its *Water Shortage and Drought Response Plan*, notifying its member agencies of a Level I drought watch, and declaring implementation of a Stage I voluntary supply management program under the Water Shortage and Drought Response Plan (SDCWA 2016, Section 11.2.3).

In April 2014, in response to continued drought conditions, Governor Brown directed that the SWRCB adopt an emergency regulation calling for increased statewide water conservation. In July 2014, the SWRCB adopted such regulations for urban water conservation aimed at reducing outdoor water use in water agency service areas. Also in July 2014, SDCWA increased the regional drought response to a Level II drought alert, and implemented a Stage II supply enhancement under the Water Shortage and Drought Response Plan (SDCWA 2016, Section 11.2.3).

In the spring of 2015, dry conditions continued. In April 2015, Governor Brown issued an order directing the SWRCB to impose restrictions on urban suppliers to achieve a statewide reduction in potable urban water use of 25%. Following this direction, in May 2015, SDCWA issued additional requirements to its emergency regulation, including mandatory water-use reductions that ranged from 12% to 36% for SDCWA member agencies with an aggregate water conservation target of 20% (SDCWA 2016, Section 11.2.3).

Also in May 2015, Metropolitan's Board called for a 15% cutback in fiscal year 2016 deliveries in its service area. In response, in May 2015, SDCWA declared a mandatory supply cutback, approved member agency municipal and industrial and transitional special agricultural water rates, and required its member agencies to restrict irrigation of ornamental landscapes and turf with potable water. The result of such efforts was that the San Diego region effectively reduced its potable water use by 21% from June 2015 through February 2016, outperforming the state's aggregate regional target of 20% during the initial phase of unprecedented state water-use mandates (SDCWA 2016, Section 11.2.3).

In November 2015, Governor Brown issued an order extending the urban water-use restriction until October 31, 2016, and directing the SWRCB to consider modifying its restrictions. In February 2016, the SWRCB extended the emergency regulation through October 2016, and provided for adjustments to conservation standards for significant investments in new, local, drought-resilient sources of potable water supply (SDCWA 2016, Section 11.2.3).

In March 2016, the SWRCB certified that supplies from the Carlsbad Desalination Plant were drought-resilient, lowering the range of member agencies' conservation standards to between 8% and 28%, with the regional aggregate water conservation target reduced from 20% to about 13% (SDCWA 2016, Section 11.2.3).

In the winter of 2016, the state's water supply conditions improved somewhat, with an El Niño weather pattern bringing rain and snow to California. In March 2016, SDCWA modified its shortage management actions and rescinded its July 2014 notification of a regional Level II drought alert (SDCWA 2016, Section 11.2.3). In May 2016, Metropolitan's Board rescinded its member agency allocations effective May 10, 2016. In May 2016, SDCWA modified its shortage management actions to end member agency allocations effective May 26, 2016, and established a drought awareness effort. Also in May 2016, the SWRCB modified its emergency regulation from a mandated conservation standard to a self-certification approach, effective June 1, 2016, through January 2017.

During this time frame, SDCWA conducted a fiscal year 2016 analysis of water supply allocation from Metropolitan, combined with member agency dry-year local supplies and other diversified supplies from SDCWA, and compared those supplies to its 2014 water demands. The analysis showed that a projected shortage of less than 1% for the region, which demonstrated that the planning and actions taken by SDCWA and its member agencies were effective in managing severe multi-year droughts (SDCWA 2016, Section 11.2.3).

Governor Brown declared the statewide drought officially over in April 2017, due to two wetter-than-average rainy seasons, especially in Northern California. The normal precipitation for San Diego is 12.1 inches per rain year, which is defined as October 1 to September 30. As of April

27, 2017, the water-year-to-date precipitation was 15.61 inches, which is 136% of the normal water-year-to-date precipitation (Graphiq 2017).

Climate Change

SDCWA and its member agencies (including Escondido and Rincon) recognize the challenges that climate change poses to the San Diego region and are committed to proactively addressing climate change issues (SDCWA 2016, Sections 1.7.3, 2.4.4). In addition, DWR and Metropolitan have been committed to addressing the challenges of climate change for well over a decade.

For example, DWR prepared the *California Water Plan Update 2005*, which contained the first-ever assessment of potential climate change impacts in a California Water Plan. Volume 1, Chapter 4 of the plan, titled *Preparing for an Uncertain Future*, lists the potential impacts of global climate change based on more than a decade of scientific studies on the subject. Additionally, in July 2006, DWR prepared a report titled *Progress on Incorporating Climate Change into Management of California's Water Resources*. This report demonstrated how various analytical tools could be used to address issues related to climate change.

The results of the report indicated that climate change already had been observed; in the last 100 years, air temperatures have risen about one degree Fahrenheit; and there had been a documented greater variance in precipitation, with greater extremes in both flooding and droughts. Another key finding was that increases in air temperature were expected to have significant impacts on watersheds that traditionally receive at least some of their precipitation in the form of snow. The report also provided an overview of the advances that DWR has made since 2006 toward using future climate projection information to support decision making by quantifying possible impacts to water resources for a range of climate scenarios.

Climate change also poses several issues related to the availability and reliability of imported SWP water supplies. Reduction of snowpack patterns (the source of the SWP's water supply in Lake Oroville) and changes in hydrologic patterns, sea level, rainfall intensity, and statewide water demands are all possible should climate change prove to be increasing over time. Computer models have been developed to show water planners what types of effect climate change could have on water supply, and it is intended that agencies like SDCWA and the retail purveyors (including the City of Escondido and Rincon) can plan accordingly.

DWR's *State Water Project Final Delivery Reliability Report 2013* (2013 Delivery Reliability Report; DWR 2013) is intended to assist SWP contractors in assessing the delivery reliability of the SWP component of their overall water supplies. The stability and reliability of SWP water deliveries can be threatened by physical factors affecting facilities or water quality anywhere in the SWP

system. The Delta is particularly vulnerable, and climate change has the potential to simultaneously affect availability of source water, ability to convey water, and users' demands for water.

The 2013 Delivery Reliability Report (DWR 2013) continues DWR's efforts to assess the effects on the SWP from climate change, including decreased water availability with reduced snowpack, increased SWP water demands, and sea level rise. The updated 2013 report presented estimates of the SWP's delivery reliability for the then existing (2013) and future conditions (2033), and these estimates reflected hydrologic changes that could result from climate change (DWR 2013).

Further, DWR's final *State Water Project Delivery Capability Report* 2015 (2015 SWP Delivery Capability Report) provides updated estimates of the current (2015) and future (2035) SWP delivery capability and incorporates regulatory requirements for the SWP and Central Valley Project operations in accordance with U.S. Fish and Wildlife Service and National Marine Fisheries Service biological opinions. Estimates of future capability also reflect potential impacts of climate change and sea level rise.

In addition, Metropolitan has evaluated climate change effects relative to California's water resources, and has stated climate change may prove to be the most significant challenge to water supply reliability for Southern California (Metropolitan 2015, pp. 1.7-1.15). According to Metropolitan, it remains uncertain as to how the climate is changing in California; however, the potential outcomes of a changing climate will affect both supplies and demands. The vast majority of global circulation models show increasing air temperatures in Metropolitan's service area and in both the Northern California and Colorado River watersheds. In these watersheds, the reduced snowpack that will result from warmer temperatures will lead to the loss of the natural water management that snowpack provides. Warmer temperatures in Southern California will affect water demands by increasing the water requirements for plant life and landscapes and increasing evaporation rates in storage reservoirs. Reduced precipitation also will affect the natural recharge of groundwater and surface water resources.

According to Metropolitan, the past 10 years have given Southern California a glimpse into climate change challenges. Historically, local rainfall has been sharply below normal, and imported supply watersheds have already experienced the range of higher temperatures and reduced snowpack that is foreseen by climate change scientists. While uncertainties remain regarding the exact timing, magnitude, and regional impacts of these temperature and precipitation changes, researchers have identified several areas of concern for California's water resources. These include the following:

- Reduction in Sierra Nevada snowpack
- Reduction in runoff and river flow in the Colorado River basin

- Increased intensity and frequency of extreme weather events
- Rising sea levels resulting in the following:
    - Impacts to coastal groundwater basins due to seawater intrusion
    - Increased risk of damage from storms, high-tide events, and the erosion of levees
    - Potential pumping cutbacks on the SWP and Central Valley Project due to increased salinity

Other important issues of concern due to global climate change include the following:

- Effects on local supplies such as groundwater
- Changes in urban and agricultural demand levels and patterns
- Impacts to human health from water-borne pathogens and water quality degradation
- Declines in ecosystem health and function
- Alterations to power generation and pumping regimes

As shown above, Metropolitan—a major steward of the region's water supply resources—has been committed to facing the challenge of climate change for well over a decade. Metropolitan's *Integrated Water Resources Plan 2015 Update* (IRP; Metropolitan 2015) sets forth the adaptation actions that Metropolitan has taken to increase the proportion of the region's water resources, and to make them more resilient to projected climate change effects. Metropolitan's 2015 report continues to refine adaptive management strategies to ensure water supply reliability (Metropolitan 2015, pp. 1-11-1-15).

In addition, SDCWA has provided a climate change and sustainability management strategy since 2008. In addition, Section 2.4.4 of SDCWA's 2015 UWMP includes the acknowledgement that although definitive projections are still forthcoming with regard to the evaluation of potential climate change impacts on water demand, advances in climate modeling have occurred since SDCWA's 2010 UWMP.

Thus, SDCWA's 2015 UWMP evaluated five climate change scenarios using regional-average projections of changes in precipitation and temperature for two future climate change projection periods (2040 to 2060 and 2080 to 2099) (SDCWA 2016a, Section 2.4.4). Section 10 of the 2015 UWMP also included a scenario planning process that addressed adapting to potential supply and demand impacts due to climate change (SDCWA 2016a, Section 10).

In general, SDCWA found that all projections indicated increases in average temperatures in the future, while various projections indicated increases or decreases in average precipitation. No

dramatic shifts in seasonal patterns of precipitation and average maximum daily temperature for the San Diego region were observed under any of the five scenarios. However, on average, annual amounts of precipitation tend to be more concentrated in the winter, with lessor proportions of total annual precipitation occurring in the spring and fall (SDCWA 2016a, Section 2.4.4).

SDCWA addressed the 2040–2060 and 2080–2099 climate projection periods. Under the 2040-2060 climate projection period, all of SDCWA's climate change scenarios resulted in higher estimates of total water use above the baseline normal weather demands. The average climate change impact ranged from negligible under the cool/wet scenario to about a 9% increase in the warm/dry scenario under one of the four climate scenarios. Under the 2080–2090 climate projection period, average projected impacts range from a 2% decrease in demands relative to historical normal weather conditions to about a 16% increase under the warm/dry scenario.

Environmental and Regulatory Constraints

Water supplies in California are based in part around the Sacramento-San Joaquin Delta (Delta). Water from Northern California surface waters and snowmelt traverses to and through the Delta to Central Valley urban and agricultural users, and to Southern California through aqueducts, dams, and other water-conveyance facilities. The Delta also provides important habitat for fish species listed as threatened or endangered under either the federal ESA or the California ESA, or both. Several resource agencies have taken action to protect these species.

Regulatory requirements based on biological opinions issued by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service are particularly important to the coordinated operations of the SWP and the Central Valley Project.[1] These regulatory requirements are a result of litigation, which is summarized in SDCWA's 2015 UWMP, Section 6 (Environmental Considerations) (SDCWA 2016a).

As stated above, DWR's most recent 2015 Delivery Capability Report updates estimates of the current (2015) and future (2035) SWP delivery capability and incorporates regulatory requirements for SWP and Central Valley Project operations in accordance with U.S. Fish and Wildlife Service and National Marine Fisheries Service biological opinions. Estimates of future capability also reflect potential impacts of climate change and sea level rise (DWR 2015).

[1] The California Department of Fish and Game, now Department of Fish and Wildlife, issued consistency determinations for the federal biological opinions under Section 2080.1 of the California Fish and Game Code. The consistency determinations stated that the biological opinions were consistent with the California Endangered Species Act. The consistency determinations allowed incidental take of species listed under both the federal Endangered Species Act and the California Endangered Species Act to occur during State Water Project and Central Valley Project operations without requiring DWR or the U.S. Bureau of Reclamation to obtain separate state-issued Incidental Take Permits.

Water Supply Planning

The California Urban Water Management Planning Act requires that each urban water supplier providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, prepare, update, and adopt a UWMP at least once every 5 years. This applies to Metropolitan, SDCWA, Escondido, and Rincon. The intent of a UWMP is to present important information on water supply, water usage, recycled water, and water-use efficiency programs in a specific water district's service area. A UWMP also serves as a valuable resource for planners and policy makers over a 25-year time frame. The most current UWMPs are from 2015.

The UWMP process ensures that water supplies are being planned to meet future growth. UWMPs are developed to manage the uncertainties and variability of multiple supply sources and demands over the long term through preferred water resources strategy adoption and resource development target approvals for implementation. Water districts update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every 5 years to coincide with preparation of their UWMPs. Escondido and Rincon rely on the UWMPs and Integrated Resources Plans (IRPs) of Metropolitan and the UWMP and Regional Water Facilities Master Plan of SDCWA for documentation of supplies available to meet projected demands. Metropolitan's IRP and SDCWA's Regional Water Facilities Master Plan are discussed further below.

