

5.16 UTILITIES AND SERVICE SYSTEMS

The six components of the project analyzed herein are:

- 1) Adoption and implementation of the General Plan;
- 2) Adoption and implementation of the revised Zoning Code;
- 3) Adoption and implementation of the revised Subdivision Code;
- 4) Adoption and implementation of amendment of the Noise Code;
- 5) Adoption and implementation of the Magnolia Avenue Specific Plan; and
- 6) Adoption and implementation of the Citywide Design and Sign Guidelines.

Of the six project components, the Magnolia Avenue Specific Plan, Subdivision Code, Zoning Code; Noise Code Amendment and the Citywide Design and Sign Guidelines address site planning, building design and community aesthetics, rather than physical changes to the land or land uses which require utility services, and are thus not considered to have impacts related to utilities and service systems and will not be analyzed further in this section. The Noise Code addresses noise levels and code compliance and will not be analyzed further in this section. Impacts related to the adoption and implementation of the General Plan will be addressed herein.

The Utility section of this EIR has been changed from the previously circulated EIR. In addition to the overall changes listed in the Project Description section of this EIR, some setting and background information was added and/or updated, for example, information on the Planning Areas water systems, sewer systems and natural gas was added, and the supply and demand tables were updated with the most current information from the Urban Water Management Plans; missing existing regulations and policies were added to the section; as well as the additional analysis of all of the threshold questions. Information for all topics within this section was verified and updated as necessary.

This section examines whether Project implementation will result in substantial adverse physical impacts associated with the provision of new or physically altered utilities and service systems, the construction of which could cause significant environmental impacts. The analysis also examines the potential for Project implementation to overload utilities and service systems. The utilities and service systems examined in this section include drainage, water, wastewater, energy, solid waste and telecommunications infrastructure.

The Project Planning Area consists of the corporate boundaries of the City of Riverside, the City's Northern Sphere of Influence, and the Southern Sphere of Influence as described in Section 2 of the EIR, Executive Summary.

In addition to other reference documents, the following references were used in the preparation of this section of the EIR:

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- California Regional Water Quality Control Board, Santa Ana Region, *Order No. R8-2006-0009 NPDES No. CA0105350, Waste Discharge and Producers/User Water Recycling Requirements for City of Riverside Regional Water Quality Control Plant Discharge to Reach 3 of Santa Ana River*, April 21, 2006.
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- City of Riverside, *City of Riverside Public Utilities 2005 Urban Water Management Plan*, December 2005 (Available at <http://www.riversideca.gov/utilities/water-umwp.asp> and City Hall, Public Utilities Resources Division, 4th Floor, 3900 Main Street, Riverside, CA 92522.)
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Eastern Municipal Water District, *2005 Urban Water Management Plan*, 2005 (Available at: http://www.emwd.org/news/pubs_uwmp.html)

- JMM James M. Montgomery Consulting Engineers, Inc., *Regional Water Quality Control Plant Master Plan Update, Technical Memorandums 1 through 6*. 1992.
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- LSA Associates, *Municipal Service Review*, Prepared for Riverside County Local Agency Formation Commission, May 2005.
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- Riverside Highland Water Company. *Urban Water Management Plan*. 2005. Available at: www.scag.ca.gov/rcp/pdf/umwp/riverside/RHWC2005UMWP.pdf).
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- Riverside Public Utilities. *Riverside Transmission Reliability Project, Newsletter #2*. January 2007.
- Southern California Air Quality Management District, *CEQA Air Quality Handbook, Appendix 9, Table A9-11A & A9-12A*; 1993.
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SETTING

Drainage Systems

Stormwater flows directly into the City's storm drain system which then discharges into the Santa Ana River. The Santa Ana River drains a watershed of over 2,700 square miles which includes Orange County, the northwestern corner of Riverside County, southwestern corner of San Bernardino County and a small portion of Los Angeles County. In the City of Riverside there are eleven principal drainage areas for which Master Drainage Plans have been completed (see **Figure 5.16-1, Riverside County Flood Control MDP Boundaries**), of the eleven drainages in the project area, ten eventually flow into the Santa Ana River. These ten drainage areas are: Box Springs, Central Riverside, Home Gardens, La Sierra, Mead Valley, Monroe, Moreno Valley West End, Norco, Southwest Riverside, and University.

There is a small portion of the eastern edge of the Orangecrest Neighborhood, in the Perris Valley drainage area, that is located in the San Jacinto Watershed, instead of the Santa Ana River Watershed. **Figure 5.8-1, Watersheds** depicts the boundary between the Santa Ana Watershed and San Jacinto Watershed.

The Riverside County Flood Control and Water Conservation District (RCFCWCD) is responsible for the operation and maintenance of regional flood control facilities such as dams, flood basins, levees, open channels and regional underground storm drains. In most cases, RCFCWCD does not maintain storm drain inlets or pipes less than 36 inches in diameter. The RCFCWCD is also responsible for construction of new facilities called for in its adopted Master Drainage Plans (MDP). A MDP addresses the current and future drainage needs of a given community or area, usually following regional watershed limits. The MDP includes an estimate of facility capacity, sizes and costs. Funding for facilities planned in an MDP can come from various sources. As noted above, there are a total of 11 MDPs that cover the Planning Area (see **Figure 5.16-1, Riverside County Flood Control MDP Boundaries**). Most funding for county facilities located in Riverside comes through general fund allocations by the RCFCWCD. Other funding comes from the Riverside County Drainage Area Management Plan (DAMP).

The City of Riverside is located in the Santa Ana River Region which is within the Riverside County Drainage Area Management Plan (DAMP). The DAMP addresses the requirements of the municipal separate storm sewer system (MS4) permits issued to the Riverside County Co-Permittees by the Santa Ana Regional Water Quality Control Board. These are the third MS4 permits issued by each Regional Board and are referred to as the “Third-term” MS4 Permits. The City is a permittee under the Third-term MS4 Permits. Under this permit, the City is required to enforce and comply with storm water discharge requirements.

Smaller drainage facilities, consisting mostly of underground closed conduits and storm drains located primarily in developed areas of the Planning Area (City and Sphere area), are typically maintained by the City, or County Transportation Department crews. The City maintains *three storm water pump stations. The three storm water pump stations have design capacities of approximately 500 gpm each.* These local facilities collect stormwater and convey it to regional facilities, including RCFCWCD facilities, the Santa Ana River, and the many arroyos located in the Planning Area. **Figure 5.16-2, Drainage Facilities**, depicts major storm drain infrastructure located within the Planning Area, including facilities owned and operated by both the RCFCWCD and the City.

Water Systems

Water service within the Planning Area is provided by Riverside Public Utilities (RPU), Western Municipal Water District (WMWD), Eastern Municipal Water District (EMWD), and Riverside Highland Water Company (RHWC). Water purveyor/district boundaries are depicted in **Figure 5.16-3, Water Service Areas**. As shown on the figure, the majority of the northern sphere area will be served by Riverside Highland while the majority of the southern sphere area will be served by WMWD. Portions of the Planning Area currently served with domestic water infrastructure are depicted in **Figure 5.16-4, Water Facilities**.

Urban water purveyors are required to prepare and update an Urban Water Management Plan (UWMP) every five years. The RPU, EMWD and WMWD adopted new UWMPs in 2005. Riverside Highland Water Company adopted its UWMP in 2006. The UWMPs address water supply, treatment, reclamation and water conservation, and also contain a water shortage contingency plans. Local UWMPs, such as those prepared by the RPU, EMWD and WMWD,

are supplemental to the regional plans prepared by Metropolitan. The UWMPs are based in part on local land use plans, which are used to project the long-term water needs of respective service areas. The RPU UWMP is based on the land uses identified in this proposed General Plan.

Riverside Public Utilities (RPU)

The City of Riverside established its own water utility, the Riverside Public Utilities Department (RPU), in 1913. RPU's primary water source comes from local groundwater basins from the Bunker Hill Basin in San Bernardino and Riverside North and South Basins in Riverside. RPU purchases water from WMWD, primarily to meet peak water demand during summer months and during emergencies. As of 2004, RPU provided water service to approximately 62,000 customers.

The City of Riverside has prepared an update to its Water System Master Plan which identifies anticipated water facility improvements needed over a 20 year period. RPU's service area encompasses 74 square miles, of which approximately 68.5 square miles are located within the City limits and 5.6 square miles are located outside the City limits. RPU operates approximately 890 miles of pipelines ranging from 4 to 72 inches in diameter, 46 domestic wells, 18 irrigation wells, 16 reservoirs with an approximate total volume of 100 million gallons, 21 pressure reducing stations, and 39 pumping stations.

Although not a direct supplier of water to City of Riverside users, Metropolitan Water District of Southern California (Metropolitan) operates and maintains facilities located within the City of Riverside and its Sphere of Influence (Planning Area). Metropolitan's Upper Feeder Pipeline, Lower Feeder Pipeline, and Mills Filtration Plant are located within the City limits. The Upper Feeder Pipeline is a 132-inch diameter pipeline located with a permanent easement right-of-way; and the Lower Feeder Pipeline is a 120-inch diameter pipeline located within a fee-property right of way. Metropolitan also owns the Box Springs Feeder right of way property, which is located within the City limits of Riverside. In addition, Metropolitan owns land and operates facilities around Lake Mathews, which are located within the Sphere of Influence portion of the Planning Area. Implementation Tool 33 provides that all Metropolitan facilities will be properly designated as Public Facilities.



- LEGEND**
- Box Springs
 - Central Riverside
 - Home Gardens
 - La Sierra
 - Mead Valley
 - Monroe
 - Moreno Valley West End
 - Norco
 - Perris Valley
 - SW Riverside
 - University
 - RIVERSIDE CITY BOUNDARY
 - RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY FLOOD CONTROL