Each UWMP includes normal, single dry, and multiple dry water year supply and demand assessments. These projections are intended to describe the reliability of the water supply and vulnerability to seasonal or climatic shortages, to the extent practical. Normal water years are considered to be years that experience average rainfall for the respective district. Single dry water years are considered 1-year events of less than average rainfall, surrounded by average rainfall years. Multiple dry water years refer to a series of below-average rainfall years for particular areas. Projections for multiple dry years are made in 5-year increments.

In its 2015 UWMP, Metropolitan determined that adequate water supplies would be available to serve existing service areas under normal water year, single dry water year, and multiple dry water year conditions through the year 2040. SDCWA's 2015 UWMP determined that adequate water supplies would be available to serve existing service areas under normal water years and single dry water years; however, under multiple dry water years, some level of water supply shortages could occur. The 2015 UWMPs for Escondido and Rincon are consistent with SDCWA's 2015 UWMP projections, indicating adequate supply during normal water years and single dry water years, with potential shortages during multiple dry water years. Water shortages would be addressed through various management actions by each individual water agency, such as the implementation of extensive conservation measures. The 2015 UWMPs for Escondido and

Rincon are consistent with Metropolitan's 2015 UWMP projections and determine that adequate water supplies would be available to serve existing service areas under normal water year, single dry water year, and multiple dry water year conditions through the year 2040.

Metropolitan Water District of Southern California

Metropolitan's 2015 UWMP provides a comprehensive summary of Metropolitan's demand and supply outlook through 2040. Specifically, Metropolitan's 2015 UWMP describes and evaluates sources of water supply, efficient uses of water, demand management measures, implementation strategies and schedules, and other relevant information and programs. The plan is updated every 5 years to reflect changes in water demand and supply projections. According to the updated 2015 plan, Metropolitan has supply capabilities sufficient to meet expected demands from 2020 through 2040 under single dry and multiple dry year conditions, as well as average year conditions (Metropolitan 2016, Executive Summary).

The 2015 UWMP does not explicitly discuss specific activities undertaken—that is the role of Metropolitan's IRP (Metropolitan 2015). The 2015 IRP represents Metropolitan's comprehensive resource planning process and serves as its blueprint for long-term water reliability, including key supply development and water use efficiency goals. This IRP requires agencies having responsibilities for water management to develop water management plans for incorporation in a regional process that integrates the plans of various agencies. The Metropolitan IRP, updated every 5 years, was first adopted in 1996 and last updated in 2015. The 2015 IRP seeks to stabilize Metropolitan's traditional imported water supplies and establish water reserves to withstand California's inevitable dry cycles and growth in water demand. To stabilize Metropolitan's water supplies, the 2015 IRP identifies a reliability strategy that include achieving additional conservation savings, developing additional local water supplies, maintaining Colorado River aqueduct supplies, stabilizing SWP supplies, and maximizing the effectiveness of storage and transfer. This strategy is essential to providing for a robust water supply mix that will ensure a high degree of reliability into the future.

Metropolitan's 2015 IRP identifies developments in imported and local water supplies and in water conservation (Metropolitan 2015). For imported supplies, Metropolitan looks to make investments in additional partnerships and initiatives to maximize Colorado River aqueduct deliveries in dry years. Metropolitan is also looking to make ecologically sound infrastructure investments in the SWP so that the water system can capture sufficient supplies to help meet average-year demands and to refill Metropolitan's storage network in above-average and wet years (Metropolitan 2015). Lowering regional residential demand by 20% by the year 2020 (compared to a baseline established in 2009), reducing water use from outdoor landscaping, and advancing additional local supplies are among the planned actions to keep supply and demand in balance (Metropolitan 2015).

Metropolitan's IRP identifies a mix of resources (imported and local) to provide 100% reliability for full-service demand through the attainment of regional targets set for conservation, local supply, SWP supply, Colorado River supply, groundwater banking, and water transfers through the year 2040 (Metropolitan 2015).

Metropolitan's *Water Surplus and Drought Management Plan*, developed in 1999, outlines policies that guide water surplus and shortage management and establish a basis for addressing shortages in an equitable and efficient manner (Metropolitan 1999). Metropolitan's *Long-Term Conservation Plan*, prepared in August 2011, guides Metropolitan's investments and communication strategy for reducing regional water demands (Metropolitan 2011). See above for discussion of Metropolitan's commitment to addressing the challenges of climate change as it relates to water supply.

San Diego County Water Authority

In addition to its 2015 UWMP, SDCWA maintains a Regional Water Facilities Optimization and Master Plan Update (2013) that serves as the roadmap for identifying a diverse mix of water supply sources and implementing the associated facilities and projects needed through year 2035 to ensure a safe and reliable supply. The 2013 Update analyzes future water demands and different ways to meet those demands. It evaluates the emergence of new energy management and renewable energy opportunities, and the need to safeguard the regional aqueduct system from potential vulnerabilities and natural hazards. This planning approach involves development and analysis of several alternatives: (1) testing the reliability of the current/baseline SDCWA system against for potential planning scenarios representing future external conditions affecting projected demands and supplies and predicted reliability gaps; (2) developing facility options that would close the predicted reliability gaps, based on a source of future delivery of supply; (3) evaluating options on the basis of reliability, system utilization, cost, energy use, and qualitative criteria; and (4) developing an implementation process that varies in response to changes in external conditions. In the end, the 2013 Update concludes that recent investments developing increased storage at the San Vicente Reservoir, new treatment facilities at the Twin Oaks Valley Water Treatment Plant, and new drought-proof local supply from the Carlsbad Desalination Project further bolstered regional supply reliability. With the addition of these facilities, along with planned near-term investments, the 2013 Update concluded the aqueduct system is fully capable of meeting regional demands through the mid-2020s.

In addition, SDCWA, the County of San Diego, and the City of San Diego collaboratively maintain an Integrated Regional Water Management Plan (IRWMP) for the San Diego region. The Final San Diego IRWMP, adopted in 2007 and recently updated in 2013, reflects a comprehensive approach to water resources planning that integrates ongoing local planning

efforts in order to maximize regional water management benefits and resolve any existing or potential conflicts. The San Diego IRWMP identifies programs and projects that best achieve the region's goals to optimize water supply reliability, and protect and enhance water quality, while providing stewardship of natural resources. The 2013 Update to San Diego IRWMP includes a description of the region and participants, regional objectives and priorities, water management strategies, implementation, impacts and benefits, data management, financing, stakeholder involvement, relationship to local planning, and state and federal coordination. IRWM planning was derived from California Proposition 50, approved by the voters in 2002, which set aside $380 million for IRWMP-related grants.

SDCWA also has a Water Shortage and Drought Response Plan (May 2006,updated in 2012, and currently under revision) which provides its member agencies with a series of potential actions to engage when faced with a shortage of imported water supplies due to prolonged drought conditions. Such actions help avoid or minimize impacts of shortages and ensure an equitable allocation of supplies throughout the San Diego region. SDCWA implemented its Drought Response Plan in 2009 to enhance and manage available water supplies, and updated the plan in April 2012, due to the statewide drought conditions and effect on water supply storage reservoirs.

To prepare the San Diego region for potential water shortages, in March 2008 SDCWA released a Model Drought Response Ordinance to its member agencies. The Model Drought Response Ordinance identifies four drought response levels that contain water-use restrictions that would help achieve demand reductions during water shortages. Member agencies, including Escondido and Rincon, used SDCWA's model to update their own ordinances to help provide consistency throughout the region on response levels and water use restrictions that may be undertaken to reduce water demand. See above for discussion of SDCWA's commitment to addressing the challenges of climate change as it relates to water supply.

City of Escondido

Escondido's 2015 UWMP uses the most recent data available and brings together policies and projects of the various divisions of the City's Utilities department. The 2015 UWMP addresses the City's water supply sources, including recycled water, groundwater, surface water, water conservation activities, and projected water demands. The 2015 UWMP presents a comparison of projected water supplies to water demands during normal, single dry, and multiple dry water years; provides the framework for long-term water planning within the City; and helps to support regional long-term planning.

According to the 2015 UWMP, Escondido supplies water to its customers through a single public water system. In addition, a small number of the City's customers are served by neighboring Rincon. These services are provided through long-standing exchange agreements.

The City also co-owns the EVWTP with Vista Irrigation District. The 2015 UWMP reports and reflects demands and supplies directly associated with Escondido's water service area. Rincon prepares its own UWMP.

In addition to Escondido's 2015 UWMP, the City plans for future water supplies through active participation with SDCWA. As a member agency, the City, through staff interaction, coordinates the projections and ability of SDCWA to provide an adequate water supply. The City also maintains a Water Distribution Master Plan (updated in 2012), which provides historic and projected water demands, evaluates water supply sources, establishes design criteria for fire flow, pipelines, storage reservoirs and pumping facilities, and makes recommendations for system improvements. The Water Distribution Master Plan Update considers existing and proposed land use as well as growth projections to evaluate elemental and system adequacy to provide service. Unit demand rates are also established to provide a guideline for planning and design purposes to properly size infrastructure. The City's Water Distribution Master Plan is updated approximately every 10 years, which includes updating and calibrating the system model. The City's long-term goal is to find ways to offset and/or supplement water supply, which includes maximizing use of local water, increasing the distribution and use of recycled water, and ultimately implementing indirect and direct potable reuse. Indirect potable reuse includes recharging groundwater aquifers and augmenting surface water reservoirs with recycled water. Recycled water is planned to serve as a reliable water source for the City due to its consistent availability.

In addition to maintaining its required UWMP and Water Distribution Master Plan, the City maintains a Strategic Business Plan, which identifies strategies to deliver excellent utilities services to the City's residents. The most recent Strategic Business Plan is for fiscal years 2010–2011 through 2014–2015. Water supply improvement projects identified in the Strategic Business Plan include replacing the Wohlford Dam and constructing a new water storage reservoir. Further, the City maintains a 5-Year Capital Improvement Program that summarizes anticipated resources and their estimated uses for major infrastructure and other capital construction, improvement, and maintenance projects. The most recent Capital Improvement Program is for the 2016–2017 through 2020–2021 fiscal years. The City's Water Utilities Capital Project Fund designates new construction and maintenance of existing facilities. This fund was created to account for capital projects associated with the construction and maintenance of the City's water distribution system. The water utilities system is financed and operated in a manner similar to a private enterprise with construction and maintenance costs financed or recovered primarily through charges for services. These revenues are recorded in the Water Utilities Operating Fund and then transferred to the Water Capital Projects Fund when projects are budgeted.

Rincon Del Diablo Municipal Water District

Rincon prepared its own 2015 UWMP in its capacity as a retail water district. Rincon coordinated with SDCWA, its wholesale supplier, in the preparation of supply and demand forecasts contained in Rincon's 2015 UWMP. Rincon estimated future demands using updated population projections provided by SDCWA.

In addition to its 2015 UWMP, Rincon implements Ordinance 15-120.2, Drought Response Plan (2015). The Response Plan was developed to provide a drought response strategy, as required by the California Water Code, which establishes methods and procedures to ensure that, in a time of shortage, available water resources are put to maximum beneficial use, and that the unreasonable method of use is prevented. The Response Plan contains four water shortage contingency rationing levels, which identify the levels of reduction that are required in the event of a drought and the resulting penalties if compliance is not achieved.

3.1.9.1.1.2 Wastewater Service

Wastewater Collection and Treatment Facilities

As noted above, the City owns and operates a wastewater treatment and disposal facility, HARRF. The City's HARRF is an 18 mgd capacity secondary-treatment wastewater treatment facility, located in the southwest section of the City, and includes conventional treatment facilities and associated operations and maintenance buildings. The HARRF treats influent from the entire City of Escondido and the City of San Diego's Rancho Bernardo Community. The City manages wastewater collection and treatment through a network of lift stations and sanitary sewer mains. Elevation differences require flows to be pumped to the HARRF. The City of San Diego maintains the collection system from Rancho Bernardo to the HARRF.

The HARRF currently produces 9 mgd of tertiary treated recycled water for landscape and industrial use. In the future, the City will continue to produce recycled water and utilize much of that water for distribution within the City's service area, which will help offset the need for additional potable water supplies. Additional treated recycled water produced at the HARRF is sold to other agencies and provides a source of revenue to the City. Water that is treated at the HARRF, but is not beneficially reused, is disposed of through the Escondido Land Outfall. The land outfall is approximately 14 miles long, and connects to the San Elijo Ocean Outfall, which is shared with the San Elijo Joint Powers Authority, and then to the Pacific Ocean. The effluent exits the pipeline approximately 1.5 miles offshore at a depth of 110 feet. The amount of wastewater collected in 2015 in the City's water service area was summarized in Escondido's 2015 UWMP. This number was calculated as 60% of the total water demands within the City's water service area for 2015, which was shown as the average sewer return rate reported in the City's 2012

Wastewater Master Plan. In addition, the 2015 UWMP provides the volumes of wastewater treated (11,388 acre-feet), discharged (10,858 acre-feet), and recycled (576 acre-feet) within the City's service area in 2015. The City intends to expand the HARRF to a capacity of 27 mgd for secondary wastewater treatment and 20 mgd for tertiary treatment (City of Escondido 2016a).

Sewer System

Wastewater services for the Project area are provided by Escondido. The sewer collection system in the vicinity of the site flows south to the City's Escondido Lift Station No. 4, which is located north of El Norte Parkway and east of Woodland Parkway. This lift station ultimately conveys sewage flow to the HARRF (Appendix 3.1.9-2). Wastewater that is not reclaimed flows overland to an ocean outfall.

Escondido maintains approximately 440 miles of pipelines, 14 pumping stations, and 14 miles of sewer outfall line serve as the sanitary collection and disposal system for the City's domestic and industrial wastewater (City of Escondido 2017). Several existing sewer mains from adjacent developments traverse through the existing golf course property in public sewer easements (New Urban West Inc. 2017). The majority of the system is gravity fed, although some pump stations exist in larger subdivisions and feed the system via force mains.

3.1.9.1.1.3 Storm Drain System

The Project site encompasses a natural drainage, which is a tributary to San Marcos Creek. Currently, stormwater from the site is currently conveyed by a series of concrete ditches into golf-related water features and toward four Project site discharge areas, from which runoff is ultimately conveyed to San Marcos Creek. The latest storm water permit issued by the San Diego Regional Water Quality Control Board (RWQCB) to the City of Escondido and other San Diego Region co-permittees (Order No. R9-2013-0001, and as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100), requires that stormwater best management practices (BMPs) be included in all development projects. A new City of Escondido Storm Water Design Manual went into effect on February 16, 2016 (City of Escondido 2016b).

3.1.9.1.1.4 Solid Waste Disposal

Escondido Disposal Inc. (Escondido Disposal) is responsible for the collection and disposal of solid waste and recyclables from homes, businesses, and industries in the City. Residential collection of solid waste by Escondido Disposal is transferred to the Escondido Disposal Transfer Station, where it is then taken to either the Sycamore or Otay Mesa Landfills. The Escondido Disposal Transfer Station is a 59,000-square-foot, covered, concrete floor space that has an annual permitted throughput of 902,500 tons. There are no other solid waste disposal or handling facilities within the City of Escondido.

The Otay and Sycamore landfills, which serve the City, are private landfills located outside of the City. The Otay Landfill is located in the City of Chula Vista, south of the Project, while the Sycamore Landfill is located in the City of Santee, also south of the Project. Table 3.1.9-1, Solid Waste Facility Capacity, identifies the existing capacity of the Otay and Sycamore Landfills. In addition to solid waste disposal services provided by Escondido Disposal, the City of Escondido Recycling & Waste Reduction Division operates a Recycling Hotline, promotes recycling through presentations in area schools, offers workshops on vermiculture, maintains the Household Hazardous Waste Program, contracts trash collection services with Escondido Disposal, and promotes citywide cleanup events.

Solid waste management has been recognized as an important regional issue in San Diego County because of limited landfill capacity, urban encroachment, and environmental concerns reducing potential facility expansions and replacement sites, environmental regulations, and the increased cost of developing and operating waste management facilities. Historically, the primary method of disposing of solid waste has been through the use of landfills. Since the early 1990s, there has been a growing emphasis to reduce the amount of solid waste being disposed of in landfills through integration of recycling and source reduction. There are seven active landfills in the San Diego region that serve both incorporated and unincorporated areas. The landfills currently operating in the County for public use are either privately owned and operated or are owned and operated by another local jurisdiction.

Since the early 1990s, there has been a growing emphasis to reduce the amount of solid waste being disposed of in landfills through integration of recycling and source reduction. As of April 1, 2016, businesses and multifamily residential dwellings of five or more units are required to recycle their organic waste, depending on the amount of waste generated per week. Organic waste is defined as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. However, multifamily dwellings are not required to have a food waste diversion program. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties.

3.1.9.1.2 Regulatory Setting

Numerous federal, state, regional, and local adopted plans and regulations governing water supply, wastewater, water quality, surface runoff (e.g., storm drains), and solid waste are pertinent to the Project. These plans and regulations are described below.

Federal

Federal Water Pollution Control Act of 1972 (Clean Water Act)

The principal federal law regulating water quality in the United States is the 1972 Federal Water Pollution Control Act, also known as the Clean Water Act. The fundamental purpose of the Clean Water Act is the protection of designated beneficial uses of water resources. The Clean Water Act establishes a system of water quality standards, discharge limitations, and permits; it requires states to adopt water quality standards to protect public health and welfare, enhance the quality of water, and serve the other purposes of the Clean Water Act. The Clean Water Act was amended in 1987 to include urban and stormwater runoff, which required many cities to obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater conveyance system discharges. Section 402(p) of the Clean Water Act prohibits discharges of pollutants contained in stormwater runoff, except in compliance with an NPDES permit, as more fully described below.

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers regulates discharges of dredged or fill material into waters of the United States, requiring issuance of a Section 404 permit. Under Section 401 of the Clean Water Act, a state water quality certification must be obtained whenever an application for a federal permit for discharge of pollutants into waters of the United States is submitted, such as a Section 404 permit. The Section 401 certification requires that any activity affecting waters of the United States be in compliance with all applicable water quality standards, limitations, and restrictions.

National Pollutant Discharge Elimination System

The 1987 amendments to the Clean Water Act required many cities to obtain an NPDES permit for stormwater conveyance system discharges. Section 402(p) of the Clean Water Act prohibits discharges of pollutants contained in stormwater runoff, except in compliance with an NPDES permit.

Safe Drinking Water Act

Passed in 1974 and amended in 1986 and 1996, the Safe Drinking Water Act grants the U.S. Environmental Protection Agency (EPA) the authority to set drinking water standards. Drinking water standards apply to public water systems, which provide water for human consumption through at least 15 service connections, or regularly serve at least 25 individuals. There are two categories of drinking water standards, including the National Primary Drinking Water Regulations and the National Secondary Drinking Water Regulations. The National Primary Drinking Water Regulations are legally enforceable standards that apply to public water systems. These standards protect drinking water quality by limiting the levels of specific contaminants

that can adversely affect public health and are known or anticipated to occur in water. The National Secondary Drinking Water Regulations are non-mandatory guidelines for certain substances that do not present a risk to public health.

Water Resources Development Act

The Water Resources Development Act (passed December 2016) includes short-term provisions, which will sunset after 5 years. These provisions increase pumping operations in the Sacramento–San Joaquin River Delta at the highest levels allowed under biological opinions issued by state and federal wildlife agencies under the ESAs, unless the pertinent agencies show that the increased pumping would cause additional adverse effects on listed fish (smelt and salmonid) species beyond the range of effects anticipated in those opinions, using the best scientific and commercial data available. The biological opinions have been subject to years of litigation between farming interests, urban water districts, fishing associations, and environmental groups, with the current versions upheld by the Ninth Circuit Court of Appeals. The new law's long-term provisions include significant funding authorizations that also should result in more water availability throughout California. These funding authorizations include long-term water infrastructure projects such as storage and groundwater projects; water recycling, reuse, conservation projects; and design and construction of desalination projects. The additional funds will help supplement California's water bond.

State

Safe Drinking Water Act

The State Safe Drinking Water Act (Health & Safety Code, Sections 116270 et seq.) builds on and strengthens the federal act. The state act authorizes the state's Department of Public Health to protect the public from contaminants in drinking water by establishing maximum contaminant levels that are at least as stringent as those developed by the EPA under the federal act.

California Drinking Water Standards

State drinking water standards are based on federal standards and are listed in Title 22 of the California Code of Regulations. The California Department of Health Services administers the state drinking water standards.

California Environmental Quality Act

Primary environmental legislation in California is found in the California Environmental Quality Act (CEQA) and its implementing guidelines (CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review.

Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

Water Conservation Act of 2009

The Water Conservation Act (SBX7-7; Water Code Section 10608) requires that all water suppliers increase water-use efficiency. This legislation sets an overall goal of reducing per-capita urban water use, compared to 2009 use, by 20% by December 31, 2020. The state must make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. Each urban retail water supplier must develop urban water use targets and an interim urban water use target by July 1, 2011.

Agricultural water suppliers also are required to implement efficient water management practices including adoption of agricultural management plans by December 31, 2012, and updated plans by December 31, 2015, and every 5 years thereafter. Effective 2013, agricultural water suppliers not in compliance with these planning requirements are ineligible for state water grants or loans.

California Water Code

The California Water Code contains provisions that control almost every consideration of water and its use. Division 2 of the California Water Code provides that the SWRCB shall consider and act upon all applications for permits to appropriate waters. Division 6 of the Water Code controls conservation, development, and utilization of state water resources. Division 7 addresses water quality protection and management.

Executive Emergency Order B-29-15 – Temporary Water Conservation Restrictions

On April 1, 2015, Governor Brown issued temporary, emergency Executive Order (EO) B-29-15. The EO seeks to achieve a 25% reduction in water use across the state as compared to the water use in 2013. The reduction amount required of each urban water supplier is determined based on per-capita water use whereby those areas with high per-capita use are to achieve proportionally greater reductions than those with low use. The EO also directed SWRCB to adopt regulations, approved on May 5, 2015, mandating various water conservation restrictions to achieve the statewide 25% overall reduction in potable water usage through February 2016. Even though California received above average precipitation during the 2016/2017 rain year, Governor Brown has not declared an end to drought conditions.

Water Supply Assessments and Water Supply Verifications

Senate Bill 610

State legislation has improved the link between water supply and land use planning. Senate Bill (SB) 610 (Water Code Sections 10910 et seq.) requires the preparation of a water supply assessment for projects within cities and counties that propose any of the following:

- Residential developments of more than 500 dwelling units
- Shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space
- Hotels, motels, or both, having more than 500 rooms
- Industrial, manufacturing, or processing plants, or industrial parks 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
- Mixed-use projects that include one or more of the projects specified in Water Code Section 10912(a)
- Projects 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 stipulates that when environmental review of certain large development projects is required, the water agency that is to serve the development must complete a water supply assessment to evaluate water supplies that are or will be available during normal, single dry, and multiple dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with the Project.

Because the proposed Project would construct less than 500 residential units, completion of a water supply assessment is not required and is not a part of this EIR (DWR 2003).

Senate Bill 221

Enacted in 2001, SB 221 (Government Code Sections 66455.3 and 66473.7) requires that the legislative body of a city or county, which is empowered to approve, disapprove, or conditionally approve a subdivision map, must condition such approval upon proof of sufficient water supply. The term "sufficient water supply" is defined in SB 221 as the total water supplies available during normal, single dry, and multiple dry water years within a 20-year projection that would meet the

projected demand associated with the proposed subdivision. The definition of sufficient water supply also includes the requirement that sufficient water encompass not only the Project, but also existing and planned future uses, including, but not limited to, agricultural and industrial uses.

SB 221 requirements do not apply to the general plans of cities or counties, but rather to specific development projects. In addition, SB 221 only applies in the event that the proposed development is considered a "project" under SB 610. Therefore, SB 221 would not apply to the Project (DWR 2003).

Urban Water Management Planning Act

In 1983, the State Legislature enacted the Urban Water Management Planning Act (California Water Code Sections 10610–10656), which requires specified urban water suppliers within the state to prepare an Urban Water Management Plan and update it every 5 years. State and local agencies and the public frequently use such plans to determine if agencies are planning adequately to reliably meet water demand in various service areas. As such, the plans serve as an important element in documenting water supply availability and reliability for compliance with state laws, including SB 610 and SB 221 (discussed above), which link water supply sufficiency to large land-use development project approvals. Urban water suppliers also must prepare such plans, pursuant to the Urban Water Management Planning Act, to be eligible for state funding and drought assistance.

The UWMPs provide information on water usage, water supply sources, and water reliability planning. They also may provide implementation schedules to meet projected demands over a planning horizon, a description of opportunities for new development of desalinated water, groundwater information (where groundwater is identified as an existing or planned water source), a description of water quality over the planning horizon, and identification of water management tools that maximize local resources and minimize imported water supplies. A UWMP's water supply analysis includes a water supply reliability assessment, water shortage contingency plan, and development of a plan in case of an interruption in water supply.

UWMPs are required by all the water purveyors related to the Project, including the City of Escondido, SDCWA, Metropolitan, and Rincon.

Delta Plan

Water supplies in California are based largely around the Sacramento–San Joaquin Delta (Delta). Water from Northern California surface waters and snowmelt travels to and through the Delta to Central Valley urban and agricultural users and to Southern California through aqueducts, dams, and other infrastructure. The Sacramento–San Joaquin Delta Reform Act (Water Code Section 85000, et seq.) established the Delta Stewardship Council (Delta Council) with the

primary goal of developing and implementing an enforceable, long-term management plan for the Delta (Delta Plan). The Delta Plan's coequal goals of providing a more reliable water supply for California while restoring the Delta ecosystem are the foundation of all state water management policies.

As required by statute, the Delta Plan adopts a science-based adaptive management strategy to manage decision making in the face of uncertainty (Water Code Section 85308(f)). The law requires that the Delta Plan be updated every 5 years, and each update is intended to build on an evolving base of knowledge, direct near- and mid-term actions, and preserve and protect longer-term opportunities.