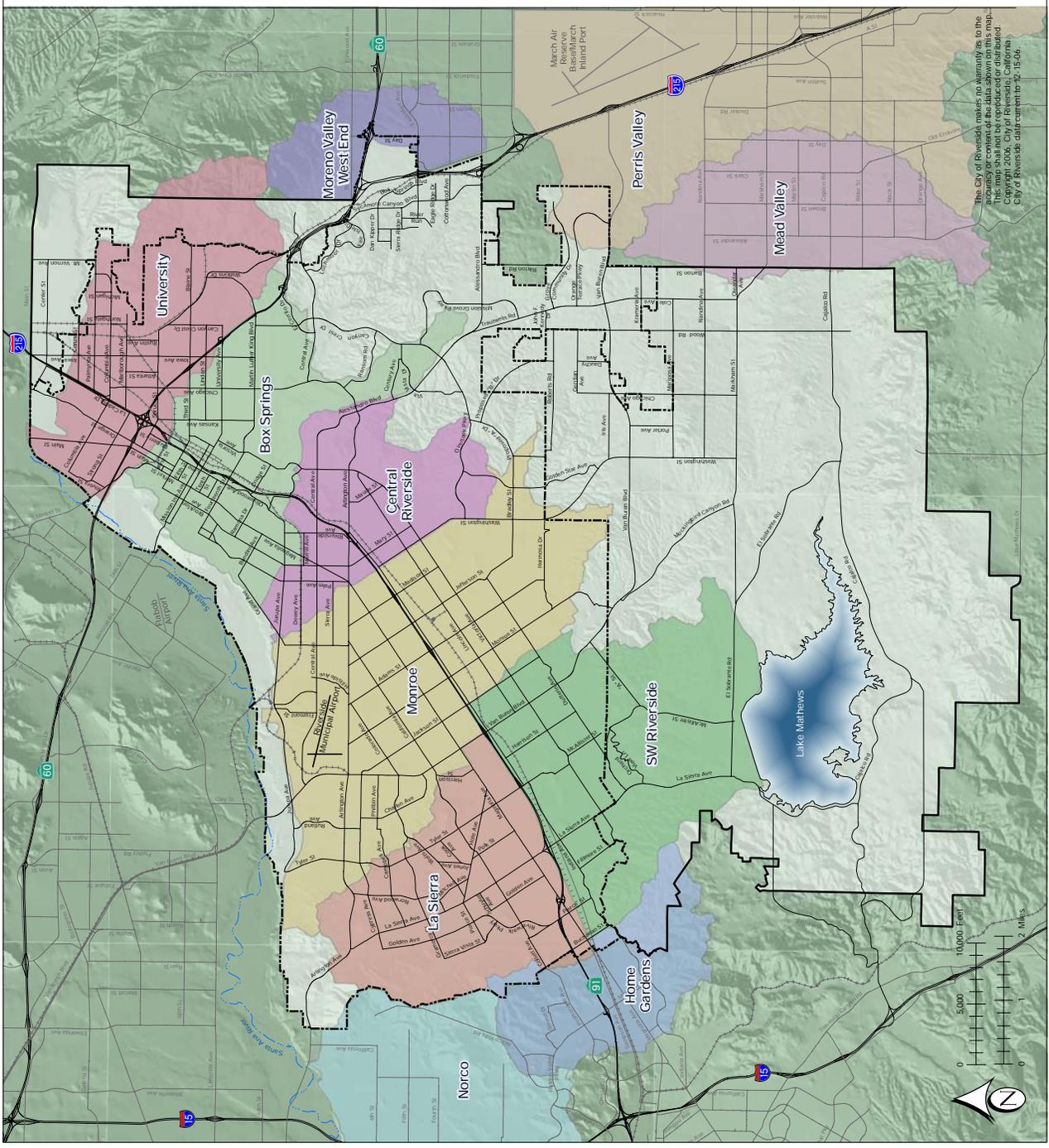


Figure 5.16-1
RIVERSIDE COUNTY
FLOOD CONTROL
MDP BOUNDARIES

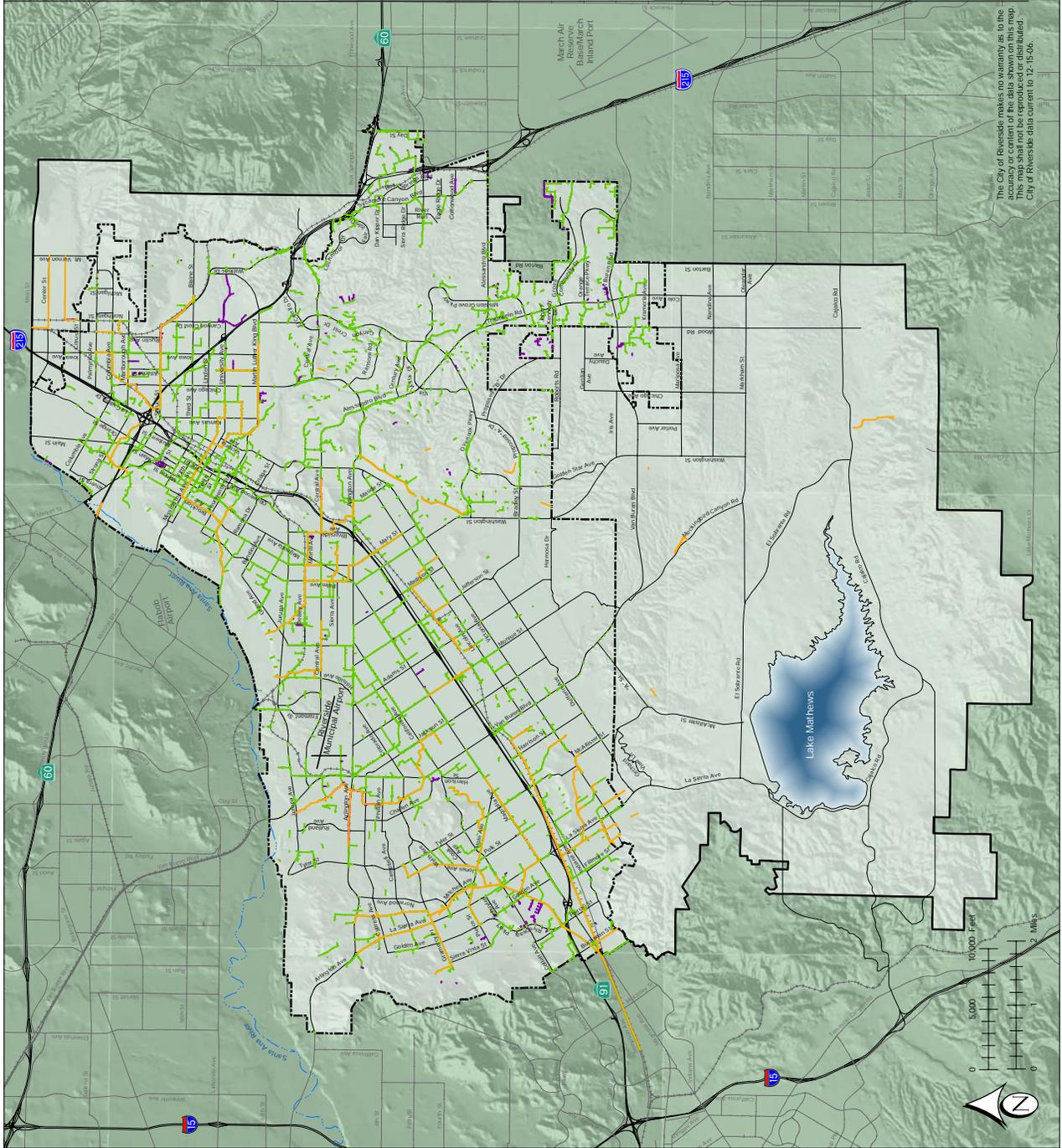


LEGEND

- STORM DRAIN, CITY OWNED
- STORM DRAIN, COUNTY OWNED
- STORM DRAIN, OTHER OWNERSHIP
- - - RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

NOTE: THIS MAP IS FOR INFORMATION PURPOSES ONLY. PLEASE REFER TO THE OFFICIAL MAPS ON FILE WITH RIVERSIDE PUBLIC WORKS.

SOURCE: CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT AND RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT



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**Figure 5.16-2
DRAINAGE
FACILITIES**

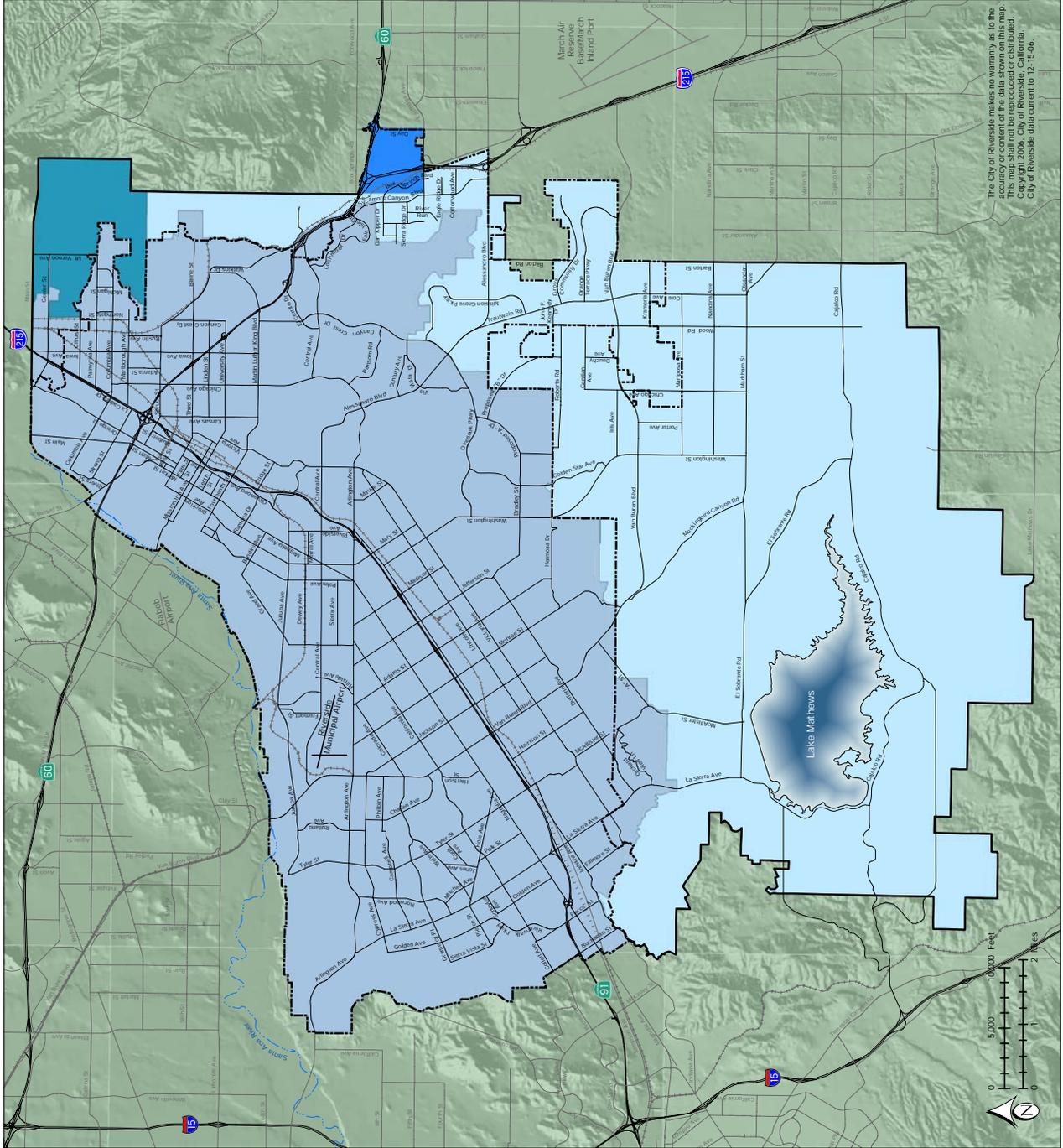


LEGEND

- RIVERSIDE PUBLIC UTILITIES SERVICE AREA
- RIVERSIDE HIGHLAND WATER COMPANY
- EASTERN MUNICIPAL WATER DISTRICT
- WESTERN MUNICIPAL WATER DISTRICT
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

NOTE: THIS MAP IS FOR INFORMATION PURPOSES ONLY. PLEASE REFER TO THE OFFICIAL MAPS ON FILE WITH RIVERSIDE PUBLIC UTILITIES.

SOURCE: CITY OF RIVERSIDE PUBLIC UTILITIES DEPARTMENT, WESTERN MUNICIPAL WATER DISTRICT, EASTERN MUNICIPAL WATER DISTRICT



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Figure 5.16-3
WATER SERVICE AREAS

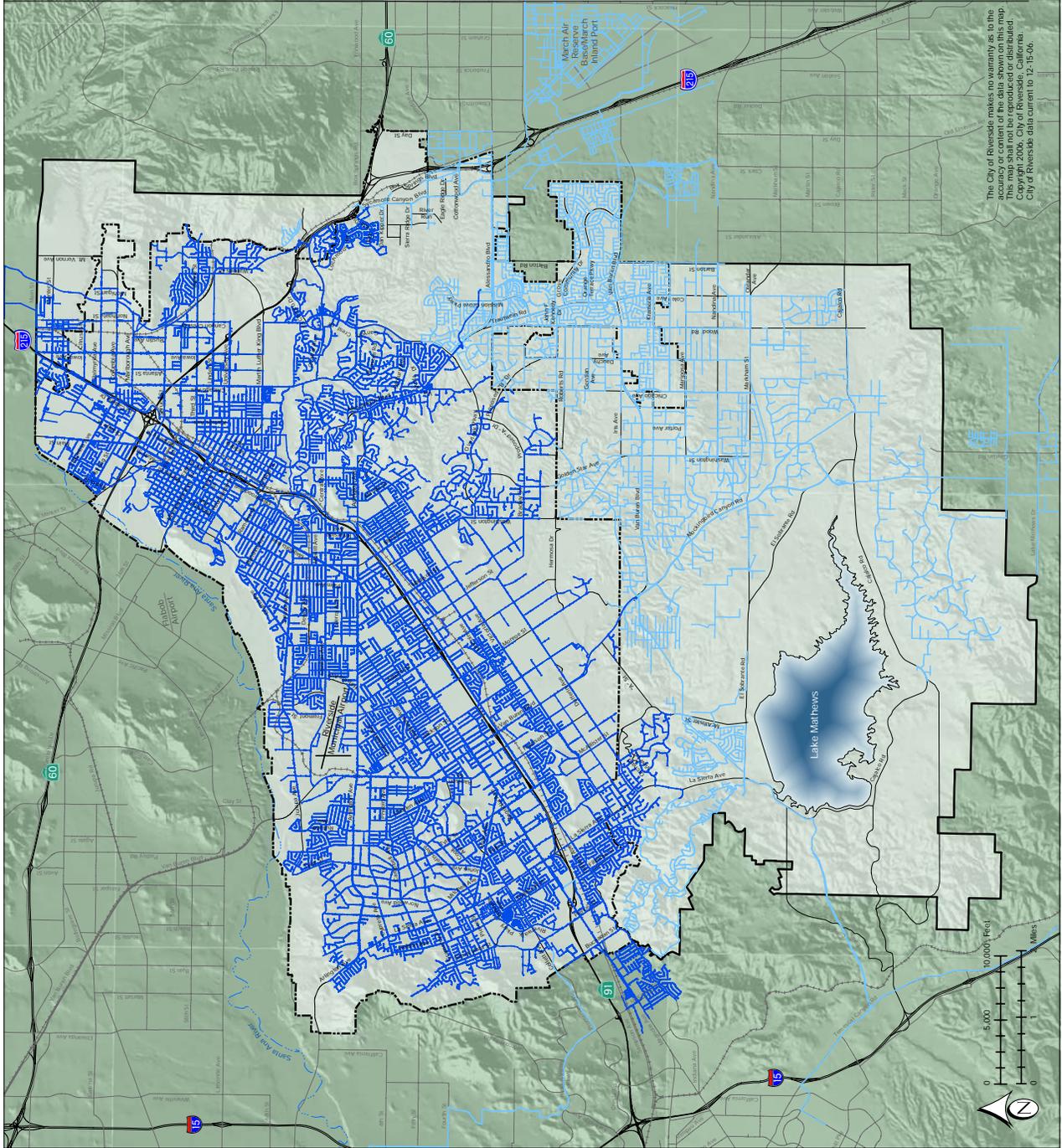


LEGEND

- RIVERSIDE PUBLIC UTILITIES DEPARTMENT WATER LINE
- WESTERN MUNICIPAL WATER DISTRICT WATER LINE
- - - RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

NOTE: THIS MAP IS FOR INFORMATION PURPOSES ONLY. PLEASE REFER TO THE OFFICIAL MAPS ON FILE WITH RIVERSIDE PUBLIC UTILITIES.

SOURCE: CITY OF RIVERSIDE PUBLIC UTILITIES DEPARTMENT AND WESTERN MUNICIPAL WATER DISTRICT



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**Figure 5.16-4
WATER
FACILITIES**

Western Municipal Water District

Western Municipal Water District (WMWD) was formed by the voters in 1954 to bring supplemental water to growing western Riverside County. As of 2004, WMWD serves more than 18,000 domestic retail customers, 260 retail agricultural customers, 181 commercial customers, 172 other users (such as landscaping, fire flow, etc.) and 9 wholesale customers. WMWD's water sources include the Colorado River, State Water Project, and the City of Riverside.

As a member agency of the Metropolitan Water District of Southern California, WMWD provides supplemental water to the cities of Corona, Norco and Riverside and the water agencies of Elsinore Valley and Rancho California. WMWD serves customers in the unincorporated areas of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Mathews, and March Air Reserve Base. WMWD operates and maintains domestic and industrial wastewater collection and conveyance systems for retail and contract services customers in Lake Hills, March Air Reserve Base, Home Gardens, and Norco.

WMWD's general district consists of a 510-square-mile area of western Riverside County; approximately 9.85 square miles of WMWD's service area falls within the Riverside Planning Area. The District operates 55 pumps and 242 miles of pipeline. WMWD currently sells approximately 90,000 acre-feet of water annually.

About 60 percent of the water WMWD sells is treated; the balance is untreated or raw water. About one-third of WMWD's water sales are for domestic purposes; the rest wholesale. Nearly all water sold by WMWD for agricultural purposes is used to irrigate citrus and avocados.

Eastern Municipal Water District

Formed in 1950 by popular vote, Eastern Municipal Water District (EMWD) serves as a public water agency. In 1951 it was annexed into the Metropolitan Water District and is one of MWD's 26 member agencies. EMWD gets much of its supply from imported water from the Colorado River Aqueduct and from Northern California through the State Water Project.

Initially, EMWD was to deliver imported water to supplement local groundwater to serve primarily agriculture. Over time, it has expanded to include ground water production, desalination, water filtration, waste water collection and treatment, and regional water recycling to serve domestic users.

Eastern Municipal Water District (EMWD) serves an area of 555 square miles. This includes 6 incorporated cities in addition to unincorporated areas in the County of Riverside. Of that, 0.91 square miles is located within Riverside's Planning Area. EMWD serves over 100,000 customers.

Riverside Highland Water Company

Riverside Highland Water Company (RHWC) was incorporated in February 21, 1898. It is a mutual, shareholder-owned water company that is regulated by the California Corporation Commission. RHWC serves over 3,800 customers in three communities: City of Colton, Rialto, and Riverside and two counties: San Bernardino and Riverside. RHWC serves the northern Sphere portion of the Planning Area, approximately 0.25 square miles. Average consumption in some locations is 248 gpd, services located in large hillside lots in high fire zones average 1,163 gpd. RHWC has 13 operating wells, 8 of which pump domestic water. Two wells are dedicated for irrigation purposes and three wells are dedicated to basin pump out to reduce groundwater elevation.

Sewer Systems

Wastewater service within the Planning Area is provided by Riverside Public Works and WMWD. Similar to the boundaries of the City's potable water system, the City provides sewer service to the majority of the Planning Area, for a total service area of approximately 74 square miles, as shown on **Figure 5.16-5, Sewer Service Areas**. WMWD serves most areas located south of Van Buren Boulevard, or generally the Southern Sphere Area. Most of the northern sphere area is served by the City of Riverside with some areas of the Box Springs Mountain Regional Reserve outside of either service area.