The Delta Council adopted the Delta Plan in May 2013. Litigation is still pending at the Court of Appeal level over the adequacy of this plan.

California Water Plan

Water Code Sections 10004 through 10013 describe the components and characteristics of the California Water Plan. The plan addresses the coordinated control, protection, conservation, development, and utilization of the state's water resources. Updated every 5 years, the most recent water plan is the *California Water Plan Update 2013*, released in October 2014.

California Water Recycling Standards

The California Legislature has developed state requirements for the production, discharge, distribution, and use of recycled water. These requirements are contained in the California Code of Regulations, Title 22, Division 4, Chapter 3, Reclamation Criteria, Sections 60301 through 60475, and Title 17. The California Department of Public Health administers the state recycling water standards.

California Green Building Standards Code

The California Green Building Standards Code, commonly referred to as the CALGreen Code, is set forth in California Code of Regulations, Title 24, Part 11, and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development and water conservation, among other issues. Under the CALGreen Code, all water closets (i.e., flush toilets) are limited to 1.28 gallons per flush, and urinals are limited to 0.5 gallon per flush. In addition, maximum flow rates for faucets are established as follows: 2.0 gallons per minute (gpm) at 80 pounds per square inch (psi) for showerheads; 1.5 gpm at 60 psi for residential lavatory faucets; and 1.8 gpm at 60 psi for kitchen faucets.

California Groundwater Legislation

In September 2014, Governor Brown signed three companion bills (SB 1168, Assembly Bill (AB) 1739, and AB 1319), resulting in the enactment of the Sustainable Groundwater Management Act. The Act applies to groundwater basins in California and provides a comprehensive groundwater sustainability management program. The Act is inapplicable to adjudicated groundwater basins (except for annual reporting) and low and very low priority basins, although the new law encourages such basins to adopt groundwater sustainability plans. It also exempts high and medium priority groundwater basins if the local agency can demonstrate that the basin is already sustainably managed pursuant to current management or operation activities.

The new law, effective January 31, 2015, requires that DWR prioritize groundwater basins as either high or medium priority, and to adopt regulations authorizing local "groundwater sustainability agencies" to prepare and adopt "groundwater sustainability plans." Those basins that are subject to overdraft conditions must adopt a groundwater sustainability plan by January 31, 2020, and those basins that are not in overdraft must be managed by a groundwater sustainability plan by January 31, 2022. If a local agency has not formed a groundwater sustainability agency by June 30, 2017, the SWRCB may designate the basin as probationary, adopt an interim sustainability plan, and impose cost recovery.

The groundwater sustainability plans can require, among other things, groundwater well registration, measurement of groundwater extractions, and the filing of annual reports; it can also impose well spacing requirements, extraction limits, and extraction allocations. The completed groundwater sustainability plan must be submitted to DWR for review, and DWR must evaluate the plan within 2 years of its submission and issue a plan assessment, including recommended corrective actions.

Proposition 1, California's most recent $7.5 billion water bond, was placed on the November 2014 ballot, passed by a wide margin by California voters, and created the 2014 Water Quality, Supply, and Infrastructure Act. This new law provides financial support for the recently passed Sustainable Groundwater Management Act and implements the three objectives of the California Water Action Plan: reliable water supplies, restoration of important species and habitat, and water infrastructure.

The Sustainable Groundwater Management Act requires a city or county planning agency, before adopting or substantially amending a general plan, to consider groundwater sustainability plans or other related plans or programs. As applied to the City and Rincon water service areas, however, this new law is inapplicable because the City and Rincon do not pump groundwater, nor use it as a local water supply source. Further, groundwater is not included in the City and

Rincon's existing or projected water supply program, and the Project does not involve pumping groundwater as a supply source to meet the Project's water demand.

Water Conservation Projects Act

The state requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (California Water Code, Sections 11950 through 11954), which encourages local agencies and private enterprise to implement potential water conservation and reclamation projects. Potential water conservation and reclamation projects may include facilities for municipal and industrial advanced wastewater treatment; regulatory impoundments; improvements to water supply and delivery systems; tailwater recovery systems; and sprinkler or drip irrigation systems.

Senate Bill 244

SB 244, adopted on October 10, 2011, requires cities to review and update the Land Use Elements of their general plans to include data and analysis, regarding unincorporated islands, fringe, or legacy communities within or adjacent to the City's Sphere of Influence. SB 244 requires the City to prepare a determination regarding the existing and planned adequacy of public facilities and public services, including: wastewater, potable water, stormwater, police, and fire. SB 244 prohibits the Local Agency Formation Commission (LAFCO) from approving an annexation to a city of any territory greater than 10 acres, where there exists a disadvantaged unincorporated community that is contiguous to the area of proposed annexation, unless an application to annex the disadvantaged unincorporated community to the city has been filed with LAFCO and evaluates the present and probable sewers, water, stormwater, police, and fire protection needs or deficiencies.

General Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system in order to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan. The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the SWRCB using an online reporting system.

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal state law enacted to establish requirements for adequate planning, implementation, management, and enforcement of water quality controls. The Porter-Cologne Act, which became Division 7 of the California Water Code, establishes a regulatory program to protect water quality and beneficial uses of all state waters, outlined the responsibilities and authorities of the nine RWQCBs, and established the SWRCB. For the San Diego Hydrologic Region, water quality is regulated by the San Diego RWQCB, Region 9 of the SWRCB. Each RWQCB is directed to create a water quality control plan, to include three main components: (a) beneficial uses that are to be protected, (b) water quality objectives that protect those uses, and (c) an implementation plan to accomplish those objectives.

California Department of Resources Recycling and Recovery

The California Department of Resources Recycling and Recovery (CalRecycle) is the state's leading authority on recycling, waste reduction, and product reuse. CalRecycle plays an important role in the stewardship of California's resources and promotes innovation in technology to encourage economic and environmental sustainability. CalRecycle brings together the state's recycling and waste management programs for the promotion of environmental stewardship. Mandated responsibilities of CalRecycle are to reduce waste, promote the management of all materials to their highest and best use, and protect public health and safety and the environment (CalRecycle 2014).

California Integrated Waste Management Act – Assembly Bill 939

The California Integrated Waste Management Act (IWMA) was enacted by the Legislature in 1989 with the goal of reducing dependence on landfills for the disposal of solid waste, and to ensure an effective and coordinated system for the safe management of all solid waste generated within the state. The IWMA established a hierarchy of preferred waste management practices, which include (1) source reduction, (2) reuse of resources, (3) recycling and composting, and (4) environmentally safe disposal by transformation or landfill. The IWMA addresses all aspects related to solid waste regulation including the details regarding the lead enforcement agency's requirements and responsibilities, the permit process including inspections and denials of permits, enforcement, and site cleanup and maintenance.

The IWMA requires the County to prepare a Countywide Integrated Waste Management Plan (IWMP), with input from each city in the County. This plan is reviewed at least once every 5 years to ensure that waste management practices remain consistent with the practices defined in the Public Resources Code. As part of the Countywide IWMP, each jurisdiction (cities and

county) is required to prepare and maintain Source Reduction and Recycling, Household Hazardous Waste, and Non-Disposal Facility Elements. The Countywide IWMP is a summary plan that combines all these elements and is required to be approved by the County Board of Supervisors and the majority of the cities within the County.

California Mandatory Commercial Organics Recycling – Assembly Bill 1826

In October 2014, Governor Brown signed AB 1826 Chesbro (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consists of five or more units. Organic waste is defined as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. However, multifamily dwellings are not required to have a food waste diversion program. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

California Solid Waste Reuse and Recycling Access Act of 1991 – Assembly Bill 1327

AB 1327, which was established in 1991, required CalRecycle to develop a model ordinance for the adoption of recyclable materials in development projects. Local agencies were then required to adopt the model, or an ordinance of their own, governing adequate areas for collection and loading of recyclable materials in development projects.

Disposal Measurement System Act of 2008 – Senate Bill 1016

SB 1016 maintains the 50% diversion rate requirement established by AB 939, and also established revised calculations for those entities that did not meet the 50% diversion rate. SB 1016 also established a per-capita disposal measurement system to make the process of goal measurement, as established by AB 939, simpler, timelier, and more accurate. The new disposal-based indicator—the per-capita disposal rate—uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal rate as reported by disposal facilities.

Solid Waste Diversion – Assembly Bill 341

Effective July 1, 2012, AB 341 requires that commercial enterprises that generate 4 cubic yards or more of solid waste weekly participate in recycling programs. This requirement also includes multiple-family housing complexes of five units or more, regardless of the amount of solid waste

generated each week. The purpose of this requirement is to reduce greenhouse gas emissions by diverting commercial solid waste to recycling, and to expand recycling opportunities in California. As part of implementing AB 341, the California Legislature set an ambitious goal of 75% recycling, composting, or source reduction of solid waste by 2020. The law calls for the state and CalRecycle to take a statewide approach to decreasing California's reliance on landfills. CalRecycle is actively working to develop and implement programs to achieve the 75% target.

Local

Chapter 22 of the City of Escondido Municipal Code

Chapter 22 of the Municipal Code establishes regulations related to stormwater management and discharge control, harmful waters and wastes, sewer service charges, private sewage disposal systems, sewer connection fees, sewer-connection laterals, and industrial wastewater. The purpose of the stormwater management and discharge control regulations (Article 2) is to ensure the health, safety, and general welfare of the citizens of the City by controlling non-stormwater discharges to the stormwater conveyance system; by eliminating discharges to the stormwater conveyance system from spills, dumping, or disposal of solid or liquid waste other than stormwater; and by preventing, eliminating, or reducing pollutants in urban stormwater discharges to the maximum extent practicable. Article 5 of Chapter 22 requires all subsurface sewage disposal units and systems to be designed, placed, and maintained in accordance with the rules and regulations of the County of San Diego. The County Department of Environmental Health (DEH) is the primary agency charged with regulating the design, construction, and maintenance of septic tanks, leach lines, seepage pits, and alternative on-site wastewater treatment systems throughout the County through a delegation from the San Diego RWQCB. The purpose of the industrial water regulations (Article 8) is to provide for the maximum possible beneficial public use of the City's wastewater collection and treatment facilities through adequate regulations and permit requirements governing nonresidential discharges, to provide for equitable distribution of the City's costs, and to provide procedures for complying with requirements placed upon the City by other regulatory agencies.

City of Escondido Local Drainage and Sanitary Sewer Fees

Article 18D of Chapter 6 of the Municipal Code establishes the local drainage and sanitary sewer fees for the City. This article is adopted under the authority granted to the City to impose conditions for the payment of fees for purposes of transferring the actual or estimated costs of constructing planned drainage facilities and sanitary sewer facilities for local sanitary sewer areas under the provisions of Section 66483 of the California Government Code, Section 32-206.01.C of the Subdivision Code, and judicial decisions.

City of Escondido Water Conservation Plan

The City adopted its Water Conservation Plan in 2008 under Article 5, Chapter 31 (Water Conservation Plan) of the Escondido Municipal Code. The Water Conservation Plan was most recently updated in 2015 by adoption of Ordinance No. 2015-12R. The Water Conservation Plan establishes priorities and restrictions during various levels of water shortages, including 10% to greater than 40% reduction in water use. The City's Water Conservation Plan sets forth the following objectives:

1. To prevent water supply shortages through aggressive and effective water management programs such as water conservation, water education, and use restrictions and penalties.
2. To minimize the impact of a water supply shortage on the City's population and economy.
3. To provide first for public health and fire protection and other essential services, then to provide for the economic health of the City, and then to provide for other uses of water.
4. To ensure that water users who have implemented exemplary conservation practices during normal-year hydrology and wet-year hydrology are not disadvantaged by the plan during shortages, a "lifeline allowance" will be established by the City Council to reflect the minimum amount necessary to sustain an average household.

The City's Water Conservation Plan includes measures that are always in place, and four stages that are in place during water shortage conditions. The City Council sets drought response levels in accordance with drought response levels determined by SDCWA (City of Escondido 2016a, Section 7.2).

City of Escondido Water Reclamation Plan

Article 6 of Chapter 31 of the Municipal Code establishes the policy that recycled water shall be used within the jurisdiction wherever its use is economically justified; financially and technically feasible; and consistent with legal requirements and with preservation of the environment and of public health, safety, and welfare. This article establishes that, as appropriate, the City may mandate construction of recycled water distribution systems or other facilities in new and existing developments for current or future recycled water use as a condition of any development approval or continued water service if future reclamation facilities could adequately serve the development.

City of Escondido General Plan

The *City of Escondido General Plan* (General Plan) Mobility and Infrastructure Element contains goals and policies that address public utilities. The applicable General Plan policies are listed below.

Mobility and Infrastructure Element

12. Water System

Goal 2: Adequate and sustainable infrastructure and water supply to serve a community that values and conserves water.

Water System Policy 12.1: Regularly review and update a Water Master Plan that establishes service standards; defines needed improvements to systematically expand water distribution, delivery, treatment, and storage concurrent with planned growth; and incorporates best practices to sustain scarce water resources.

Water System Policy 12.10: Implement federal and state water quality standards for public water infrastructure facilities and private development projects.