Riverside Public Works Department

The City of Riverside Public Works Department provides for the collection, treatment and disposal of all wastewater generated within the City of Riverside, except for a small area located south of Van Buren Boulevard which is served by WMWD, through its Riverside Regional Water Quality Treatment Plant (RRWQCP) and complies with State and Federal requirements governing the treatment and discharge of wastewater. Primary, secondary and tertiary treatment of wastewater from the Jurupa, Rubidoux and Edgemont Community Services Districts is also provided. The City also has an agreement with the County of Riverside to provide wastewater services to the northern Sphere Area, also known as the Highgrove community. The agreement states that the City of Riverside will operate and maintain the collection system and provide sewer services to this area. The County of Riverside will install and own the collection system.

The wastewater collection system includes over 776 miles of gravity sewers ranging in size from 6 to 54 inches in diameter. The system also includes 18 wastewater pump stations. Most of the wastewater lift stations are designed for flows of 100 to 400 gpm. There are two large lift stations with design capacities in excess of 2,000 gpm. The City Public Works Department installs and maintains the wastewater system. A Wastewater Master Plan is currently being prepared by the City Public Works Department which will address capacity through 2025.¹ The Notice of Preparation for this document has been circulated to responsible agencies. The most recent adopted Wastewater Master Plan was from 1985. In 1993, the City Public Works Department prepared a series of Technical Memoranda which address the facility and capacity

¹ Electronic correspondence from Sandy Caldwell Principal Engineer, to Cathy Perring, Webb Associates, March 2, 2007.

needs of the City. Existing sewer infrastructure within the Planning Area is depicted in **Figure 5.16-6, Sewer Infrastructure.**

According to the City of Riverside Public Utilities 2005 Urban Water Management Plan, the RRWQCP currently treats approximately 33 million gallons per day (mgd) of wastewater for over 280,000 residents in the City of Riverside and the Jurupa, Edgemont, Rubidoux, and Highgrove communities. The plant currently discharges tertiary-treated effluent to the Santa Ana River. A team of 100 people operate the plant 24-hours a day, 365 days a year. In 2005, the plant had a capacity of 40 mgd. According to the 1992 Technical Memorandum, a planned expansion by 2013 will allow the facility to treat up to 50 mgd.

Western Municipal Water District

Western Municipal Water District serves as wastewater treatment system operator for primarily the southern Sphere area of the Planning Area through two wastewater treatment facilities located within its service area: Western Riverside County Regional Wastewater Authority (WRCRWA) and March Air Reserve Base (MARB). Secondary and tertiary treatment of wastewater is provided from WRCRWA and MARB. The two wastewater treatment plants have a combined capacity of 8.75 million gallons per day (mgd) with the WRCRWA treatment plant designed to have a capacity for 8 mgd. Capacity expansions are planned within the next 5 years at both plants. WRCRWA is planned to expand to 32 mgd. Western also operates and maintains domestic and industrial wastewater collection and conveyance systems for retail and contract services customers in Lake Hills, March Air Reserve Base, Home Gardens, and Norco. The MARB facility is capable of treating 0.75 mgd of wastewater. At the MARB plant, WMWD is responsible for emergency repairs, sampling and monitoring, and regulatory agency reports, as well as outside service contracts for lab work.

The City of Riverside and WMWD have an agreement which defines the areas the City and WMWD are responsible for. Generally, the agreement states that the City will provide wastewater service north of Van Buren Boulevard and WMWD will provide wastewater to the south of Van Buren Boulevard, except as noted above.



LEGEND

- RIVERSIDE PUBLIC WORKS SERVICE AREA
- WESTERN MUNICIPAL WATER DISTRICT
- OUTSIDE SERVICE AREA
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

NOTE: THIS MAP IS FOR INFORMATION PURPOSES ONLY. PLEASE REFER TO THE OFFICIAL MAPS ON FILE WITH RIVERSIDE PUBLIC WORKS.

SOURCE: CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT, WESTERN MUNICIPAL WATER DISTRICT

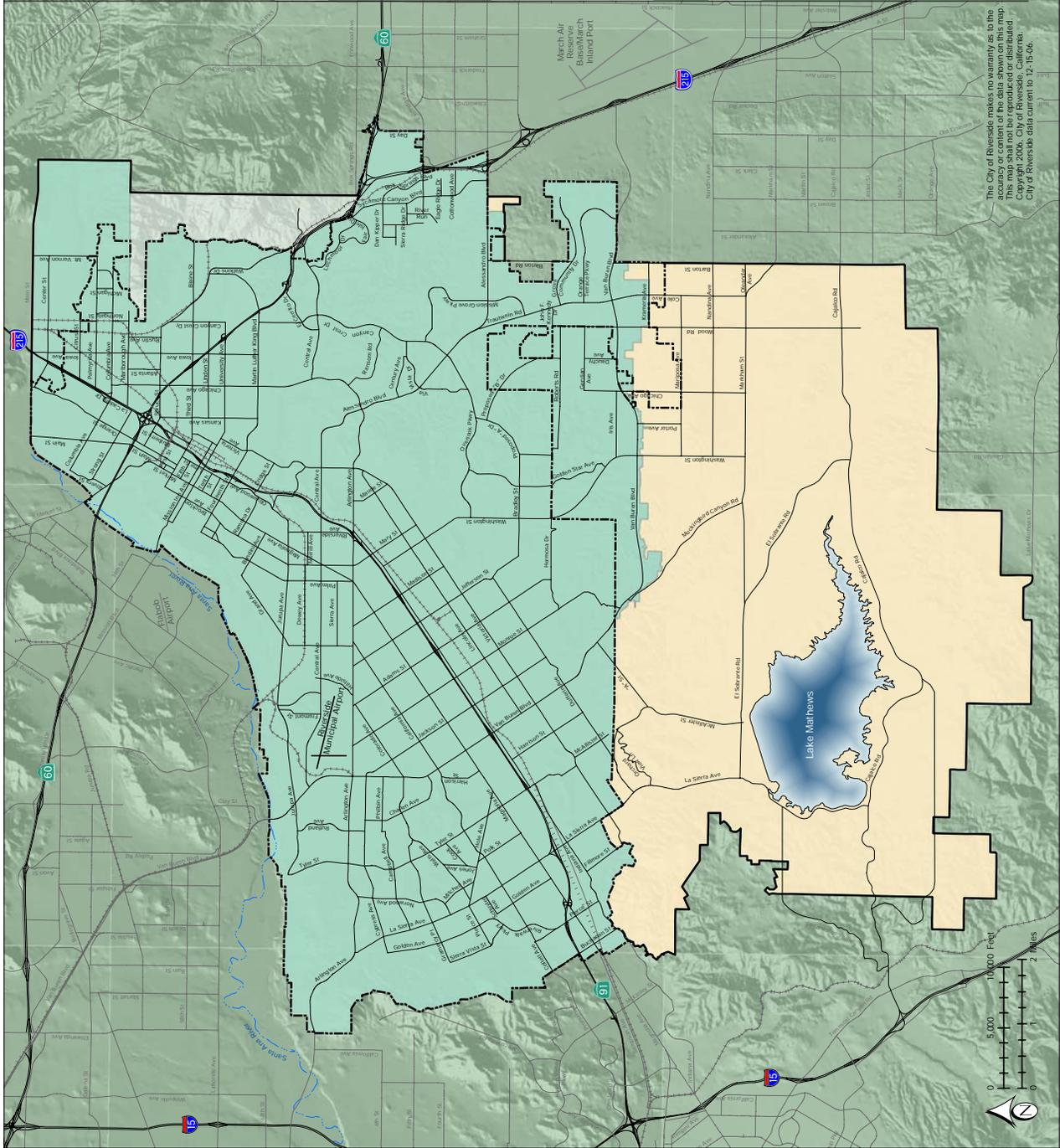


Figure 5.16-5
SEWER SERVICE AREAS

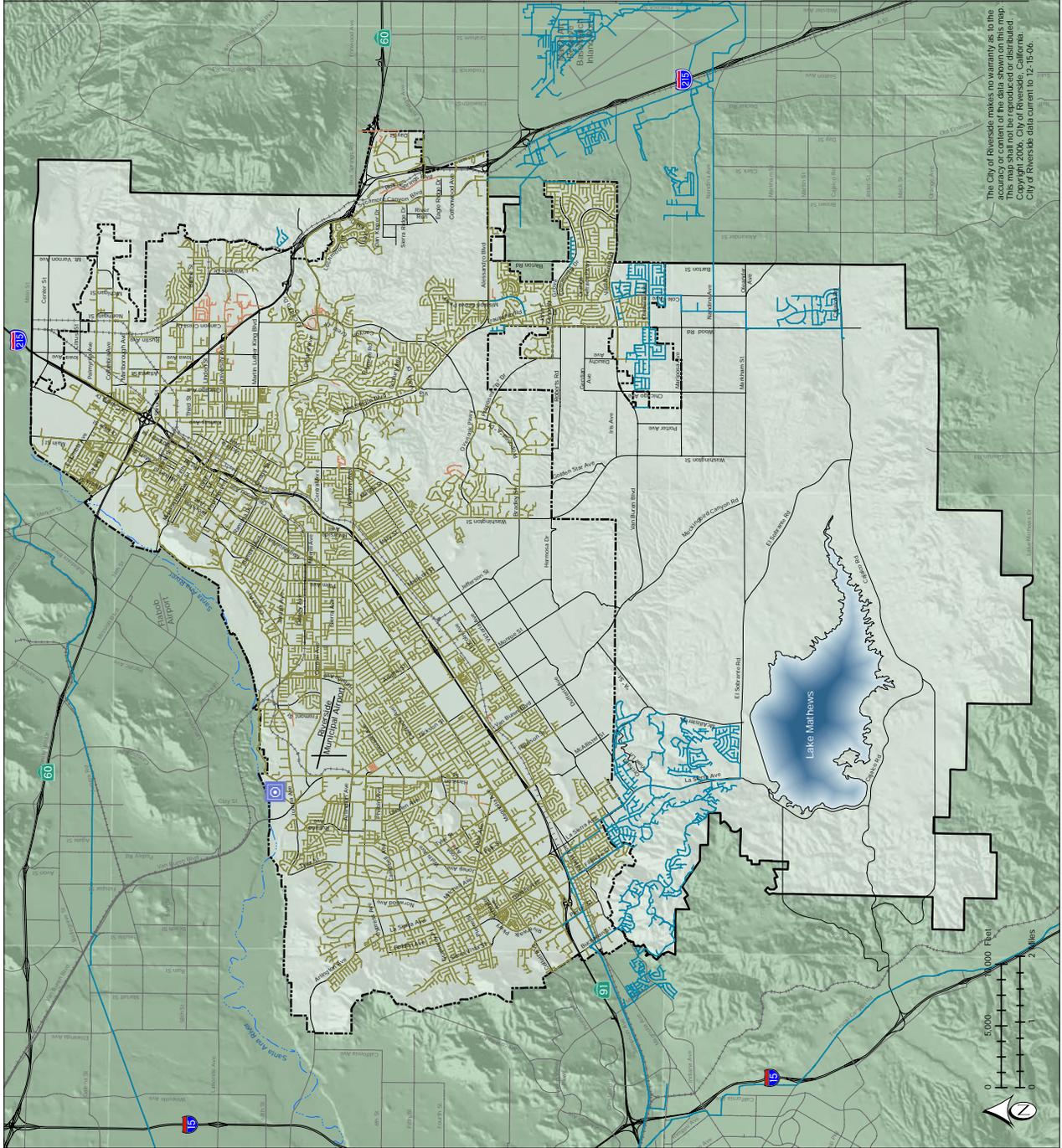


LEGEND

-  WATER QUALITY CONTROL PLANT
-  RIVERSIDE PUBLIC WORKS DEPARTMENT SEWER LINE
-  OTHER SEWER LINE IN CITY
-  WESTERN MUNICIPAL WATER DISTRICT SEWER LINE
-  RIVERSIDE CITY BOUNDARY OF INFLUENCE

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SOURCE: CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT AND WESTERN MUNICIPAL WATER DISTRICT



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**Figure 5.16-6
SEWER
INFRASTRUCTURE**

Solid Waste

The City of Riverside Public Works Department collects trash from approximately 38,500 households (70 percent of all households) largely using automated trash collection trucks. Excessive waste generation is discouraged by the Public Works Department by charging additional fees if a second trash container is required. The remaining portion of the City’s solid waste is collected by a private contractor. The private collector services approximately 20,000 customers. The private collector services customers in the La Sierra, University and Orangecrest neighborhoods. Commercial areas are also serviced by private collectors. There are currently three collectors that serve the commercial areas.

All non-hazardous solid waste collected is taken to the Robert A. Nelson Transfer Station, which is owned by the County of Riverside and operated under a 20-year franchise by a private company. Waste is then transferred to the Badlands Landfill for disposal. However, local trash haulers may dispose of collected waste at other County landfills in the area, such as the Lamb Canyon Landfill and El Sobrante landfill. All Riverside County landfills are Class III disposal sites permitted to receive non-hazardous municipal solid waste. See **Table 5.16-A**, Existing Landfills for information about the above-listed sites.

Public Resources Code Section 41780 requires every city and county in the State to divert from landfills at least 50 percent of the quantity of waste generated within their jurisdiction in 2000. The Legislature amended this statute in 2000, requiring jurisdictions to sustain their waste diversion efforts into the future. In 2004, the City’s waste diversion rate was 60 percent, in compliance with Section 41780.²

Table 5.16-A Existing Landfills							
Landfill	Location	Current Remaining Capacity as of 6/2007 (tons)	Maximum Permitted Capacity (tons)	Estimated Close Date	Maximum Daily Load (tons/day)	Average Daily Load (tons/day)	2006 Annual Usage (tons)
Badlands Landfill*	East of Moreno Valley, 1,168.3 acres, of which 150 acres are permitted for waste disposal and 70 acres are permitted for excavation and stockpiling cover material and other ancillary activities.	8.289 million	15.237 million	2016	4,000	2,195	676,104
El Sobrante Landfill	East of Interstate 15 and Temescal Canyon Road to the south of the City of Corona and Cajalco Road at 10910 Dawson Canyon Road. The landfill encompasses 1,322 acres, of which 645 acres are permitted for waste disposal.	36.89 million (in-county)	48 million (in-county)**	2023***	10,000	3,590	1.106 million (in-county)

² California Integrated Waste Management Board 2007.

Table 5.16-A Existing Landfills							
Landfill	Location	Current Remaining Capacity as of 6/2007 (tons)	Maximum Permitted Capacity (tons)	Estimated Close Date	Maximum Daily Load (tons/day)	Average Daily Load (tons/day)	2006 Annual Usage (tons)
Lamb Canyon Landfill*	Located between the City of Beaumont and the City of San Jacinto at 16411 Lamb Canyon Road. The landfill encompasses approximately 1,109 acres, of which 144.6 acres are permitted for waste disposal	11.391 million	16.244 million	2018	3,000	2,030	637,000
	TOTAL	56.57 million	79.481 million		17,000	7,815	2.419 million

Source: County of Riverside Waste Management Department Landfill Information, email correspondence from Sung Key Ma, Planner, March 12, 2007.