Water System Policy 12.11: Continue to implement water conservation programs, such as requirements for water efficient landscaping and enforcement of water wise regulations, and amend as appropriate to reflect evolving technologies and best practices.

Water System Policy 12.12: Require new development to incorporate water conservation techniques into building and site design incorporating such elements as water efficient fixtures (e.g., low flow shower heads); drought-tolerant landscape, permeable hardscapes, and on-site stormwater capture and re-use facilities.

Water System Policy 12.13: Continue to use and explore opportunities to increase the use of recycled water in the city.

Water System Policy 12.14: Educate Escondido's residents and businesses about the importance of water conservation and reclamation and techniques and programs to achieve these goals.

13. Wastewater System

Goal 3: Provision of adequate and sustainable wastewater infrastructure to serve residents, businesses and property.

Wastewater System Policy 13.1: Regularly review and update the Wastewater Master Plan to establish service standards, define needed improvements that systematically expand wastewater collection and treatment facilities concurrent with planned growth; and incorporate best practices that sustains and prevents pollution of water resources.

Wastewater System Policy 13.2: Ensure that the Hale Avenue Resource Recovery Facility (HARRF) and supporting infrastructure provide sufficient capacity to meet normal and emergency demand for existing and future growth, based on a minimum standard of 250 gallons per day for each residence served by the HARRF. This standard should be periodically reviewed and modified by updates to the Wastewater Master Plan to account for changes in sanitary waste generation and conservation practices.

Wastewater System Policy 13.13: Maintain a buffer zone around the HARRF limiting the amount of new residential development, and permit compatible non-residential development that utilizes site planning and architectural techniques that minimize public exposure to odors and health risks.

14. Storm Drainage

Goal 4: Provision of adequate and sustainable infrastructure that is environmentally sensitive to serve residents, businesses, and property.

Storm Drainage Policy 14.1: Regularly review and update the Master Drainage Plan to establish standards for each drainage basin, define needed improvements to accommodate stormwater runoff on full development of the drainage basin at the intensities specified by the Land Use Element, and incorporate best practices to prevent pollution of water resources and sustain natural habitats.

Storm Drainage Policy 14.2: Improve the existing storm drainage system by correcting identified deficiencies.

Storm Drainage Policy 14.3: Levy Drainage Fees for subdivided and developed land to finance drainage improvements. Periodically review and

adjust for inflation, construction costs, and changes in land development intensities and timing.

Storm Drainage Policy 14.4: Require new development to create a mechanism to finance and fund ongoing maintenance of stormwater facilities.

Storm Drainage Policy 14.5: Require new development to prepare drainage studies and improvement plans that demonstrate no net increase in stormwater runoff and compliance with adopted stormwater plans.

Storm Drainage Policy 14.6: Require new development to minimize alterations to natural landforms and the amount of impervious surfaces to minimize erosion, while encouraging implementation of low impact development measures and the maximum use of natural drainage ways, consistent with sound engineering and best management practices.

15. Solid Waste and Recycling

Solid Waste and Recycling Policy 15.1: Regularly review and update the city's mandatory recycling ordinance to reflect changes and new technologies regarding appropriate recyclable materials acceptable in the city's recycling program.

Solid Waste and Recycling Policy 15.2: Support efforts to maintain adequate solid waste facilities and services by working with local service providers of solid waste collection, disposal, and recycling.

Solid Waste and Recycling Policy 15.3: Regularly review and update the city's participation in the County-wide Integrated Waste Management Plan, including the Source Reduction and Recycling Element, to promote increased recycling, composting, source reduction, and education efforts throughout the community, as well as new diversion technologies designed to reduce the amount of solid waste sent to landfills.

Solid Waste and Recycling Policy 15.4: Continue to support the residential, commercial, industrial, and construction/demolition recycling programs to minimize the solid waste streams to landfills.

Solid Waste and Recycling Policy 15.5: Encourage and consider requiring non-residential uses and businesses to participate in the city's recycling program.

Solid Waste and Recycling Policy 15.6: Encourage, and consider requiring, recycling and reuse of construction wastes, including recycling materials generated by the demolition and remodel of buildings.

Solid Waste and Recycling Policy 15.7: Continue to coordinate with approved services providers and businesses to recycle universal waste (electronic components, batteries, fluorescent lights, etc.) and to provide convenient collection and drop off locations in a manner that ensures safe and responsible collection, processing, and disposal.

Solid Waste and Recycling Policy 15.8: Encourage and promote the use of recycled materials in residential and non-residential applications, including construction and building materials, office supplies, and equipment. Continue the city's purchase of recycled materials and supplies outlined in the Recycled Products Purchasing Policy (City of Escondido 2012).

County of San Diego Integrated Waste Management Plan

The County of San Diego IWMP was adopted in 1996. The IWMP discusses the need for a reduction in solid waste and includes a Source Reduction and Recycling Element, Household Hazardous Waste Element, Non-Disposal Facility Element, Countywide Siting Element, and the Countywide Summary Plan. The Countywide Siting Element of the 1996 IWMP was updated in 2005, as required by the IWMA. It provides a description of the facilities and strategies to provide adequate capacity for the disposal of solid waste within the County, including the incorporated cities, over the next 15 years, including alternatives such as additional waste diversion programs and waste export. The Element presents a strategy to assist local governments and private industry in planning for integrated waste management and the siting of solid waste disposal facilities. The goals and policies listed in the Countywide Siting Element are intended to assist all jurisdictions within the County, including Escondido, to plan and implement a solid waste management program.

3.1.9.2 Analysis of Project Effects and Determination as to Significance

3.1.9.2.1 Guidelines for the Determination of Significance

For purposes of this EIR, Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) will apply to the direct, indirect, and cumulative impact analyses. A significant impact to utilities and service systems would result if the Project would:

A. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

B. 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.

C. 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.

D. Not have sufficient water supplies available to serve the Project from existing entitlements and resources, or need new or expanded entitlements.

E. Result in a determination by the wastewater treatment provider, which 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.

F. Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs.

G. Comply with federal, state, and local statutes and regulations related to solid waste.

3.1.9.2.2 Analysis

A. Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The Project includes the construction of new gravity sewer pipelines that will abut to the existing sewer collection system in the area, including eight proposed connections. Several existing sewer mains from adjacent developments traverse through the existing golf course property in public sewer easements; see Figure 3.1.9-2, Existing and Proposed Sewer System. The sewer system at the Project site would flow south toward the City's Lift Station No. 4, which is located north of El Norte Parkway and east of Woodland Parkway. This lift station ultimately conveys sewage flow to the HARRF.

During periods of dry-to-average precipitation, the HARRF generally has complied with effluent discharge requirements of the San Diego RWQCB. However, during periods of heavy precipitation, the facility has periodically exceeded effluent requirements to Escondido Creek and downstream San Elijo Lagoon. Discharge to Escondido Creek typically occurs when the San Elijo Ocean Outfall has reached capacity, which primarily occurs during periods of heavy precipitation. The HARRF shares the outfall with the San Elijo Water Pollution Control Facility and the San Diego Gas and Electric, Palomar Energy Center. The HARRF is not allowed to discharge to Escondido Creek unless: (1) the combined discharge to the outfall exceeds the capacity of the outfall; (2) the City has implemented all other wastewater management options in the City's wet weather management plan; (3) stream flows in the

vicinity of the facility exceed 300 cubic feet per second; and (4) the mouth of the San Elijo Lagoon is open, or the San Diego RWQCB approves otherwise (San Diego RWQCB 2015).

The City is the NPDES permit holder for the HARRF and is responsible for compliance with the wastewater treatment requirements specified in NPDES permit No. CA0107981 and No. CA108944. Therefore, the City controls the type and quality of discharge from the HARRF. Discharge from the HARRF is completed in compliance with San Diego RWQCB Monitoring and Reporting Program No. 98-10, which specifies parameters for influent monitoring, effluent monitoring, biomonitoring, and receiving water monitoring (San Diego RWQCB 1998). This program was a result of several actions by San Diego's RWQCB, recounted below.

On June 13, 1996, the San Diego RWQCB issued "Cease and Desist Order No. 96-31 for the City of Escondido" for discharging secondary effluent to Escondido Creek during periods of sustained or significant rainfall, in violation of the Federal Clean Water Act. Order No. 96-31 required the City either to pursue a strategy to increase the capacity of the San Elijo Ocean Outfall or to seek authorization for discharges of treated wastewater to Escondido Creek. At the request of the City, the San Diego RWQCB extended the deadline for the City to complete measures to terminate all unauthorized discharges to Escondido Creek and tributaries from November 11, 2002, to June 16, 2003 (San Diego RWQCB 2003).

In January, February, and March of 2005, the City of Escondido reported numerous exceedances of effluent limitations, including discharges of secondary treated wastewater into Escondido Creek. The City maintained that the exceedances were due to excessive precipitation events, which hampered the treatment and disposal capacity of the facility. A settlement agreement was reached between the City and the San Diego RWQCB in association with these violations (San Diego RWQCB 2006).

In 2011, the EPA included Escondido Creek on California's 2010 Section 303(d) List of Water Quality Limited Segments, resulting in more stringent effluent limitations on the HARRF discharge. Based on the 303(d) listing, the San Diego RWQCB concluded in June 2015 that the HARRF must meet the new applicable water quality objectives for phosphate, manganese, total dissolved solids, and nitrogen at the point of discharge, as these constituents were among the impairment listings. In addition, the San Diego RWQCB conducted a reasonable potential analysis to reevaluate the need for effluent limitations for certain pollutants. Final analytical results demonstrated that effluent limitations were required at the HARRF for ammonia, total phosphorus, total nitrogen, total dissolved solids, manganese, n-nitrosodimethylamine, and total trihalomethanes (San Diego RWQCB 2015).

The San Diego RWQCB subsequently concluded that, based on the wet weather capacity of the HARRF, immediate compliance with the proposed effluent limitations for these compounds is

infeasible. The HARRF did not discharge into Escondido Creek from 2005 to 2015; however, a review of monitoring data indicated that future discharge from the facility may not consistently achieve compliance with the final effluent limitations established by the San Diego RWQCB (San Diego RWQCB 2015).

Based on this background information, the City indicated that the preferred method for achieving compliance with the new and/or more stringent effluent limitations is to reduce HARRF wet-weather influent flows such that those flows are below the available capacity of the San Elijo Ocean Outfall and terminate the discharge to Escondido Creek. In order to implement this compliance alternative, the HARRF is expanding the recycled water system to serve agricultural users in the eastern part of the City. This plan is known as the Recycled Water Easterly Main Extension Project, which is designed to create 12 mgd of net reuse or storage of the tertiary effluent. Construction is being completed in phases and must be finished in 2020. Once constructed, discharge to Escondido Creek would be terminated, including during high precipitation events (San Diego RWQCB 2015).

The City is required to submit to the San Diego RWQCB compliance reports associated with each phase of construction of the Recycled Water Easterly Main Extension Project, as well as quarterly progress reports summarizing work completed. On December 9, 2016, the San Diego RWQCB issued a Staff Enforcement Letter to the City of Escondido, but indicated that the City and the HARRF have been making diligent progress to accomplish the goal of expanding the recycled water system, such that discharge of effluent to Escondido Creek would not be necessitated during periods of high precipitation (San Diego RWQCB 2016).

Upon connection to the City's sewer infrastructure, which is anticipated to occur after the HARRF expansion, the Project would be required to comply with the wastewater treatment requirements of the San Diego RWQCB. The Project would add a de minimis amount to the HARRF's existing capacity. To estimate average sewage flow from residential developments, an average dry weather generation factor of 200 gallons per day (gpd)/dwelling unit was used. Based on that generation factor, the projected average dry weather flow from the Project is 78,400 gpd, and the projected Project peak flow is 128,400 gpd (Appendix 3.1.9-2). Based on information regarding the Project's flow and the expansion of the HARRF to a capacity of 27 mgd, the Project would remain well below the HARRF's future capacity. Further, the Project would not impede the City's compliance with relevant City General Plan policies, including Wastewater System Policy 13.1, regarding regular review and update of the Wastewater Master Plan (last updated in 2014), and Policy Wastewater System 13.2, ensuring that the HARRF and supporting infrastructure would provide sufficient capacity to meet normal and emergency demand for existing and future growth.

Therefore, because (1) the City and the HARRF have been mandated to increase the capacity of the HARRF such that effluent will no longer be discharged to Escondido Creek after 2020, thus eliminating potential water quality impacts to a U.S. EPA-designated impaired water body; (2)

the City is complying with that mandate; and (3) the Project would not exceed the wastewater treatment requirements of the San Diego RWQCB, impacts would be **less than significant.**

B. Would the Project 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?

The following subsections describe the proposed water- and wastewater-related infrastructure and impacts associated with construction of that infrastructure.

Potable and Irrigation Water Infrastructure

The City of Escondido supplies potable water to approximately 26,000 residential, commercial, industrial, and agricultural customers. Through its exchange agreement, Rincon would provide water service to the Project. The Project is designated in the Rincon 958 Zone. Water supply to this area originates from the R-3A Reservoir and the R-3B Reservoir.

Computer modeling of the Project's proposed on-site and existing off-site water system was performed to determine the pipe sizes necessary to provide adequate domestic and fire protection service. The water system was analyzed under average day demand, peak hour demand, and maximum day demand, plus fire flow (Appendix 3.1.9-1). The average demand was 167.9 gpm, the peak hour demand was 466.8 gpm, and the maximum day demand was 295 gpm.

Based on the modeling results, improvements would be necessary to serve the Project. A piping system consisting of 8-inch and 12-inch lines would be required to provide the Project with water at sufficient supply and pressure. All proposed lines would connect to existing infrastructure, which includes four master meters. Three master meters are located in Gary Lane/Fuerte Lane, Country Club Drive, and Cortex/Escondido Golf Course; and one master meter is proposed inside the Project boundary, east of Gary Lane. The connections to existing infrastructure include three connections in Gary Lane; three connections in Country Club Lane; one connection in La Brea Street; and one connection at the Cortez/Escondido Golf Course Meter; see Figure 3.1.9-3, Existing and Proposed Water System.. In addition, an existing Vista Irrigation District 18-inch waterline, which traverses the Project site from Country Club Lane at La Brea Street, northerly across the existing golf course and ties into Gary Lane, would be relocated into the proposed circulation street system.

Installation and relocation of new water mains and laterals consists of either trenching to the depth of pipe placement or using a variety of trenchless technology, which cause substantially less ground disturbance. Trenching results in a temporary stockpiling of soil along the length of the trench, pending backfilling, which could result in potential short-term erosion induced siltation of nearby waterways. Trenchless technology only requires temporary stockpiling of soil

adjacent to excavations on both ends of long sections of pipe. BMPs installed as part of an NPDES-mandated Storm Water Pollution Prevention Plan (SWPPP) would reduce potential water quality impacts to less than significant, as discussed in Section 3.1.4, Hydrology and Water Quality. Other potential impacts associated with construction activities and installation of the on-site water mains and laterals are included as part of the Project analysis within the relevant issue subsections included in this EIR; see Chapter 2, which covers air quality, biological resources, cultural resources, greenhouse gas emissions, hazards, noise, and traffic. All construction-related impacts are mitigated to less than significant. As illustrated in Figure 3.1.9-3, the Project would not result in any off-site or other impacts related to the construction of new water facilities; therefore, impacts would be **less than significant.**

Fire Flow Infrastructure

A piping system would be required to provide the Project with fire suppressant water at sufficient supply and pressure. Fire hydrant flow requirements vary by the type of land use, as established in Rincon's Master Plan, updated June 2014, and the City Water System Design Standards, updated in April 2014. Using the proposed node and pipe diagram for the Project, two fire flow scenarios were modeled for the Rincon portion of the Project site. Modeling was completed for a 5,000 gpm demand scenario, which was comprised of two simultaneous 2,500 gpm fire flow demands, and a 2,500 gpm demand scenario. The modeling results for the 5,000 gpm demand scenario indicated a minimum expected pressure of 22 pounds per square inch (psi), which is greater than the minimum allowable pressure of 20 psi. The modeling results for the 2,500 gpm demand scenario indicated a minimum expected pressure of 42 psi. Similarly, a 2,500 gpm fire flow scenario was modeled for the Escondido Exchange Area. The minimum expected pressure under this scenario is 26 psi, which is greater than the minimum allowable pressure of 20 psi. Therefore, adequate fire flow pressure would be available for the Rincon portion of the Project site (Appendix 3.1.9-1).

Similar to installation of the potable water infrastructure, installation of new fire suppressant water lines would consist of either trenching to the depth of pipe placement or using a variety of different trenchless technology, which causes substantially less ground disturbance. Standard BMPs, installed as part of an NPDES-mandated SWPPP, would reduce potential water quality impacts to less than significant levels, as discussed in Section 3.1.4. Other potential impacts associated with construction activities and installation of the on-site piping system are included as part of the analysis within the relevant issue subsections included in this EIR; see Chapter 2, which covers air quality, biological resources, cultural resources, greenhouse gas emissions, hazards, noise, and traffic. All construction related impacts are mitigated to less than significant. As illustrated in Figure 3.1.9-3, the Project would not result in any off-site or other impacts related to the construction of new water facilities; therefore, impacts would be **less than significant**.

Water Treatment Infrastructure

The City operates the EVWTP, which treats all raw water before it is delivered to customers. This treatment plant has a capacity of 75 mgd. After treatment, water is distributed from the EVWTP to the Vista Irrigation District, which co-owns the plant, and to Escondido through a system of pipelines and reservoirs.

Considering the Project involves 392 residences, a Clubhouse, community farm, and landscape irrigation, approximately 350,784 gpd of potable water would be required for the Project based on the average demand as shown in Table 3.1.9-2 (according to Appendix 3.1.9-1), which is a very small percentage of the 75 mgd treatment capacity of the EVWTP. In addition, an EVWTP representative has indicated that there would be sufficient capacity to treat the additional Project-related water demands (Tunnell, pers. comm. 2017). Therefore, the Project would not result in the construction of new water treatment facilities or infrastructure that would result in significant environmental effects; impacts would be **less than significant**.

In addition, the City owns and operates the HARRF, a recycled water treatment facility. The HARRF treats influent from the City and the Rancho Bernardo community in the City of San Diego. The HARRF produces approximately 4 mgd of tertiary treated recycled water for use as irrigation on local golf courses, parks, school grounds, greenbelts, roadway medians, open spaces, and industrial use. The City maintains an existing recycled water line beneath Country Club Lane and this line could be used for irrigation of proposed greenbelts, pocket parks, community clubhouse landscaping, and the community farm.

Wastewater Infrastructure

As discussed above, the City would provide sewer service for the Project through new gravity sewer pipelines that would abut the existing sewer collection system in the area, including eight proposed connections; see Figure 3.1.9-2. Several existing sewer mains from adjacent developments traverse through the existing golf course property in public sewer easements. The sewer system at the Project site would flow south toward the City's Lift Station No. 4, which ultimately conveys sewage flow to the HARRF.

To estimate average sewage flow from residential developments, an average dry weather generation factor of 200 gallons per day (gpd)/dwelling unit was used. Based on that generation factor, the projected average dry weather flow from the proposed Project is 78,400 gpd, and the projected Project peak flow is 128,400 gpd (Appendix 3.1.9-2).

Lift Station No. 4 has a maximum capacity of 1,008,000 gpd. The existing flow conveyed to the lift station is 650,880 gpd. At Project build-out, the peak flow to the pump station would be approximately 779,300 gpd. Because the peak flow at maximum build-out would be less than the

maximum capacity of Lift Station No. 4, no facility upgrades would be necessary for it to continue to serve the Project (Appendix 3.1.9-2).

The HARRF is designed to treat a flow of 18 mgd. Currently, the facility treats the City's flow of 11.8 mgd and Rancho Bernardo's flow of 3.8 mgd, for a total of 15.6 mgd. The Project's maximum contribution of wastewater flow at build-out of 128,400 gpd would increase the flow to 15.7 mgd, which is well within the design treatment flow of 18 mgd.

In addition, as previously discussed, the HARRF is currently being expanded to increase its storage and treatment capacity for recycled water. Construction of the Recycled Water Easterly Main Extension Project is being completed in phases and must be finished in 2020. In 2020, the expected increase in recycled water supply is 2,500 acre-feet. By 2030, an additional 1,400 acre-feet of recycled would be available for use (City of Escondido 2016b). Completion of this reuse and storage facility would prevent discharge of effluent to Escondido Creek during periods of intense precipitation, such that water quality impacts would not occur.

Based on the discussion set forth above, the proposed Project would not require or result in the construction of new off-site wastewater treatment facilities or expansion of existing off-site facilities. Potential impacts associated with construction activities and installation of the on-site sewer system are included as part of the analysis within the relevant issue subsections included in this EIR; see Chapter 2, which covers air quality, biological resources, cultural resources, greenhouse gas emissions, hazards, noise, and traffic. All construction-related impacts are mitigated to less than significant. As illustrated in Figure 3.1.9-2, the Project would not result in any off-site or other impacts related to the construction of new wastewater facilities; therefore, impacts would be **less than significant**.

C. Would the Project 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?

A stormwater system has been incorporated into the Project design, as described in Section 3.1.4 and shown on Figure 3.1.9-4, Proposed Detention Basins (BMPs). The stormwater system includes 10 biofiltration features, storm drain pipes, multiple open channel reaches, and detention facilities (see the Project's *Preliminary Engineering Drainage Study* and the *Priority Development Project Stormwater Quality Management Plan*, included in this EIR as Appendices 3.1.4-1 and 3.1.4-2). Based on the results of these studies, construction of the Project's stormwater drainage facilities would be located entirely on site, the impacts of which have been analyzed in the EIR. The Project would not result in expansion of any existing facilities, or additional off-site facilities; therefore, impacts would be **less than significant**.

D. Would the Project have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?

This section is based on regional and local water demand and supply information from Metropolitan, SDCWA, the City, and Rincon.

In addition, this analysis used regional and local water demand and supply information from four sources: (1) the City of Escondido water service area's 2015 UWMP (City of Escondido 2016a); (2) Rincon's 2015 UWMP (Rincon 2016a); and (3) SDCWA's 2015 UWMP (SDCWA 2016) and (4) Metropolitan's 2015 UWMP (Metropolitan 2016) because the City and Rincon are member agencies of SDCWA, and its supplies, for the most part, are purchased from SDCWA. SDCWA, in turn, purchases a portion of its water supply from Metropolitan.

Further, SDCWA manages demand during times of limited supply through its approved *Water Shortage and Drought Response Plan* (SDCWA 2012) and a Model Drought Response Ordinance (SDCWA 2008). SDCWA also prepares annual water supply reports to provide updated information on development of local and imported water supplies. Its most recent annual report is available online and is titled *Beyond Drought: Reliable Water in an Era of Change* (SDCWA 2015).

Also used in this analysis is SDCWA's *Final 2013 Regional Water Facilities Optimization and Master Plan Update* (March 2014), which represents its roadmap for the infrastructure needed for a planning horizon through 2035 (SDCWA 2014). This plan is designed to ensure SDCWA's mission to deliver a safe and reliable water supply to its member agencies in a cost-effective manner. As indicated above, the Project site is located within the boundaries of two water purveyors. The western portion of the Project site is located within the City Water Service Area, or Escondido Exchange Area, and the eastern portion is located within Rincon. Approximately 45% of the proposed residences would be in the Escondido Exchange Area and 55% would be within the Rincon district. Water service to the Project site would be provided by Rincon via three master meters, located in Gary Lane/Fuerte Lane, Country Club Drive, and Cortez/Escondido Golf Course. A fourth master meter is proposed along the Project boundary, east of Gary Lane. The Project is designated as Rincon 958 Zone. The water supply would originate from the R-3A Reservoir and R-3B Reservoir, located northeast of the Project site (Appendix 3.1.9-1).

In certain extraordinary cases, pursuant to SB 610 and SB 221, an additional layer of review for projects over 500 units is considered. Rincon's 2015 UWMP includes projections of future water demands for Rincon, which is working with three large developers that would add approximately 1,500 additional single-family homes to their customer base (Rincon 2016b). The Project is not included as a portion of those 1,500 additional homes because the Project was not under consideration during the drafting of Rincon's 2015 UWMP (Lyuber, pers. comm. 2017). However, Rincon's Engineering Division indicated that Rincon has the capacity to support the proposed

residences, contingent upon the applicant completing the necessary improvements to the existing infrastructure to support the added demand (Lyuber, pers. comm. 2017).

Escondido's 2015 UWMP states that approximately 44% of potable water use in Escondido is attributed to single-family residential use (City of Escondido 2016a). Based on the UWMP, the population growth will increase from 137,941 people in 2015 to 160,388 people in 2040. Projected water demand associated with that population growth was based primarily on land use projection data from the SANDAG's Series 13 Growth Forecast. The data provided from SANDAG included projections of the anticipated acreage for a variety of land uses within the City's water service area from 2010–2040. In developing subregional forecasts, SANDAG works with each jurisdiction to collect and verify detailed land use inputs, down to the parcel level. The data collected includes information on remaining housing capacity, zoning, and existing/planned land uses (SANDAG 2013). For example, this data showed that single-family water uses in the City would grow by 695 acres from 2020 to 2040 (City of Escondido 2016a).

Once the SANDAG data was obtained, the City reconciled land use types provided by SANDAG with water use types commonly used by the City to determine water duty factors and associated projected water demands associated with future single-family residential development. Applying a water use factor of 1.2 acre-feet/acre for single-family residential land use, projected potable water demand for the City would be 10,220 acre-feet in 2020.

Recycled water is expected to supply the irrigation demand; however, the irrigation demand was included in the potable water analysis (Appendix 3.1.9-1) to simulate a worst-case scenario, in the event that recycled water is not available. Therefore, the Project involves 392 residences, a Clubhouse, community farm, and landscape irrigation, which would require 350,784 gpd of potable water for the Project based on the average demand as shown in Table 3.1.9-2, Potable Water Demands (Appendix 3.1.9-1).

The Project was not expressly included by name in the projected land uses in the 2015 UWMP; however, the UWMP forecasts are based on the potential future development of available land, including sites such as the Project. Therefore, the UWMP estimates can be relied upon in a determination of adequacy of water supply for the Project (Tunnell, pers. comm. 2017; Appendix 3.1.9-3).