County of Riverside Waste Management Department 15-Year Capacity Projection, email correspondence from Leslie Likins, Solid Waste Planning Manager, June 5, 2007.

*Further expansion potential at the site.

**109 Million Tons Total

*** Assumes diversion from Badlands and Lamb Canyon as they close.

Dry Utilities

Energy

The City of Riverside is the primary distribution provider for electricity in the entire City. Riverside Public Utility is a municipally owned electrical utility and as such maintains electrical facilities and infrastructure within the City. Southern California Edison (SCE) serves electrical customers outside of the City limits. As areas from the Sphere are annexed into the City, RPU will serve customers in those areas. This happens over time and this is why SCE is providing service to some areas within the City limits at this time. **Figure 5.16-7, Electric Service Areas**, shows the service areas of these two providers.

Established in 1895, RPU’s electrical system includes almost 90 miles of transmission lines and 1,200 miles of distribution lines. RPU’s service area covers 80 square miles. It is the sixth largest Municipal Electric Utility in California. RPU is responsible for the generation, transmission and distribution of electric power within the City. As of 2004/05 fiscal year, RPU had over 103,000 electrical meter connections and sold over 2,432 million of kilowatt-hours of energy. RPU’s peak power demand was 519 MW (megawatts) of electricity. Currently, all of RPU’s energy from external sources comes through SCE’s Vista Substation, which is located in Grand Terrace. RPU has a limited capacity limit of 557 megawatts (MW) from the Vista Substation. The Springs 40 MW peaking generation facility and the Riverside Energy Resource Center 98 MW peaking generation facility went online in June 2002 and June 2006, respectively. This provides an additional 138 MW for RPU. In combination with Vista Substation, these facilities provide a total of 695 MW of peak capacity.

As of the 2004-05 fiscal year, RPU’s annual power delivery in the City was 1,962,000 megawatt hours (MWh). In the 2004-05 fiscal year, RPU residential customers used an annual average of 7,424 kilowatt hours per residential household. **Table 5.16-B, Riverside Public Utilities Electric Use 2004/05**, displays RPU customer’s electricity use by land use type.

Table 5.16-B Riverside Public Utilities Electric Use 2004/05		
Electric Use	# of Meters	Millions of kilowatt-hour sale
Residential	92,914	675
Commercial	10,060	530
Industrial	344	707
Wholesale sales	-	470
Other	145	50
TOTAL	103,463	2,432

Source: City of Riverside Public Utilities Department, 2004-2005 Financial Statements

As of 2006, the largest proportion (68 percent) of RPU’s electrical power came from coal, followed by nuclear power (13 percent) and natural gas (3 percent). Approximately 13 percent of RPU’s electrical power comes from renewable energy sources, including geothermal, wind, biomass/waste, small-scale hydroelectric and solar power. See **Table 5.16-C, Riverside Public Utilities Energy Resource (2006)**

Table 5.16-C Riverside Public Utilities Energy Resource (2006)	
Energy Resource	Power Mix
Eligible Renewable	13%
Biomass & waste	2%
Geothermal	7%
Small hydroelectric	3%
Solar	<1%
Wind	<1%
Coal	68%
Large Hydroelectric	3%
Natural Gas	3%
Nuclear	13%
Other	<1%
TOTAL	100%

Source: City of Riverside Public Utilities Department, 2006.

Southern California Edison (SCE) is a regulated electrical utility which maintains electrical facilities and infrastructures within the Sphere areas and a very small portion of the City. It

provides service to customers within a 50,000 square mile area of central, coastal, and Southern California, including western Riverside County. The California Independent System Operator operates 500 kV and 220 kV transmission lines, which travel east to west throughout the County of Riverside. These lines are part of the Western United States electric transmission system which ties the entire region together and brings power from many areas to Riverside County.

SCE derives its electricity from a variety of sources, as shown in **Table 5.16-D, SCE Energy Resource**. The majority of electrical power came from natural gas (54%), 17% came from nuclear source, followed by eligible renewables (16%).

Table 5.16-D SCE Energy Resource (2006)	
Energy Resource	Power Mix
Eligible Renewable	16%
Biomass & waste	2%
Geothermal	9%
Small hydroelectric	1%
Solar	1%
Wind	3%
Coal	7%
Large Hydroelectric	5%
Natural Gas	54%
Nuclear	17%
Other	1%
TOTAL	100%

Source: SCE 2006 Power Content Label



LEGEND

- RIVERSIDE PUBLIC UTILITIES ELECTRIC SERVICE
- SOUTHERN CALIFORNIA EDISON ELECTRIC SERVICE
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

NOTE: THIS MAP IS FOR INFORMATION PURPOSES ONLY. PLEASE REFER TO THE OFFICIAL MAPS ON FILE WITH RIVERSIDE PUBLIC UTILITIES.

SOURCE: CITY OF RIVERSIDE PUBLIC UTILITIES DEPARTMENT

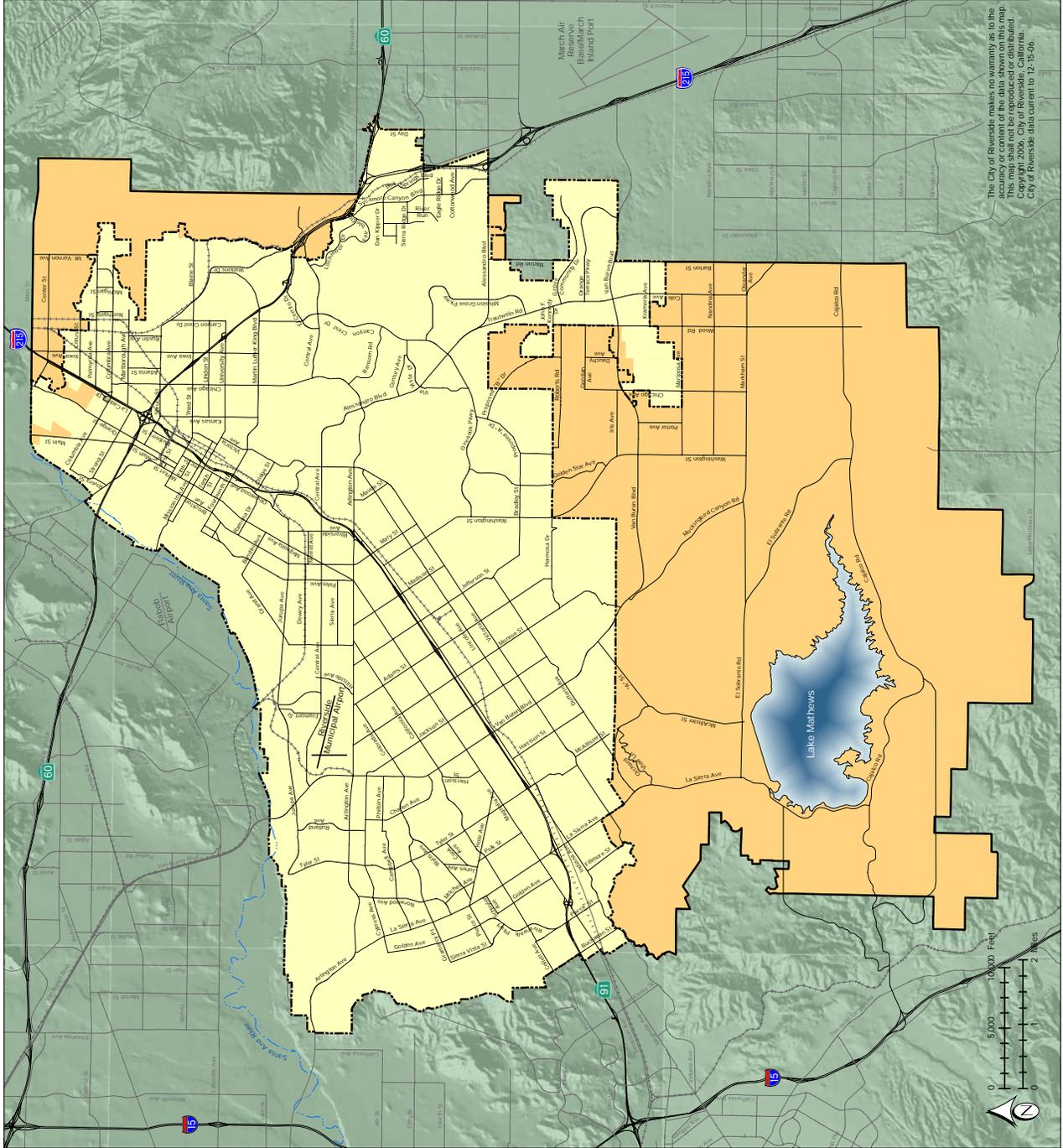


Figure 5.16-7
ELECTRIC
SERVICE AREAS

Natural Gas

Southern California Gas Company (SCGC) provides natural gas service for residential, commercial, and industrial uses. The following counties are served by SCGC: Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Santa Barbara, San Bernardino, San Luis Obispo, Tulare, Ventura and Riverside. Natural gas is a “fossil fuel,” indicating that it comes from the ground, similar to other hydrocarbons such as coal or oil. SCGC purchases natural gas from several bordering states. Interstate pipelines that currently serve California include: El Paso Natural Gas Company, Kern River Transmission Company, Mojave Pipeline Company, Gas Transmission-Northwest, Transwestern Pipeline Company, Southern Trails Pipeline, and Tuscarora Pipeline.

Most of the major natural gas transmission pipelines within the Planning Area are owned and operated by SCGC. The Public Utilities Commission (PUC) regulates SCGC, who is the default provider required by State law, for natural gas delivery to the Planning Area. SCGC has the capacity and resources to deliver gas except in certain situations that are noted in State law. As development occurs, SCGC will continue to extend its service to accommodate development and supply the necessary gas lines. SCGC does not base its service levels on the demands of the Planning Area; rather it makes periodic upgrades to provide service for particular projects and new development. SCGC is continuously expanding its network of gas pipelines to meet the needs of new commercial and residential developments in Southern California.

Telecommunication

Compared to traditional types of infrastructure such as roads and water lines, planning for “high-technology” infrastructure is a relatively recent phenomenon. The convergence of data, telephone, television, satellites and the personal computer has created a dynamic world of interactive communications possibilities. Providing and supporting evolutions in communications infrastructure will provide a vital framework for job and commercial growth, educational opportunities and quality of life issues for the City of Riverside.

The City of Riverside has already begun to differentiate itself from other communities by planning for electronic infrastructure needs and creating an environment that is attractive to its workforce and to the community as a whole. Several key programs that the City of Riverside has initiated include the City Wide WiFi project which offers City wide broadband for free to residents and has a 2.4 Ghz monthly rate for Riverside Government use and a 4.9 Ghz portion for first responders. See the Related Regulations and Programs section, below, for a full list of telecommunications-related programs.

Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Therefore, significance determinations utilized in this Section are a compilation of Appendix G of the CEQA Guidelines as well as the City of Riverside's latest version of their Initial Study Checklist.

A significant impact to *drainage systems* will occur if implementation of the Project:

- requires or results in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

A significant impact to *water systems* will occur if implementation of the Project:

- requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- causes the water supplier to have insufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

A significant impact to *sewer systems* will occur if implementation of the Project:

- exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- results 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.
- requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
-

A significant impact to *solid waste* will occur if implementation of the Project:

- would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- does not comply with Federal, State, and local statutes and regulations related to solid waste.
-

A significant impact to *dry utilities* will occur if implementation of the Project:

- results in a need for new power or natural gas systems or supplies, or substantial alterations to existing systems.

- results in a need for new communications systems or substantial alterations to existing systems.

Related Regulations and Programs

Federal

In 1972, the Federal Water Pollution Control Act (Clean Water Act) was amended to prohibit the discharge of pollutants to waters of the United States unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The Clean Water Act focused on tracking point sources, primarily from waste water treatment facilities and industrial waste dischargers, and required implementation of control measures to minimize pollutant discharges. The Clean Water Act was amended again in 1987, adding Section 402(p), to provide a framework for regulating municipal and industrial storm water discharges. In November 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish application requirements for specific categories of industries, including construction projects that encompass greater than or equal to 5 acres of land. The Phase II Rule became final in December 1999, expanding regulated construction sites to those greater than or equal to 1 acre. The regulations require that storm water and non-storm water runoff associated with construction activity, which discharges either directly to surface waters or indirectly through municipal separate storm sewer systems (MS4s), must be regulated by an NPDES permit.

Urban Water Management Plans

The Urban Water Management Planning Act (Water Code §§ 10610 *et seq.*) requires urban water suppliers to describe and analyze sources of water supply, water use and efficiency, demand management measures, implementation strategy and schedule, and other relevant information and programs. Supply reliability must be analyzed for normal, dry and multiple dry water years. UWMPs are often foundational documents for Water Supply Assessments and Water Supply Verifications and are sources of water supply information for cities and counties as they prepare their General Plans.

California Water Code

Sections 10910-10915 of the California Water Code require preparation of a 20-year Water Supply Assessment for certain projects, general those involving a water demand equivalent to 500 dwelling units or more, demonstrating available water supplies exist to support the proposed development that meets specific criteria outlined in the Water Code sections that is proposed in the Planning Area. The Water Supply Assessment includes an analysis of the water purveyor's existing and future water sources and existing and projected water demand in normal, single dry and multiple dry water years, as well as an analysis of whether those supplies are sufficient to serve the project. Additional analysis is required if the water purveyor's water supplies include

groundwater. Water Supply Assessments are required as part of a city or county's environmental review pursuant to CEQA.

Depending on the location of proposed development subject to these sections of the Water Code, the Water Supply Assessment will come from the RPU, WMWD, or EWMD on a project-by-project basis. These provisions of the California Water Code do not apply to General Plan updates; however, specific future development projects allowed under the General Plan that meet the criteria established in the Water Code will require a water supply assessment.

Water Supply Verifications

Similar to the Water Code, California Government Code Section 66473.7 requires verification from the applicable public water system that sufficient long-term water supply is available to meet the projected demand associated a tentative tract map, parcel map, or development agreement for a residential development project including more than 500 dwelling units subdivisions (500 or more units). Similar to the requirements for Water Supply Assessments, "sufficient water supplies" in Water Supply Verifications "means the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses."

Public Resource Code

The California Integrated Waste Management Act of 1989 requires that each county prepare a new Integrated Waste Management Plan. The Act further required each city to prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. Each source reduction element includes a plan for achieving a solid waste goal of 25% by January 1, 1995, and 50% by January 1, 2000. A number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act were adopted, including a revision to the statutory requirement for 50% diversion of solid waste. Under these provisions, local governments shall continue to divert 50% of all solid waste on and after January 1, 2000.

Senate Bill 1305

SB 1305, the Power Source Disclosure requires retail suppliers of electricity to disclose to consumers "accurate, reliable, and simple to understand information on the sources of energy that are being used ..." (Public Utilities Code Section 398.1 (b)) The law requires that these suppliers tell consumers about what type of resource is used to generate the electricity being used.

California State Water Resource Control Boar

In the State of California, the State Water Resources Control Board and nine Regional Water Quality Control Boards (RWQCB) are responsible for implementing the Clean Water Act (CWA) and the State Porter Cologne Water Quality Control Act.

The Porter-Cologne Water Quality Control Act Section 13000 directs each Regional Water Quality Control Board (RWQCB) to develop a Water Quality Control Plan (Basin Plan) for all areas within its region. The Basin Plan is the basis for each RWQCB's regulatory programs. The City of Riverside is located within the purview of the Santa Ana RWQCB (Region 8), and must comply with applicable elements of the region's Basin Plan, as well as the Porter-Cologne Water Quality Control Act.

City of Riverside

The City supports the following programs sponsored by the RPU and WMWD:

Clothes Washer Rebate Program: Riverside Public Utilities customers who receive both electric and water services are eligible for a \$175 rebate towards a new water and energy saving clothes washer. Riverside Public Utilities customers who receive only electric service are eligible for a \$75 rebate, while customers who receive only water service are eligible for \$100 rebate.

Residential Ultra Low-Flush Toilet Water Conservation Incentive Program: This is a water conservation incentive program of RPU that offers residential water customers a chance to replace their existing high water use toilet fixtures for water saving ultra low-flush toilets. Rebates of up to \$55 are provided for each ultra low-flush toilet installed that uses 1.6 gallons of water or less per flush. WMWD offers a similar program, which provides a credit on the water bill of up to \$75 to customers who replace their old, non-conserving toilets with newer, ultra-low-flush toilets.

Energy and Water School Education Program: For almost 20 years, RPU has provided educational support to the approximately 100 schools, including most of the schools in Riverside and Alford Unified School Districts, as well as many private schools. In 2001-2002, close to 3500 students actively participated in the RPU educational program, and 44,000 received educational materials.

Water Recycling: The City of Riverside owns and operates the 30 million gallon per day (mgd) Riverside Water Quality Control Plant. The plant currently discharges tertiary-treated water effluent to the Santa Ana River. RPU is currently providing a small amount of recycled water for irrigation of a golf course and is planning to expand the use of recycled water for non-potable uses. The RPU is currently conducting a study to evaluate feasibility of expanding the use of recycled water. The recycled water will replace domestic water currently used for golf courses and parks, and therefore, will reduce the domestic water demand. RPU anticipates using approximately 2,000 acre-feet per year of recycled water by 2005, with preliminary projection of 41,000 acre-feet per year in the future.

Western's Landscapes Southern California Style: In 1989, WMWD, in conjunction with the UC Cooperative Extension, opened *Landscapes Southern California Style*. Located on Alessandro Boulevard in the City of Riverside, this one-acre conservation garden includes more than 200 species of plants. Visitors to the garden can take a self-guided tour and peruse the plant materials, layouts and irrigation systems that contribute to water efficiency. The Garden receives approximately 13,000 visitors per year.

Water Education for Life: Since 1982, WMWD has provided regional water education programs to public and private schools within Riverside County. Materials, speakers, lesson plans and theatre programs are provided at no cost. Students learn about where water comes from, water conservation, how water is used and water reclamation.

Recycling, Waste Reduction and Community Clean-Up Programs

City of Riverside diverted 50% of solid waste from landfills in 2000, meeting the California Integrated Waste Management Act requirement. The City has a number of recycling, waste reduction and community clean up programs. These programs are only available to residents within the City. Programs include:

- **Green Waste Collection:** Green wastes collected include plants, grass, weeds, leaves, tree limbs, and wood waste. These items are converted into mulch and used for composting. The city also provides composting workshops to residents (Backyard Composting Workshops).
- **Curbside Recycling:** A weekly collection of glass, plastics, and metals.
- **Newspaper Drop-Off:** There is 8 drop off sites for newspaper recycling. The City and the Press Enterprise both sponsor this program.
- **Car Tire Amnesty:** In conjunction with the Household Waste collection, residents can bring up to 9 car tires to specified collection events.
- **Household Hazardous Waste:** A mobile collections will periodically accept a variety of household hazardous waste products. The City also offers a curbside oil collection program, where motor oil and filters are picked up at homes.
- **Refrigerator Recycling Rebate Program (Cool Returns Program):** Offers residents rebates on older, still functioning, inefficient refrigerators and stand alone freezers.
- **Refrigerated Appliance Collection Programs:** A partnership between, RPU, the public works department and the Appliance Recyclers of America, this program collects all non working appliances. This reduces illegal dumping and maximizes the use of energy efficient appliances.
- **C.U.R.E- Clean Up Riverside's Environment:** Offers two programs; the Incredible Bulk, which allows residents to drop off unwanted items, and F.O.O.T (Focusing On Offensive Trash), which involves residents to join together to help clean up trash from public locations.
- **Keep Riverside Clean and Beautiful:** Programs include citywide and neighborhood clean ups, tree planting, adopt a street, anti-graffiti, litter prevention, and clean campus for public and private schools.
- **Recycling Market Development Zone:** This program is for businesses. Businesses can either divert recyclable materials from the waste stream or utilize recycled material in their manufacturing process. This program offers incentives such as low interest loans, equipment, buildings, as well as working capital.

- Outreach and Education: This program works with several institutions to educate and involve participants on the three R's: Reduce, Reuse, And Recycle.
- SmartRiverside: This program is for Digital Divide and collected PCs from businesses and households in Riverside for refurbishment to households under \$45,000 in total income at no cost.

Existing Telecommunications-Related Programs

Cybraries

While rapid development of the Internet has expanded access to communication, education, information and consumer opportunities for many people, the Internet has also has produced a "digital divide"—a gap between those who have easy access to an Internet connection at home and those who do not. In 1998, the City of Riverside began an innovation program to create several “cybraries” in areas of the community where access to libraries and the Internet is inadequate.

City-wide Wireless

In October of 2006, the City awarded a five year contract to AT&T for construction of a City wide wireless network. Speed for the community is free at 512Kbps down and 256Kbps up. The free portion is branded by MetroFi and is supported by on-line advertisements. AT&T will resell higher speed services as well as two City specific networks RIVGOV for 1Mbps or 85Kbps services at \$27.95/month and \$3/month respectively. A first responder network RIVPS, is also available at 1Mbps at \$49.95/month.

Smart Riverside

Smart Riverside (formerly Riverside Community Online) is a local non-profit that aims to improve the quality of life for the City of Riverside residents and businesses. Riverside is a high technology community with a technology park, many high technology companies, and higher education community with four college campuses. SmartRiverside provides a Digital Inclusion program the recycles PCs by utilizing reformed gang members (Project Bridge), and families from the community may attend an 8-10 hour class at one of 10 community centers and upon graduation is given a refurbished PC and free access to the Internet. SmartRiverside also offer programs for tenant improvements for technology companies relocating to Riverside. In addition, discount home loans and employee relocation incentives are offered.

Related General Plan Policies

Implementation of the following General Plan policies will assist in minimizing adverse conditions to aesthetics for the benefit of the City. The General Plan Public Facilities Element includes the following policy related to drainage facilities:

Stormwater Control

Policy PF-4.1: Continue to fund and undertake storm drain improvement projects as identified in the City of Riverside Capital Improvement Plan.

- Policy PF-4.2: Continue to cooperate in regional programs to implement the National Pollutant Discharge Elimination System Program.
- Policy PF-4.3: Continue to routinely monitor and evaluate the effectiveness of the storm drain system and make adjustments as needed.

The General Plan Open Space and Conservation Element and Public Facilities Element include the following policies that will reduce water consumption and potential *water supply* impacts:

Water Resources

- Policy OS-10.1: Support the development and promotion of water conservation programs.
- Policy OS-10.2: Coordinate plans, regulations, and programs with those of other public and private entities which affect the consumption and quality of water resources within Riverside.
- Policy OS-10.3: Provide incentives such as structured water rates to encourage residential and business customers to use less water.
- Policy OS-10.4: Develop a recommended native, low-water-use and drought-tolerant plant species list for use with open space and park development. Include this list in the landscape standards for private development.
- Policy OS-10.5: Establish standards for the use of reclaimed water for landscaping.
- Policy OS-10.8: Cooperate with Riverside and San Bernardino Counties and adjacent jurisdictions in the review and approval of new developments which affect the quality and quantity of basin-wide groundwater and surface water resources.

Water Service and Supply

- Policy PF-1.1: Coordinate the demands of new development with the capacity of the water system.
- Policy PF-1.2: Support the efforts of the Riverside Public Utilities Department, Eastern Municipal Water District, and Western Municipal Water District to work together for coordination of water services.
- Policy PF-1.3: Continue to require that new development fund fair-share costs associated with the provision of water service.
- Policy PF-1.4: Ensure the provision of water services consistent with the growth planned for the General Plan area, including the Sphere of Influence, working with other providers.
- Policy PF-1.5: Implement water conservation programs aimed at reducing demands from new and existing development.
- Policy PF-1.6: Examine creating a “gray water” ordinance which would provide incentives for new residential development to construct a gray water reclamation

- system. This system would keep water re-circulating in the home before going into sewage system.
- Policy PF-1.7: Protect local groundwater resources from localized and regional contamination sources such as septic tanks, underground storage tanks, industrial businesses, and urban runoff.
- Policy PF-2.1: Expand the use of reclaimed water for irrigation and other applications.
- Policy PF-2.2: Continue to monitor and study the costs of extending recycled water service to developing areas for accepted applications.

The General Plan Public Facilities Element includes the following additional policies related to *water infrastructure*:

Water Service and Supply

- Policy PF-1.1: Coordinate the demands of new development with the capacity of the water system.
- Policy PF-1.2: Support the efforts of the Riverside Public Utilities Department, Eastern Municipal Water District, and Western Municipal Water District to work together for coordination of water services.
- Policy PF-1.3: Continue to require that new development fund fair-share costs associated with the provision of water service.
- Policy PF-1.4: Ensure the provision of water services consistent with the growth planned for the General Plan area, including the Sphere of Influence, working with other providers.
- Policy PF-1.5: Implement water conservation programs aimed at reducing demands from new and existing development.
- Policy PF-1.6: Examine creating a “gray water” ordinance which would provide incentives for new residential development to construct a gray water reclamation system. This system would keep water re-circulating in the home before going into sewage system.
- Policy PF-2.1: Expand the use of reclaimed water for irrigation and other applications.
- Policy PF-2.2: Continue to monitor and study the costs of extending recycled water service to developing areas for accepted applications.

The General Plan Public Facilities Element includes the following policies related to *wastewater service* provision:

Wastewater

- Policy PF-3.1: Coordinate the demands of new development with the capacity of the wastewater system.

- Policy PF-3.2: Continue to require that new development fund fair-share costs associated with the provision of wastewater service.
- Policy PF-3.3: Pursue improvements and upgrades to the City’s wastewater collection facilities consistent with current master plans and the City’s Capital Improvement Program.
- Policy PF-3.4: Continue to investigate and carry out cost-effective methods for reducing stormwater flows into the wastewater system and the Santa Ana River.
- Policy PF 5.4: Implement more severe fines for dumping bio-solids into the City’s sewer and storm drain system.

In general terms, wastewater generation is a fraction (roughly 90 percent) of an area’s potable water usage. As a result, General Plan policies that focus on water conservation also have the effect of reducing demand on the City’s wastewater collection infrastructure. The General Plan Open Space and Conservation and Public Facilities Elements include the following policies related to water conservation, the adherence to which will reduce the demand on existing *wastewater infrastructure*:

Water Resources

- Policy OS-10.1: Support the development and promotion of water conservation programs.
- Policy OS-10.3: Provide incentives such as structured water rates to encourage residential and business customers to use less water.
- Policy OS-10.4: Develop a recommended native, low-water-use and drought-tolerant plant species list for use with open space and park development. Include this list in the landscape standards for private development.
- Policy OS-10.5: Establish standards for the use of reclaimed water for landscaping.

Water Service and Supply

- Policy PF-1.5: Implement water conservation programs aimed at reducing demands from new and existing development.
- Policy PF-1.6: Examine creating a “gray water” ordinance which would provide incentives for new residential development to construct a gray water reclamation system. This system would keep water re-circulating in the home before going into sewage system.

The General Plan Open Space and Conservation and Public Facilities Elements include the following policies, the adherence to which will reduce the demand on *energy supplies* throughout the Planning Area:

Renewable Energy

- Policy OS-8.1: Support the development and use of non-polluting, renewable energy sources.

- Policy OS-8.2: Require incorporation of energy conservation features in the design of all new construction and substantial rehabilitation projects pursuant to Title 24, and encourage the installation of conservation devices in existing developments.
- Policy OS-8.3: Encourage private energy conservation programs that minimize high energy demand and that use alternative energy sources.
- Policy OS-8.4: Incorporate solar considerations into development regulations that allow existing and proposed buildings to use solar facilities.
- Policy OS-8.5: Develop landscaping guidelines that support the use of vegetation for shading and wind reduction and otherwise help reduce energy consumption in new development for compatibility with renewable energy sources (i.e., solar pools).
- Policy OS-8.6: Require all new development to incorporate energy-efficient lighting, heating and cooling systems pursuant to the Uniform Building Code and Title 24.
- Policy OS-8.7: Encourage mixed use development as a means of reducing the need to automobile travel.
- Policy OS-8.8: Encourage the use of clean burning fuels and solar energy for space and water heating purposes and explore ways to participate in California New Solar Homes Partnership.
- Policy OS-8.9: Encourage construction and subdivision design that allows the use of solar energy systems.
- Policy OS-8.10: Support the use of public transportation, bicycling, and other alternative transportation modes in order to reduce the consumption of non-renewable energy supplies.
- Policy OS-8.11: Support public education programs for City residents and businesses to provide information on energy conservation and on alternatives to non-renewable energy sources.
- Policy OS-8.12: Require bicycle parking in new non-residential development.
- Policy OS-9.1: Encourage the most energy-efficient design for local government facilities and equipment consistent with reasonable rate of return and the recognition of the environmental benefits from energy conservation.
- Policy OS-9.2: Evaluate and implement measures to improve energy efficiency in City operations, including efficient load management systems in City buildings and regular energy audits of City facilities and operations.
- Policy OS-9.3: Identify and report annually to customers and the State Energy Commission potentially achievable cost-effective electricity efficiency savings and the establishment of annual targets for efficiency savings and demand reduction for 10-year horizons.

Electric Power

- Policy PF-6.1: Continue to support the development of green power and expand the use of green power in the City’s energy portfolio.
- Policy PF-6.3: Promote and encourage energy conservation.
- Policy PF-6.4: Encourage energy-efficient development through its site plan and building design standard guidelines.
- Policy PF-6.5 Promote green building design.