As previously discussed, the HARRF is currently being expanded to increase its storage and treatment capacity for recycled water. Construction of the Recycled Water Easterly Main Extension Project is being completed in phases and must be finished in 2020. In 2020, the expected increase in recycled water supply is 2,500 acre-feet. By 2030, an additional 1,400 acre-feet of recycled water would be available for use (City of Escondido 2016b).

Based on the above analysis, water supply impacts are considered **less than significant.**

E. Would the Project result in a determination by the wastewater treatment provider which 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?

As discussed above, the City would provide sewer service for the proposed Project by constructing new gravity sewer pipelines that would abut the existing sewer collection system in the area, including eight proposed connections. Several existing sewer mains from adjacent developments traverse the existing golf course property in public sewer easements. The sewer system at the Project site would flow south toward the City's Lift Station No. 4, located north of El Norte Parkway and east of Woodland Parkway. This lift station ultimately conveys sewage flow to the HARRF, which is a City-operated facility.

As previously discussed, the HARRF is designed to treat a flow of 18 mgd, and the Project's maximum contribution of wastewater flow at build-out of 128,400 gpd would increase the flow to 15.7 mgd, which is well within the design treatment flow of 18 mgd.

In addition, as previously discussed, the HARRF is currently being expanded to increase its storage and treatment capacity for recycled water. Therefore, the City has adequate capacity to serve the Project's projected wastewater demands, in addition to existing commitments, such that impacts would be **less than significant**.

F. Would the Project be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?

Solid waste disposal for the Project would be provided by Escondido Disposal. Residents would be required to pay standard solid waste disposal fees for this service. Based on modeling completed for Section 2.4, Greenhouse Gas Emissions, the Project would increase the amount of solid waste generated in the City by approximately 234 tons per year, which is equivalent to approximately 312 cubic yards per year of mixed solid waste, compacted in place in a landfill. Solid waste from the area is presently taken to either the Sycamore or Otay Mesa Landfills, where there is sufficient capacity. The Otay Landfill, located in the City of Chula Vista, has an approximate remaining capacity of 24,514,904 cubic yards, and the Sycamore Landfill, located in the City of Santee, has an approximate remaining capacity of 39,608,998 cubic yards (Table 3.1.9-1).

In addition, in compliance with AB 1826 Chesbro (Chapter 727, Statutes of 2014), organic waste generated by the community Clubhouse, community farm, greenbelts, and pocket parks would be diverted from landfill disposal in accordance with an organic waste recycling program. "Organic waste" is defined as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Diversion of organic waste from the Project would reduce the amount of waste disposed in the Sycamore or Otay Mesa Landfills. Therefore, impacts associated with disposal of solid waste would be **less than significant**.

G. Would the Project comply with federal, state, and local statutes and regulations related to solid waste?

Residential collection of solid waste by Escondido Disposal is transferred to the Escondido Disposal Transfer Station, where it is then taken to either the Sycamore or Otay Mesa Landfill. Each of these facilities is regulated under federal, state, and local statutes, including Solid Waste and Recycling Policies 15.1 through 15.8 of the City's General Plan. In addition, as previously discussed, organic waste would be recycled in accordance with AB 1826 Chesbro (Chapter 727, Statutes of 2014). Conformance with these statutes and regulations would result in **less than significant impacts** with respect to disposal of solid waste.

3.1.9.3 Cumulative Impact Analysis

Figure 1-10, Cumulative Projects, and Table 1-3, Cumulative Projects, identifies the projects generally considered for the cumulative analysis. More specifically, the geographic scope for analyzing cumulative impacts related to utilities focuses on the boundaries of the Escondido and Rincon. Projects such as Latitude II (112 units), Veterans Village (48 units), Oak Creek (65 single-family residential lots), SUB 15-0002 (55 single-family residential lots), Pradera (70 single-family residential lots), and PHG 15-0009 (33 affordable units), would all incrementally increase the long-term demand for water, wastewater, and solid waste services, similar to the Project. However, all past, present, and future projects in the surrounding area would be required to contribute fees as applicable, which are intended to reduce and minimize potential cumulative impacts on such services and facilities. All new facilities proposed or required by cumulative projects indicated in Table 1-3, Cumulative Projects, are subject to additional and separate CEQA review and would comply with all applicable County ordinances regarding the protection of environmental resources.

Wastewater Treatment Requirements

Projects slated for development in the Escondido Exchange Area and Rincon, such as but not limited to, Latitude II (112 units), Veterans Village (48 units), Oak Creek (65 single-family residential lots), SUB 15-0002 (55 single-family residential lots), Pradera (70 single-family residential lots), and PHG 15-0009 (33 affordable units), would be required to comply with all federal, state, county, and city regulations. Compliance with these regulations would ensure that neither the Project, nor other future proposed projects, would result in a violation of wastewater treatment standards. Impacts would be **less than significant**.

New Water and Wastewater Treatment Facilities

Other projects within the Escondido Exchange Area, Rincon, and Escondido boundaries, such as but not limited to, Latitude II (112 units), Veterans Village (48 units), Oak Creek (65 single-family residential lots), SUB 15-0002 (55 single-family residential lots), Pradera (70 single-family residential lots), and PHG 15-0009 (33 affordable units), could result in a cumulative increase in demand for water and wastewater services facilities. All new facilities proposed or necessitated by cumulative projects would be subject to CEQA review, and projects, in constructing such facilities, would be required to comply with city and county grading ordinances, as well as other applicable regulations protecting environmental resources. Compliance with existing regulations would ensure that new water and sewer facilities constructed to serve cumulative projects within the Escondido Exchange Area, Rincon, and Escondido boundaries may not result in any significant cumulative environmental effects. Impacts would be **less than significant**.

Adequate Water Supplies

The City of Escondido and Rincon have indicated there would be sufficient potable and recycled water to supply the Project. The Project, along with any other cumulative projects, would be required to provide availability and commitment letters demonstrating sufficient water resources and access to available water facilities, and would have to comply with SB 610 and 221, if applicable. Adherence to the above regulations would ensure that cumulative projects would not result in a demand for water that exceeds existing entitlements and resources, or necessitates new or expanded entitlements. Therefore, cumulative impacts associated with adequate water supplies or entitlements would be **less than significant**.

Adequate Wastewater Facilities

As described above, the HARRF would provide wastewater treatment. The HARRF is designed to treat a flow of 18 mgd, and the Project's maximum contribution of wastewater flow at build-out of 128,400 gpd would increase the flow to 15.7 mgd, which is well within the design treatment flow of 18 mgd.

A cumulative increase in demand for wastewater services exists within the HARRF due to other planned development projects, such as but not limited to, Latitude II (112 units), Veterans Village (48 units), Oak Creek (65 single-family residential lots), SUB 15-0002 (55 single-family residential lots), Pradera (70 single-family residential lots), and PHG 15-0009 (33 affordable units),. As required by the City and County, projects must obtain a commitment letter from the wastewater service provider prior to final map approval or building permit issuance that will ensure there would be existing capacity to service the needs of the Project. Adherence to the above regulations would ensure that neither this Project, nor other cumulative projects would result in a

demand for wastewater treatment services that exceeds existing entitlements and resources for wastewater services. As a result, impacts would be **less than significant**.

Sufficient Stormwater Drainage Facilities

All cumulative projects, such as but not limited to, Latitude II (112 units), Veterans Village (48 units), Oak Creek (65 single-family residential lots), SUB 15-0002 (55 single-family residential lots), Pradera (70 single-family residential lots), and PHG 15-0009 (33 affordable units), would be required to include alternative ways of managing stormwater runoff other than constructing new conveyance systems or drainage facilities, such as reducing impervious surfaces in site design, incorporating Low Impact Development techniques, and employing low-impact BMPs, as required by the existing regulatory framework. Additionally, any project that would construct new stormwater drainage facilities would be required to comply with the City grading ordinances, as well as other applicable regulations protecting environmental resources. Compliance with existing regulations would ensure that new drainage facilities constructed to serve cumulative projects would not result in any significant cumulative environmental effects. Impacts would be **less than significant**.

Solid Waste Facilities

The Project would increase the amount of solid waste taken to landfills, but the increase would not be cumulatively considerable because of sufficient capacity at the Otay and Sycamore Landfills. Of the cumulative projects listed in Table 1-3, those likely to result in the largest contribution to ongoing solid waste generation include Latitude II (112 units), Veterans Village (48 units), Oak Creek (65 single-family residential lots), SUB 15-0002 (55 single-family residential lots), Pradera (70 single-family residential lots), and PHG 15-0009 (33 affordable units). Although the Project and cumulative projects would result in an increase in the amount of solid waste sent to landfills, compliance with state and local waste diversion requirements would contribute to the longevity of existing and proposed landfills that would serve the projects and ensure that cumulative impacts are **less than significant**.

In consideration of the above factors, the Project would not contribute to any significant cumulative impacts relative to the provision of utilities and service systems in the City and surrounding San Diego County areas.

3.1.9.4 Conclusion

Based on the analysis in Sections 3.1.9.2 and 3.1.9.3, all impacts related to utilities and service systems would be **less than significant**, and no mitigation is required.

Table 3.1.9-1
Solid Waste Facility Capacity

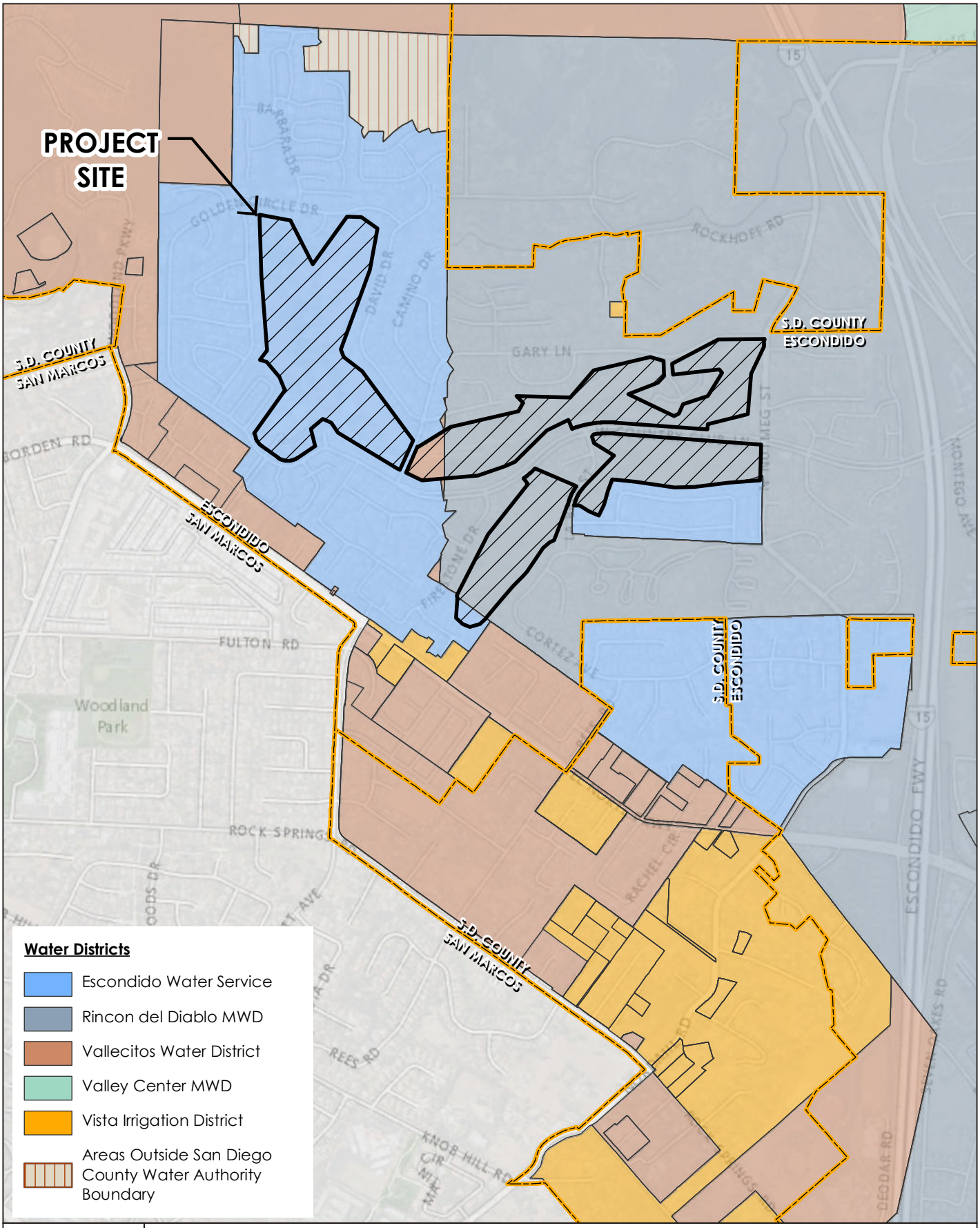
Landfill	Location	Total Capacity (Cubic Yards)	Remaining Capacity (Cubic Yards)	Remaining Capacity Date
Otay Landfill	Chula Vista	61,154,000	24,514,904	March 31, 2012
Sycamore Landfill	Santee	71,233,171	39,608,998	December 31, 2014

Source: CalRecycle 2017.