Solid Waste Reduction

- Policy PF 5.1: Develop innovative methods and strategies to reduce the amount of waste materials entering landfills. The City should aim to achieve 100% recycling citywide for both residential and non-residential development.
- Policy PF 5.2: Gradually expand recycling and waste diversion programs to all City addresses.
- Policy PF 5.3: Develop programs and encourage residents to donate or dispose of surplus furniture, old electronics, clothing and other household items rather than disposing of such materials in landfills.

Completion of the following Implementation Plan Tools will assist in avoiding potentially significant impacts associated with water, wastewater and electrical services/facilities.

- Tool 33: Place all Metropolitan Water District properties located within the City and the Sphere in the PF - Public facilities/Institutional General Plan designation as requested by the Metropolitan Water District (Implementation Plan Figure B - Metropolitan Water District letter).
- Tool 37: The City will adopt an updated Water System Master Plan, following appropriate environmental review pursuant to the California Environmental Quality Act (CEQA), addressing issues such as, but not limited to, the capacity of the water system in relation to the implementation of the General Plan 2025.
- Tool 39: The City will adopt an updated Wastewater Master Plan, following appropriate environmental review pursuant to the California Environmental Quality Act (CEQA) addressing issues such as, but not limited to, the capacity of the wastewater system in relation to the implementation of the General Plan 2025.
- Tool 40: The City will adopt an updated Electric System Master Plan, following appropriate environmental review pursuant to the California Environmental Quality Act (CEQA) addressing issues such as, but not limited to, the capacity of the electric system in relation to the implementation of the General Plan 2025.

Adherence to and implementation of the policies and Tools listed above will significantly lessen impacts directly related to the Project.

Environmental Impacts Before Mitigation

Drainage System

Threshold: *A significant impact will occur if implementation of the Project requires or results in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Increased development within the Planning Area will result in an increase of impervious surface areas. Increased impervious surface area will generate increased stormwater flows with potential to impact drainage facilities and require the provision of additional facilities. However, the Subdivision Code (Title 18, Section 18.48.020) requires drainage fees to be paid to the City for new construction. Fees are transferred into a drainage facilities fund which is maintained by Riverside County Flood Control and Water Conservation District. This Section also complies with the California Government Code (section 66483), which provides for the payment of fees for construction of drainage facilities. Fees are required to be paid as part of the conditions of approval/waiver for filing of a final map or parcel map.

As depicted in **Figure 5.16-1, Riverside County Flood Control MDP Boundaries**, large portions of the Planning Area are not currently served by local or regional drainage facilities. These areas roughly correspond to areas proposed for low density/intensity development in the southern and eastern portions of the Planning Area. Thus, areas not included in an MDP may not be adequately served by drainage facilities. However, Policies PF 4.1 and PF 4.3 require the City to continue to routinely monitor its stormdrain system and to fund and improve those systems as identified in the City's Capital Improvement Plan. Implementation of these policies will ensure that the Planning Area is adequately served by drainage systems.

Figure 5.16-2, Drainage Facilities, depicts major features of the Planning Area drainage system. As a result, local and regional drainage facilities may have to be expanded or new facilities constructed to accommodate both existing and planned development.

As this is a first-tier, program EIR, CEQA analysis of the construction of such specific facilities may be properly deferred until plans for such facilities are developed. Since detailed plans are not developed, mitigation for any such facilities would be speculative at the programmatic level of analysis. Nevertheless, the Project includes policies and programs that will minimize the environmental effects of the development of such facilities, as described throughout this EIR. Therefore, impacts related to construction are considered **less than significant**.

Water System

Threshold: *A significant impact will occur if implementation of the Project causes the water supplier to have insufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.*

Only 0.9 square-miles of the Planning Area are served by the Eastern Municipal Water District (EMWD), and the Project will minimally affect EMWD water supply and infrastructure in this area because it is over 95% built out³. Impacts to EMWD are thus anticipated to be less than significant. The Project will also have minimal effect on Riverside Highland Water Company, which only serves .25 square miles of the Planning Area⁴. The following is thus an assessment of the Project's impacts to RPU and WMWD supply and facilities.

Domestic water for the Planning Area is mostly supplied from local groundwater. Approximately 97% of the water supplied by RPU is supplied from Bunker Hill, Colton, Riverside North, and Riverside South groundwater basins. In contrast, 97% of the water supplied by WMWD is supplied from MWD via imported water from the Colorado River and State Water Project. Implementation of the proposed General Plan would increase the population and amount of development within the Planning Area, which in turn would increase the demand for water supplies, both local and imported. The reliability of existing and future supplies and availability for the population anticipated in the General Plan is discussed below.

RPU

According to the RPU Urban Water Management Plan, which is incorporated herein by reference, projected domestic water demand is expected to increase from 77,767 acre-feet per year in 2005 to 99,835 acre-feet per year in 2025 in normal water years. The projected water demand (99,835 acre-feet) under the Typical build-out scenario⁵ is below the water supply anticipated to be available to the RPU in that year (112,671 acre-feet). RPU's projected water supplies and demand are presented in **Table 5.16-E and 5.16-F**. During single dry year conditions, supply is expected to exceed demand by 9,528 acre-feet, and under multiple dry year conditions supply is expected to exceed demand by 14,786 acre-feet. RPU is able to provide

³ EMWD's water supply consists of a mix of imported water, groundwater and recycled water. According to the EMWD Urban Water Management Plan (2005), EMWD will have sufficient supplies in normal, dry and multiple dry years to satisfy projected demands within its service area. (EMWD, Urban Water Management Plan, at pp. 84-88.) The EMWD Urban Water Management Plan is incorporated herein by reference, and will be available for review at the City of Riverside, Community Development Department, Planning Division.

⁴ Riverside Highland Water Company obtains its water from groundwater and imported water. It has completed an Urban Water Management Plan, portions of which have been made available on the SCAG website. Those excerpts are incorporated herein by reference and are available at the City of Riverside, community Development Department, Planning Division.

⁵ The Typical build-out scenario is consistent with SCAG population projections for the Planning Area. In addition, RPU commissioned an independent population projection as part of its Urban Water Management Plan process, which is also broadly consistent with the projections on which the Typical scenario is based.

excess supply even in multiple dry years because it relies mainly on groundwater, which has proven to be very reliable even in multiple dry years. Additionally, RPU can implement demand reduction measures during dry years.⁶ For example, voluntary reduction measures resulting from educational programs and conservation messages reduced demand by 7% during the 1987 to 1992 drought. Further mandatory reductions in demand can be implemented as droughts progress.

As noted above, the primary source of RPU's water supply is groundwater from the Bunker Hill, Colton, Riverside North and Riverside South groundwater basins. The Bunker Hill basin is adjudicated, and its safe-yield and export rights from the basin are well defined. While not adjudicated, the Colton, Riverside North and Riverside South basins are subject to management under a 1969 judgment. None of these basins are overdrafted, nor are they projected to become so. The quality of the groundwater is generally very good and reliable. Potential threats to groundwater quality include migrating contaminant plumes, chemical spills, agricultural return drainage, leaky underground storage tanks and septic systems. RPU has implemented several measures to address groundwater contamination⁷. For example, as of 2003, RPU operated five treatment plants that remove trichloroethylene (TCE), perchlorate and dibromochloropropane (DBCP) contaminants. DBCP contamination is primarily related to past herbicide use in orange groves; use of the herbicide has been banned since the early 1980s. RPU also operates three chlorination stations that use chlorine gas or chlorine dioxide to kill harmful bacteria. Other measures include well replacement, development of water quality blending optimization model, development of a Water Supply Contingency Plan, and other related measures.

In addition to groundwater, RPU also receives small quantities of imported water in some years from Western Municipal Water District (WMWD). RPU purchases WMWD water to meet peak demands within the higher elevations of the City's water service area during very hot summer days. Such water is also available during emergencies such as major transmission repairs. RPU has a contractual agreement with WMWD to receive 30 cubic feet per second of imported water, which is then treated at the Mills Filtration Plant in the City. The sources and reliability of WMWD's water supply is discussed in greater detail below.

Finally, RPU has developed approximately 2,000 acre-feet per year of recycled water currently, and expects this to increase to 7,950 acre-feet per year by 2025 for municipal use. Recycled water will be utilized for uses such as landscape irrigation to reduce domestic water demand. An additional 20,000 acre-feet per year could be put to beneficial use for agricultural water by 2030. Recycled water, like groundwater, is considered very reliable because it is not subject to climatic variation.

⁶ Additionally, RPU is a signatory to the California Urban Water Conservation Council, and participates in local and regional demand side management programs. RPU provides annual reports filed with the CUWCC identifying its water demand management measures.

⁷ Additional information regarding RPU's groundwater quality programs is available in the Public Facilities Element of the proposed General Plan.

Table 5.16-E					
RPU Projected Domestic Water Supply (ac-ft/yr)					
Water Supply Sources	2010	2015	2020	2025	2030
Existing (as of 2005)					
Total Groundwater	72,033	72,033	72,033	72,033	72,033
Imported Water*	3,800	5,300	6,800	8,300	9,800
Recycled Water**	200	200	200	200	200
Planned					
John W. North Water Treatment Plant (Groundwater)	10,000	10,000	10,000	10,000	10,000
Riverside Groundwater- Downtown Area	-	-	7,000	7,000	7,000
Additional Gage Exchange (groundwater)	5,388	5,388	5,388	5,388	5,388
Recycled water	1,000	3,250	5,500	7,750	10,000
Seven Oaks Dam Conservation Storage	2,000	2,000	2,000	2,000	2,000
Total					
Groundwater	87,421	87,421	94,421	94,421	94,421
Purchased (Imported) water	3,800	5,300	6,800	8,300	9,800
Recycled water	1,200	3,450	5,700	7,950	10,200
Seven Oaks Dam***	2,000	2,000	2,000	2,000	2,000
Total	94,421	98,171	108,921	112,671	116,421

Source: City of Riverside Public Utilities Department. *Urban Water Management Plan*, 2005, Table 2.3-3, et al.

*Imported treated water purchased from WMWD during hot summer days

** Projection based on *City Draft Initial Study and Recycled Water Master Plan*. Recycled water to replace use of domestic water for landscaped areas.

*** Anticipated supply from the Seven Oaks Dam Conservation Pool

Table 5.16-F						
RPU Projected Water Demand						
Water Use Sector	2005	2010	2015	2020	2025	2030
Residential	44,297	48,019	50,071	51,545	52,538	53,856
Commercial	12,167	13,188	13,752	14,157	14,430	14,792
Industrial	11,211	12,152	12,672	13,046	13,297	13,630
Agriculture	1,244	1,348	1,406	1,447	1,475	1,512
Other	421	456	476	490	499	512
Sale to Home Gardens County Water District	540	540	540	540	540	540
Unaccounted for Water*	7,687	8,327	8,681	8,935	9,106	9,333
Subtotal Domestic Demand	77,567	84,031	87,598	90,158	91,885	94,174
Recycled Water	200	1,200	3,450	5,700	7,950	10,200
Total	77,767	85,231	91,048	95,858	99,835	104,374

Source: City of Riverside Public Utilities Department. *Urban Water Management Plan*, 2005, Table 2.6-1.

Note: Domestic uses assumed to increase 1% per year.

* Unmetered water used for construction, maintenance and well operations.

As noted in Table 5.16-E above, RPU's 2025 water supply would include up to 32,138 acre-feet of supply from planned sources. These sources include additional groundwater pumping and treatment, additional exchange with the Gage Canal Company, additional potable water made available through increased recycled water use, additional supply made available through the Seven Oaks Dam Conservation storage project, and increased imported water from WMWD.

These increased supplies will largely be made possible through the expansion of existing facilities and programs, and expanded use of recycled water, and are therefore considered reliable due to historic use of those sources. Adverse environmental impacts are not expected from the use of those sources, because groundwater extraction would be within the safe-yield of the subject groundwater basins. Further, recycled water must meet the water quality objectives described in applicable NPDES permits. Additional details regarding these sources are provided in the RPU UWMP. Therefore, the City considers RPU's projected supplies to be reasonably likely to support the development projected in the General Plan.

RPU anticipates that supply will exceed demand by over 12,000 acre-feet per year in 2025. RPU's 2030 water demand was based on a service area (covering 68.5 square miles within the City limits and 5.6 square miles outside the City limits) with a service area population of 316,000. Development assumed in the UWMP for RPU included the addition of up to 38,100 new dwelling units and 39.6 million square feet of new non-residential construction over the 20-year horizon of the General Plan within the Planning Area, which encompasses not only Riverside City limits but also the northern and southern Spheres of Influence.

For this EIR, analysis of future population for the City of Riverside and its Sphere Area are evaluated at different levels of development ranging from typical growth to the most extreme, maximum with planned residential development. These scenarios are analyzed at three levels: Typical, Maximum, and Maximum with PRD. Using these scenarios, this EIR analyzes the projected water use for residential and non-residential customers for RPU. Compared to RPU's projections for supply and demand, RPU will have sufficient supply for the Typical projection which is considered the project that is foreseeable to be developed over time. If growth and development reached the Maximum or Max. w/PRD levels, demand would exceed the currently expected supply.

**Table 5.16-G
 General Plan Projected Water Demand for RPU
 Including Water Reliability for 2025**

Land Use	Water Use(AFY) /Meter	Projected Residential Meters* / Non-Residential usage (acre)			Projected Water Demand 2025			Projected Water Supply 2025		
		Typ	Max	Max/PRD	Typ	Max	Max/PRD	Normal	Single Dry Year	Multi Dry Year
Residential	.8**	73,645	94,333	112,193	58,916 AFY	75,466 AFY	89,754 AFY	112,671 AFY	104,371 AFY	104,371 AFY
Commercial	5.0 AFY	446.15	743.6	—	2,230.75 AFY	3,718 AFY	—			
Other	.6.4 AFY	251.95	377.93	—	1,612.48 AFY	2,418.75 AFY	—			
TOTAL					62,759.2 3 AFY	81,602.75 AFY	89,754 AFY			

*Projected meters= Population/person per household
 ** Factor provided by the RPU UMWP, pg. 2-21

WMWD

As of 2005 and as shown in **Table 5.16-H, Current and Projected Domestic Water Supply (acre-ft/year), Western Municipal Water District**, WMWD has a water supply of 108,162 acre-feet/year from various sources. WMWD is a member agency of the Metropolitan Water District (“MWD”), which obtains its water from the Colorado River and the State Water Project (“SWP”). Other sources of WMWD’s supply include surplus water from the City of Riverside. WMWD also receives nonpotable water from the March Wastewater Reclamation Facility which is used for irrigation purposes.

MWD entitlements to water from the Colorado River and SWP exceed actual deliveries; however, MWD has developed a computer model based on 70 years of historical hydrology (from 1922 to 1991) to allow it to estimate water surplus and shortages over a 20-year period. That model allowed MWD to analyze the reliability of deliveries to its member agencies during worst-case single year and multiple year drought events. The results of MWD’s modeling indicate that it can maintain reliable supplies under such drought conditions throughout the 2005 to 2030 time period. Detailed justifications for MWD’s supply projections are contained in Appendix A of MWD’s 2005 UWMP, which is incorporated by reference herein. As detailed in that justification, MWD can expect supplies not just from the SWP and the Colorado River, but also conservation programs, groundwater storage programs, and water transfer/exchange programs. The latter programs, for example, would allow MWD to supplement deliveries from the SWP with 300,000 acre-feet of water.

Several factors affect the reliability of WMWD’s water supply. These factors include changes in water storage and delivery facilities, regulatory constraints on the use of those facilities, water

quality issues, long- and short-term climatic changes, and legal re-allocation of supply. Currently, there are no significant supply constraints due to water quality. For most other shortages MWD is able to meet demands by withdrawals from storage. However, should reduced deliveries be required, WMWD has prepared a Water Shortage Contingency Plan to address any water shortages within its retail service area. WMWD has also developed a Drought Contingency Plan and an Emergency Response and Recovery Plan to address catastrophes.

Based on MWD’s modeling and water supply programs, water supplies for WMWD are expected to increase to 222,803 acre-feet/year by 2025. For 2025, WMWD has projected water demand from water retailers to be 40,812 acre-feet/year. The total anticipated water demand in 2025 (roughly 174,843 acre-feet) is below the 222,803 acre-feet that the UWMP anticipates will be available that year. MWD projects 100% reliability in supplies in all water year types, so demand and supply projections in single dry and multiple dry years vary only slightly. Additionally, WMWD’s supply from groundwater (Riverside/Corona Feeder Project) and recycled water are not expected to vary based on climatic variability. Given WMWD’s projected surplus and because WMWD provides service to a relatively small portion of the Planning Area, the Project is not anticipated to significantly impact WMWD’s long-term water supply. WMWD’s projected water supplies and demand are presented in **Table 5.16-H and 5.16-I**.

Table 5.16-H						
Current and Projected Domestic Water Supply (acre-ft/year)						
Western Municipal Water District						
Water Supply Sources	2005	2010	2015	2020	2025	2030
MWD-Retail Service Area	26,688	31,007	35,726	41,278	47,809	55,491
MWD- Western Wholesale Service	78,024	88,902	101,146	111,837	123,784	134,028
Riverside/Corona Feeder (Potential as needed source)	-	-	10,000	40,000	40,000	40,000
Agricultural Water Purchase	3,000	6,000	6,000	6,000	6,000	6,000
Recycled Water- March WWRf	450	2,680	3,850	4,430	5,210	6,130
TOTAL (acre feet/year)	108,162	128,589	156,722	203,545	222,803	241,649

Source: Western Municipal Water District, Urban Water Management Plan, 2005.

Table 5.16-I Current and Projected Water Use Western Municipal Water District							
Water Use Sectors	2000	2005	2010	2015	2020	2025	2030
Residential	12,406	17,518	20,887	24,568	28,898	33,992	39,983
Commercial	756	1,890	2,254	2,651	3,118	3,668	4,314
Industrial	407	720	858	1,009	1,187	1,396	1,643
Institutional and Governmental	543	578	689	810	953	1,121	1,319
Landscape	1,032	1,472	1,755	2,065	2,429	2,857	3,360
Agriculture	8,049	4,227	4,227	4,227	4,227	4,227	4,227
TOTAL	23,193	26,405	30,670	35,330	40,812	47,261	54,846
Sales to Other Agencies	72,120	78,024	88,902	101,146	111,837	123,784	134,028
Additional Waster Uses							
Unaccounted for system loses	6	1,415	1,690	1,980	2,330	2,750	3,230

Source: Western Municipal Water District, Urban Water Management Plan, 2005

Future water sources listed in the 2005 UWMP include the March Reserve Pipeline, the Riverside Agricultural Pipeline and the proposed Riverside/Corona Feeder Project. The Riverside Agricultural Pipeline project was completed in June of 2006. This line inter-ties the Gage Canal Company, which carries higher nitrate waters to Western’s service area for non-potable uses. This new line ties into the exiting March Air Reserve Base irrigation system, which Western operates, to serve landscape irrigation needs at the National Cemetery and base golf course, as well as other non-potable uses. This line will also receive reclaimed water from the March Wastewater Plant. This will provide a dual source of water for the existing citrus industry and other users, freeing up domestic supplies in the City’s southern Sphere Area. The Riverside/Corona Feeder Project will capture and store surplus State Water Project water in wet years in order to increase water supplies, reduce water costs, and improve water quality. The City of Riverside will also have access to this source of water, when completed. Environmental impacts associated with that project were analyzed in the Western Municipal Water District Riverside/Corona Feeder Project Final Environmental Impact Report (SCH 2003031121). An additional source of projected supply is surplus water stored at the Army Corps of Engineers Seven Oaks Reservoir. Based on information contained in WMWD’s and MWD’s UWMPs, the City finds that future supplies are reasonably likely to be available for the growth projected in the City’s proposed General Plan.

Western Municipal Water District anticipates that supply will exceed demand by 47,960 acre-feet per year in 2025, without the implementation of the General Plan. As projected in 2025, implementation of the General Plan will increase the number of dwelling units in the Sphere Area. It is anticipated that there will be a total of 12,070 dwelling units in Sphere area, many of which are located in the Southern Sphere. This means that an additional 10,622 acre-feet per year will be demanded from this area. Water supply will still exceed demand by 37,338 acre-feet per year in 2025.

For this EIR, analysis of future population for the City of Riverside and its Sphere Area are evaluated at different levels of development scenarios ranging from typical growth to the most extreme, maximum with planned residential development. These scenarios are analyzed at three

levels: Typical, Maximum, and Maximum with PRD. Using these scenarios, this EIR analyzes the projected water use for residential customers in the southern sphere area for WMWD. Non-residential demand generation factors were not available from WMWD at the time of writing, however, the southern Sphere area includes primarily agricultural, rural residential and open space uses. Therefore, the residential demand represents a reasonable estimate of demand for that area. Compared to WMWD’s projections for supply and demand, WMWD will have sufficient supply for all three projected development levels. Again, as explained above, variations in supply and demand during dry and multiple dry years are expected to be minimal.

Table 5.16- J General Plan Projected Water Demand for WMWD Including Water Reliability 2025										
<i>Land Use</i>	<i>Water Use (AFY) /Meter</i>	Projected Residential Meters** SOI			Projected Water Demand 2025****			Projected Water Supply 2025***		
		<i>Typ</i>	<i>Max</i>	<i>Max/PRD</i>	<i>Typ</i>	<i>Max</i>	<i>Max/PRD</i>	<i>Normal</i>	<i>Single Dry Year</i>	<i>Multi-Dry Year</i>
Residential	.89	11,680	13,570	18,040	44,387 AFY	46,069 AFY	50,048 AFY	182,803 AFY	179,195 AFY	179,195 AFY

*Projected meters= Population/person per household
 ** Factor provided by the WMWD UWMP
 *** Does not include Riverside/Corona Feeder & Agricultural Water Purchase
 ****Projected water demand includes WMWD total projected demand for residential w/ the City of Riverside’s Southern Sphere Area projected demand.

The RPU and WMWD Urban Water Management Plans project that adequate water supplies will be available for the Planning Area through the year 2025. RPU anticipates that supply will exceed demand by 12,836 acre-feet per year in 2025, while WMWD projects an excess of 47,960 acre-feet per year in 2025. RPU’s and WMWD’s projections are based on SCAG growth projections. An independent evaluation prepared for RPU’s UWMP confirmed similar growth projections. Development under the Typical Project scenario is expected to yield a population growth generally consistent with SCAG projections.

The General Plan has identified the minimization of water consumption through policies and implementation tools. Policies proposed include PF-1.5, which implements water conservation programs for new and existing development. Policies PF-1.6, 2.1 and 2.2 aim to increase the use of recycled water in the City by continuing and expanding the use of recycled water for irrigation. The policy also examines a “gray water” ordinance, which re-circulates water in the home before going into sewage system. Implementation Plan tools include Tool OS-35 through OS-41, which also implement water conservation programs and incentives. Tool OS-39, 40 and 41 concentrate on using recycled or reclaimed water where potable water is being used for irrigation. Implementation of the policies and tools help reduce future demand and both RPU and WMWD have sufficient water supplies available to serve buildout of the General Plan, the General Plan would not require new or expanded water entitlements.

Although water demand within RPU boundaries may exceed supply under the “worst case” analysis of Maximum and Maximum w/PRD, WMWD can sell water to RPU. As shown on **Table 5.16-I**, WMWD will have 123,784 acre-feet annually to sell to other agencies like RPU.

Therefore, even at the higher levels of development, water supply may be available. **Water supplies will be adequate for the Project at Typical development levels, therefore the water supply impact associated with RPU and WMWD water service would not cause these suppliers to have insufficient water supplies available. Impact is less than significant.** Although projected to be available for purchase by other agencies from WMWD, because RPU does not presently have contracts to purchase higher levels of water from WMWD should it be necessary in the future, **new or expanded entitlements would be needed in the unlikely event that population grew to the Maximum or Maximum w/PRD levels and impacts would be considered significant without mitigation.**

Notably, however, water supply planning and land use planning are closely linked, and are continuously updated to address conditions on the ground. UWMPs, for example, must be updated every five years to include the most recent population trends. Similarly, the City must consult with RPU or WMWD regarding development projects involving greater than 500 dwelling units worth of demand to ensure that sufficient water supplies are available.

Additionally, policies within the General Plan address water supply within the Planning Area. Policies OS-10.1 through 10.5 and OS-10.8, and PF-1.3 through 1.7 require coordination with other entities, both public and private, to consumption, water quality and quantity of groundwater, and coordinated service. Policies PF-1.5, and PF-2.1 and 2.2 address demand reduction strategies. Impacts to inadequate water supply if build-out of the Project exceeds the expected Typical development level are considered **significant**. With implementation of these General Plan policies and Mitigation Measure **MM UTL 1**, impacts related to water availability are reduced to **less than significant**.

***Threshold:** Requires or results in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Development consistent with the Project will result in the increase of residential and non-residential water users over existing conditions, requiring the extension or maintenance of, or new water filtration, treatment, and/or distribution facilities. RPU's long range plans call for new water infrastructure in the Planning Area to meet projected water demand.

The City of Riverside's existing Water System Master Plan was adopted in 1988, and is nearing the end of its planning horizon. The City is currently updating the Water System Master Plan, which identifies anticipated water facility improvements needed over a 20 year period. RPU's service area encompasses 74 square miles, of which approximately 68.5 square miles are located within the City limits and 5.6 square miles are located outside the City limits. According to the draft 2005 RPU Water System Master Plan ("Draft WSMP"), RPU serves nearly 60,000 service connections and operates approximately 890 miles of pipelines ranging from 4 to 72 inches in diameter, 46 groundwater wells for domestic service, 13 irrigation wells, 16 reservoirs with an approximate total volume of 100 million gallons, 21 pressure reducing stations, and 39 booster pump stations. The Draft WSMP describes improvements needed to address both exiting deficiencies and the growth projected over a 20-year horizon. The suggested improvements include both upgrading existing facilities as well as constructing new facilities. The new facilities could include:

- 8 new storage reservoirs
- 5 new booster pump stations
- 8 new pressure reducing stations
- 52 miles of pipelines

Improvements are suggested to address deficiencies identified using various design criteria including water pressure, fire flow and storage capacity.

Water pressure deficiencies are projected to occur where peak hour demand pressures fall below 40 psi. The Draft WSMP found that 2.4% of the system experienced pressures below 40 psi. Low pressures ranged from 10 to 40 psi. Potential fire flow deficiencies may occur where maximum day demand plus fire flows fall below 20 psi. Using that criterion, 6% of model junctions were deficient based on future land uses in the proposed General Plan. Finally, storage and emergency supply were assessed. Operational storage requirements were defined as 25% of the maximum day demand, and emergency storage is defined as 150% of average day demand. Using those criteria, the existing water system was determined to have a deficit of 32.82 million gallons of storage capacity. Under future conditions, the storage deficit would be 61.37 million gallons. Because the Draft WSMP identifies existing deficiencies in the water system, implementation of the 2025 General Plan Program will require the construction of additional water facilities, and therefore this impact is significant.

As noted above, although implementation of the General Plan does not cause the existing deficiencies, the Draft WSMP proposes improvements to address the existing deficiencies, and once adopted and implemented, will address the significant impact identified above. In addition, several policies in the proposed General Plan will ensure that improvements to the water system will be tied to new development. For example, Policy PF-1.1 requires coordination of the demands of new development with the capacity of the water system, and Policy PF-1.3 requires new development to pay its fair share of the costs of those improvements. Finally, the Implementation Plan, Tool 37 requires the City to adopt a WSMP that corrects the deficiencies identified in the Draft WSMP. Implementation of Tool 37 and the policies identified above will substantially lessen impacts related to the sufficiency of the water system; however, until such time as improvements are implemented, existing deficiencies will remain, and interim **impacts related to the capacity of the water system would remain significant.**

While the Draft WSMP identified some locations for proposed facilities, all are conceptual, and subject to change. Site specific review of potential impacts resulting from implementation of those facilities would not be meaningful at this stage. However, the Draft WSMP and all facilities proposed therein will undergo the appropriate environmental review prior to implementation. Moreover, this EIR analyzes the programmatic impacts resulting from development throughout the City. Thus, for example, this EIR addresses the potential impact of future construction on undiscovered archeological resources, and proposes MM Cultural 4 reduce that impact to a less than significant level. Therefore, at the programmatic level, impacts related to construction of needed water facilities are less than significant.

Although WMWD serves only nine square miles of the Planning Area and the Project does not anticipate significant future development within areas served by WMWD, WMWD may be

required to expand or construct new water facilities to ensure adequate service. No specific new facilities or expansions are currently contemplated. As this is a first-tier, program EIR, CEQA analysis of these new facilities may be properly deferred until actual plans are proposed. Without such plans, mitigation for any such facilities is speculative at the programmatic level.

In addition, General Plan policies identified herein encourage construction of new infrastructure for reclaimed water. While reducing impacts on water supply, construction of such infrastructure could cause other environmental impacts. No specific reclamation facilities are currently proposed. As this is a first-tier, program EIR, CEQA analysis of these new facilities may be properly deferred until actual plans are proposed. Lacking such plans, mitigation for any water reclamation facilities is speculative at this programmatic level. Nevertheless, the Project includes policies and programs that will minimize the environmental effects of the development of such facilities, as described throughout this EIR.

Notably, adherence to and implementation of other policies listed in the previous threshold that relate to water conservation will reduce the demand placed on existing water infrastructure. Therefore, impacts related to construction of new or expansions of water facilities are considered **less than significant** at the General Plan programmatic level.

Sewer System

Threshold: *A significant impact will occur if implementation of the Project exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board.*

The City of Riverside's Regional Water Quality Control Plant is subject to Waste Discharge Requirements for Order No. R8-2006-0009, NPDES No. CA0105350, and the WRCRWA facility are subject to Order No. R8-2005-0008 NPDES No. CA8000316. NPDES permits are administered by the State Regional Water Quality Control Board (RWQCB). This type of NPDES permit includes requirements that implement the Water Quality Control Plan (Basin Plan), which was adopted by the RWQCB on March 11, 1994. The Basin Plan identifies water quality objectives and beneficial uses for the Santa Ana River and its tributaries; and the subsequent NPDES permits indicate specific waste discharge requirements for individual permittees.