Table 3.1.9-2
Potable Water Demands

Land Use (Service Area)	Quantity	Water Duty Factor	Average Demand (gpm)	Max Day Demand (gpm)	Peak Hour Demand (gpm)	Fire Flow (gpm)
Residential (Escondido)	177 DU	800 gpd/DU	98.3	177.0	477.9	2,500
Residential (Rincon del Diablo)	215 DU	510 gpd/DU	76.1	129.4	220.8	5,000 (2,500 gpm simultaneously)
Club House	4.1 acres	2,300 gpd/ac	6.5	11.8	31.8	—
Farm/Farm Stand	1.1 acres	3,000 gpd/ac	2.3	4.1	11.1	—
Irrigation	29 acres	3,000 gpd/ac	60.4	108.8	293.6	—
Total			**243.6**	**431.1**	**1,035.3**	

Source: Appendix 3.1.9-1.
Notes: gpm = gallons per minute; DU = dwelling units; gpd/DU = gallons per day per dwelling unit; gpd/ac = gallons per day per acre.



SOURCE: Rick Engineering Company (2017)

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FIGURE 3.1.9-1

Proposed Project Water District Coverage

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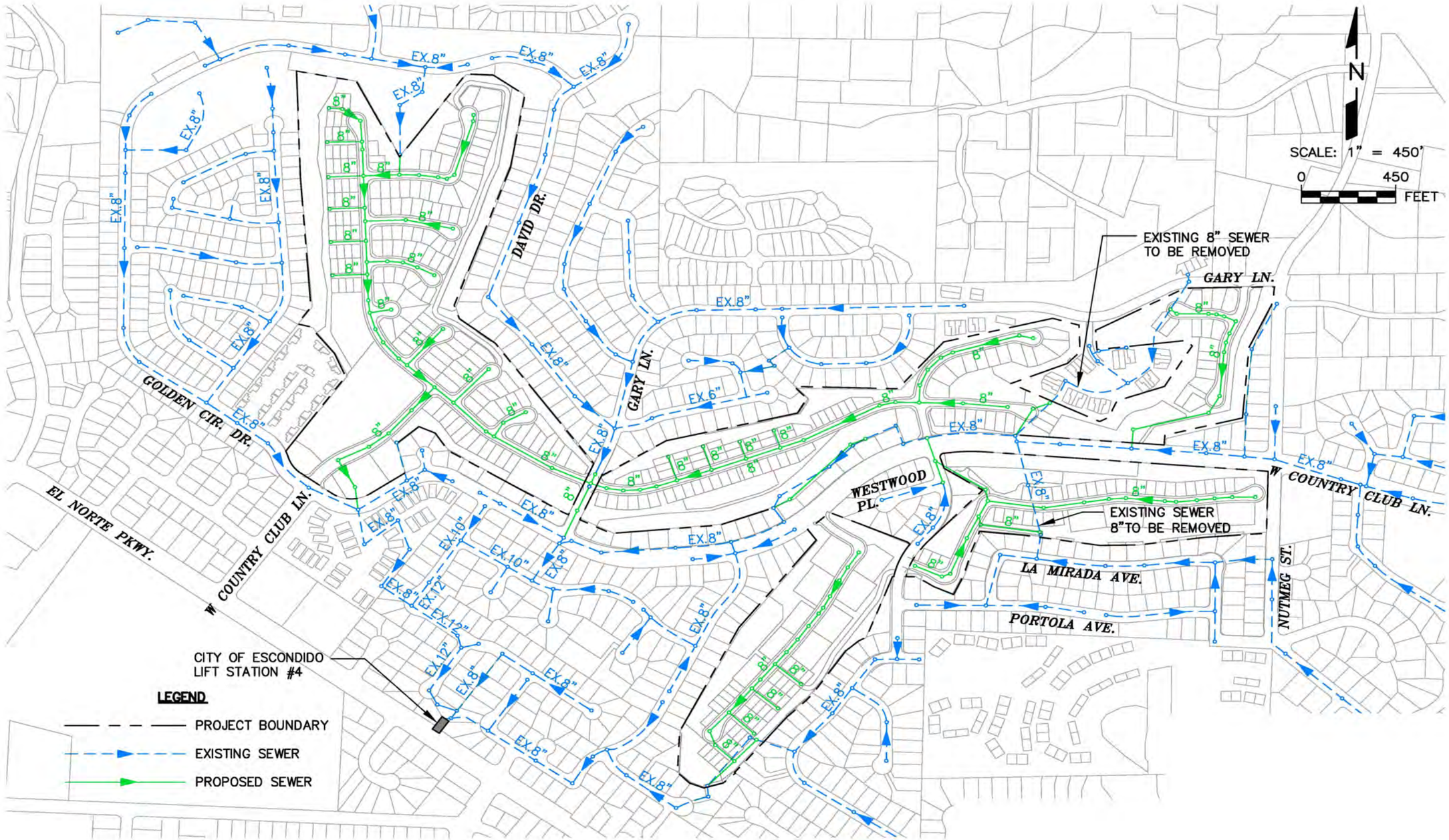

SOURCE: Dexter Wilson Engineering Inc

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FIGURE 3.1.9-2
Existing and Proposed Sewer System

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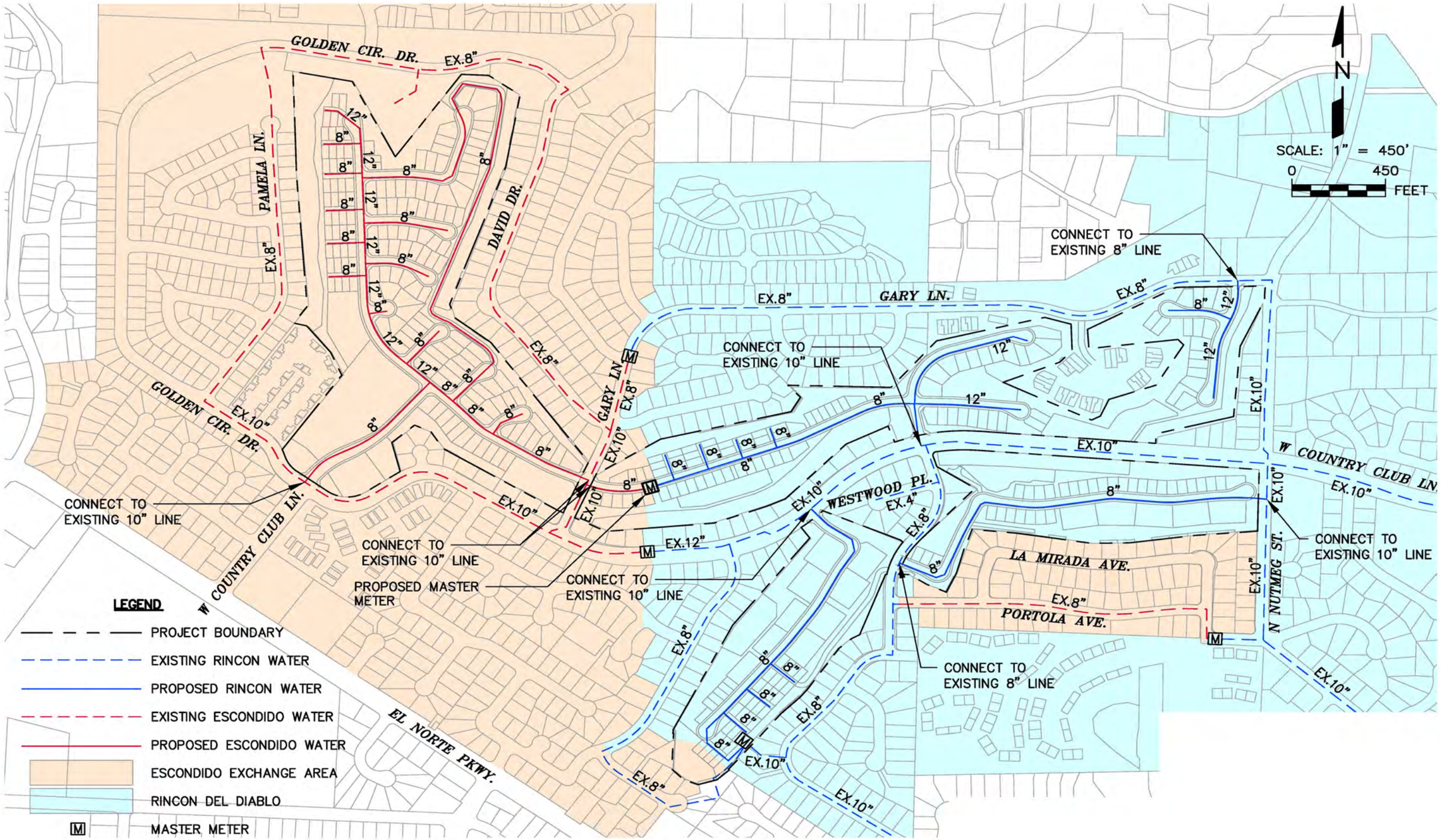

SOURCE: Dexter Wilson Engineering Inc

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FIGURE 3.1.9-3
Existing and Proposed Water System

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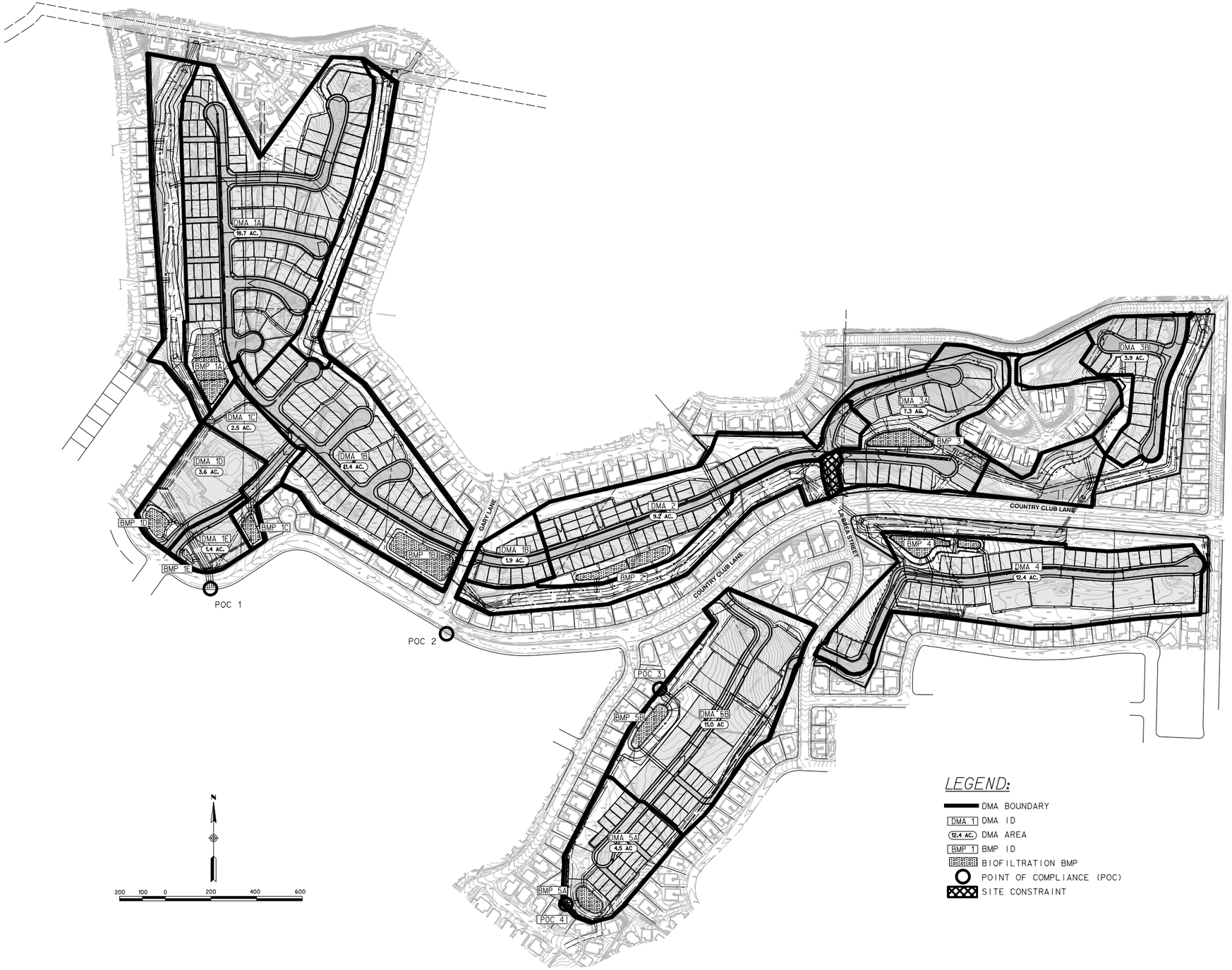

SOURCE: Rick Engineering Company (2017)

FIGURE 3.1.9-4
Proposed Detention Basins (BMPs)

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