All new development related to the General Plan Update will be required to comply with all provisions of the NPDES program, as enforced by the RWQCB. Therefore, implementation of the proposed General Plan Update would not exceed applicable wastewater treatment requirements of the RWQCB with respect to discharges to the sewer system or stormwater system within the City. The proposed General Plan Update specifies minimal adverse effects to water quality from sanitary sewer outflows as a policy (PF-3.4). Consequently, future development under the proposed General Plan Update would be required to adhere to existing regulations and the proposed policies identified above; therefore, **less than significant** impacts are anticipated.

Threshold: A significant impact will occur if implementation of the Project results 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.

Current population within Riverside is 287,321 as of 2005; expected levels of development pursuant to Project policies and regulatory standards will result in a total Typical population of 346,867. Therefore, the addition of approximately 59,546 new residents is expected over the 20-year horizon of the General Plan within the Planning Area. The Riverside Regional Water Quality Control Plant (RWQCP) currently treats approximately 33 mgd of wastewater for 287,321 residents, commercial, industrial and schools. However, the City’s RWQCP does not serve the entire City and it will serve some portion of the City’s sphere when these areas are annexed. Western Municipal Water District (WMWD) serves the remaining areas. As shown on Table 5.16-K, Estimated Future Wastewater Generation for the City of Riverside’s Sewer Service Area, the Project anticipates a need to treat up to 45.6 mgd/day under the Typical Project development levels which are expected by 2025. This projection is an over-inclusive projection as the City’s sewer service area also includes properties served by septic and these properties are considered in the per capita population projections and flow rates. The service area also includes three Community Services Districts (CSDs), Jurupa, Rubidoux and Edgemont which are noted in Table 5.16-K. The Public Works Department in preparation of the Wastewater Master Plan has projected the flow rates for the CSDs to the year 2025. The estimated 96.6 gallons sewage discharge includes non-residential users in the population numbers. Using a per-capita method to determine flow rates works well in Cities with larger populations, such as Riverside, as the error rate is insignificant. The 96.6 gpd flow rate is based on historic per-capita flow in the City and this per-capita estimation is suggested by the Public Works Department.

**Table 5.16-K
 Estimated Future Wastewater Generation for the
 City of Riverside’s Sewer Service Area**

City Population Served by RWQCP	Estimated Population for Year 2025			Estimated Total Sewage Flow 2025 (mgd/day)		
	Typical	Maximum	Maximum w/PRD	Typical	Maximum	Maximum w/PRD
96.6 (gpd) ¹	358,612	458,900	548,957	34.6	44.3	53.0
Jurupa (CSD)				6.9 ²	6.9 ²	6.9 ²
Rubidoux (CSD)				3.1 ²	3.1 ²	3.1 ²
Edgemont (CSD)				.9 ²	.9 ²	.9 ²
Total				45.6	55.3	64.0

Source: City of Riverside Public Works Dept.

- 1 Future flow per capita is assumed to be 96.6 gallons per day per-capita. This per-capita rate is based upon 2005 population and flow rates extrapolated out to 2025 using an annual flow increase equals 1.09%, a conservative projected population growth rate. The actual projected growth rate is .945%.
- 2 Information on projected CSD flows was provided by the Public Works Department. These areas are not located within the City’s Planning Area and are not subject to the City’s land use authority. Therefore, the City cannot project population for the Maximum or Maximum w/PRD scenarios.
- 3 gpd = gallons per day, CSD = Community Services District, mgd = million gallons per day

**Table 5.16-L
 Estimated Future Wastewater Generation for the
 Planning Area Served by WMWD**

	Estimated Population for Year 2025			Estimated Total Sewage Flow 2025 (mgd/day)		
	Typical	Maximum	Maximum w/PRD	Typical	Maximum	Maximum w/PRD
96.6 (gpd) ¹	24,465	27,475	35,841	2.4 ²	2.7 ²	3.7 ²
Total				2.4	2.7	3.7

- 1 Future flow per capita is assumed to be 96.6 gallons per day per capita. Annual flow increase equals 1.09%
 2 Information on projected CSD flows was provided by the Public Works Department. These areas are not located within the City’s Planning Area and are not subject to the City’s land use authority. Therefore, the City cannot project population for the Maximum or Maximum w/PRD scenarios.

The City’s RWQCP has a maximum capacity of 40 mgd and the City is currently proposing to upgrade the RWCQP to 52.2 mgd. This upgrade will serve the needs of the areas served within the City of Riverside’s sewer area over the 20-year build-out period of the Project as expected to build out under the Typical scenario. Thus, the Project will not result in a determination that inadequate capacity exists to serve the project’s projected demand in addition to the provider’s existing commitments. **Therefore, impacts associated with the Typical level of Project development are considered less than significant.** However, the proposed expansion will not meet the estimated wastewater treatment demand of 55.3 mgd for Maximum build-out or 64.0 for Maximum w/PRD. Therefore, **without mitigation, possible impacts associated with the worst case analysis presented above would be significant.**

Much of unincorporated areas of the City’s SOI falls within the jurisdiction of WMWD, and therefore will be served by WMWD. Currently, sewer capacity at WMWD’s WRCRWA plant is designed for 8 MGD, with the capability of expansion to 32 MGD. WMWD has capacity to serve the southern Sphere Area’s projected buildout of 3.99 mgd (as shown in Table 5.16-J).

There is an agreement with WMWD and the City of Riverside regarding annexation lands being included in WMWD’s wastewater treatment facilities. As a result of that agreement, no new facilities would need to be constructed for the Sphere Area. Existing facilities would need to be expanded or new facilities will need to be constructed to accommodate future growth associated with the General Plan within the City. Policies within the General Plan address adequacy on future wastewater system within the Planning Area. Policy PF-3.1 requires the City to coordinate the demands of new development with the capacity of the wastewater system. Policy PF-3.2 requires new development to fund fair share costs associated with waste water services. Impacts to inadequate wastewater capacity to serve the project at buildout are considered **significant**. With implementation of the General Plan policies and Mitigation Measure **MM UTL 2**, impacts related to wastewater capacity are considered **less than significant**.

Threshold: *A significant impact will occur if implementation of the Project requires or results in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Although RPU has indicated in its 2005 Urban Water Management Plan that its Riverside RRWQCP will have capacity once upgraded as proposed to treat wastewater generated within the Planning Area through the year 2025, portions of the Planning Area are not currently served with adequate infrastructure (trunk sewer lines) to accommodate the growth anticipated in the General Plan. New and/or expanded sewer collection lines may be required to serve proposed land uses. Additionally, the delivery lines, for the resulting recycled water, will also need to be upgraded to accommodate the additional treated wastewater.

As this is a first-tier, program EIR, CEQA analysis of the construction of such facilities may be properly deferred until plans for such facilities are developed. Since detailed plans for any such facilities have not been created, mitigation for any such facilities would be speculative at the programmatic level of analysis. However, all future projects would be consistent with the General Plan and would incorporate mitigation and policies presented in this EIR and as described above as appropriate. Therefore, impacts from the construction or expansion of wastewater facilities, as a result of the General Plan are considered **less than significant**.

Solid Waste

Threshold: *A significant impact will occur if implementation of the Project would be served by a landfill with insufficient permitted capacity to accommodate the projects solid waste disposal needs.*

Implementation of the General Plan will generate an increased demand for solid waste collection and disposal capacity. As shown in **Table 5.16-M, Estimated Future Solid Waste Generation**, the generation of solid waste is anticipated to increase to between 1,452 tons per day and 2,576 tons per day at buildout under the Typical to Max. w/PRD scenarios, respectively. The City currently contributes approximately 292.5 tons per day⁸. With a total maximum daily load of 17,000 tons/day (see Table 5.16-A), this represents approximately 8% of the solid waste the landfills are allowed to accept daily under expected Typical build-out and approximately 15% of the amount of solid waste under Maximum w/PRD.

⁸ Total based on current customers served x 10lbs per unit(single family residential generation factor to be conservative)

Table 5.16-M Estimated Future Solid Waste Generation from the Planning Area							
Land Use	Generation Factor (lbs/day)	Projected Dwelling Units Under Plan (du/ksf)			Estimated Solid Waste Generation 2025 (tons/day)**		
		Typical	Maximum	Max w/ PRD	Typical	Maximum	Max w/ PRD
Single-Family Residential	10/du	87,893 du	102,439 du	135,622 du	439.47	512.20	678.11
Multi-Family Residential*	7/du	39,799 du	59,686 du	59,686 du	139.30	208.90	208.90
Commercial, Light Industrial and Office	6/ksf	245,039 ksf	332,477 ksf	332,477 ksf	735.11	997.43	997.43
Community Facilities	8/ksf	34,574 ksf	172,871 ksf	172,871 ksf	138.30	691.48	691.48
TOTAL					1,452 tons/day	2,410 tons/day	2,576 tons/day
Source: Generation Factors from the Orange County Sanitation Department. Notes: du = dwelling units; ksf = thousand square feet *Land use designations with 15 du/acre or greater are assumed to be multi-family. **Estimated solid waste generation is converted from pounds to tons							

The remaining total landfill capacity of approximately 56.57 million tons over the next 16 years assumes that no expansion of existing landfills (or development of new landfills) will occur. County Solid Waste Management has indicated that land to expand both the Badlands Landfill and Lamb Canyon Landfill will be used to provide more capacity, however no specific plans or programs exist at this time as to how, when or where expansion will occur. If the lifespan of both these landfills is extended to 2025 (or beyond), then the El Sobrante Landfill would have a lengthened lifespan that extends beyond 2025 and all potential impacts would be less than significant. The increase in solid waste generated by the development under the proposed General Plan is not anticipated to exceed capacity of the landfills as an isolated contributor. In addition, Public Resource Code Section 41780 requires every city and county to divert from landfills at least 50% of the waste generated within their jurisdiction, and the City has exceeded its required reduction in recent years and currently diverts 60%.

Adherence to and implementation of General Plan Policies PF 5.1 through 5.3 above (which deal with a goal of 100% recycling, recycling service provided to all residents, and donation or reuse of some items in lieu of landfill disposal, respectively) will substantially lessen solid waste impacts. To be conservative, this analysis anticipates that at least 50% of the estimated increase

in solid waste generation could be diverted. In addition, the continuation of the following City standards and practices will also help reduce the overall amount of waste:

- Continue to implement waste diversion programs as well as public education programs as outlined in the City’s Source Reduction and Recycling Element.
- Continue implementing, and participating in programs that increase the City’s diversion of solid waste from regional landfills. Existing programs supported by the City include: Green Waste Collection, Curbside Recycling, Newspaper Drop-Off, Car Tire Amnesty, Household Hazardous Waste, Appliances, Backyard Compost Workshops, Refrigerator Recycling Rebate (Cool Returns), C.U.R.E., Electronic waste, Curbside Oil Collection and Recycling Market Development Zone. Support expansion of these programs to all City addresses.
- Implement CEQA during the development review process for future projects. Analyze and mitigate potential public facility, service, and utility impacts to the maximum extent practicable. For projects that require construction of new public facilities or extension of utilities, ensure that the environmental documentation considers related off-site physical environmental impacts of these activities.

Therefore, because the Typical Project will contribute only about 8% of projected capacity, because landfill capacity is expected to increase, because of the City’s excellent record and current policies and standards related to waste reduction programs and diversion from landfills, and with implementation of MM UTL 4, project specific impacts will be less than significant. Cumulatively, however, if landfill expansion does not keep pace with growth in the region or if growth within the Planning Area exceeds Typical levels, cumulative impacts may be significant and unavoidable (see Section 6.0, Long-term Effects).

Threshold: *A significant impact will occur if implementation of the Project does not comply with Federal, State, and local statutes and regulations related to solid waste.*

The California Integrated Waste Management Act under the Public Resource Code requires that local jurisdictions divert at least 50% of all solid waste generated by January 1, 2000. The City is currently achieving a 60% diversion rate, well above state requirements. The City remains committed to continuing its existing waste reduction and minimization efforts with the programs that are available through the City. Implementation of the proposed General Plan would not conflict with any Federal, State, or local regulations related to solid waste. Therefore, **no impacts** are anticipated.

Dry Utilities

Threshold: *Results in a need for new power or supplies, or substantial alterations to existing systems.*

New development within the Planning Area consistent with the Project will result in additional demands for fuel and energy. Constraints will generally happen during the summer months. **Table 5.16-N** depicts the anticipated demand increases in electric energy usage at the Typical,

Maximum and Maximum w/PRD levels. The implementation and buildout of the General Plan as expected at the Typical level would result in a total electric energy usage of 4,824,478 MWh/year.

Table 5.16-N Estimated Future Electricity Use for Planning Area							
Land Use	Usage Factor (kwh/ year)	Proposed (du/sf)			Electricity Energy Use 2025 (MWh/year)		
		Typical	Maximum	Max. w/ PRD	Typical	Maximum	Max. w/ PRD
Single-Family Residential	7,800/unit	127,692	162,125	195,309	995,998	1,264,575	1,523,410
Commercial*					3,298,290	4,457,678	4,457,678
Retail	15.12/ sq.ft	20,984,886	35,804,018	35,804,018	317,291	541,357	541,357
Office	14.45/ sq.ft	206,297,486	271,025,707	271,025,707	2,980,999	3,916,321	3,916,321
Industrial	11.60/ sq.ft	10,133,910	15,200,865	15,200,865	117,553	176,330	176,330
Community Facilities	12.00/ sq.ft	34,386,445	172,932,227	172,932,227	412,637	2,075,187	2,075,187
TOTAL					4,824,478	7,973,770	8,232,605

Sources for usage Factors: Riverside Public Utilities Electric Planning.
 Notes: kWh = kilowatt hours; MWh = megawatt hours; du = dwelling units; sf = square feet.
 *Commercial includes non-residential building floor area of Mixed-Use designations.

Implementation of the proposed General Plan would increase use of electricity in the Planning Area, particularly the demand for electricity to light, heat, and air condition the residential, commercial, and business development. The City has proactively planned for future growth in energy use and demand. Approximately every 2 years RPU assesses its current and future electricity demand and capacity. In addition, RPU is in the process of contracting for a 25-year electric system master plan that will be completed in 2008. It will include the long term needs of the City’s electric customers/owners.

RPU is in the environmental study and preliminary design stages of a program called the “Riverside Transmission Reliability Project (RTRP)”, to increase the inlet capacity to the City and reinforce RPU’s transmission system. RTRP is a coordinated project between RPU and Southern California Edison (SCE). This project will provide adequate electrical capacity as well as a reliable electrical supply for future growth by doubling existing inlet capacity. RPU is proposing a new 230/69 kV electrical substation, and new 69 kV transmission lines within Riverside. SCE is proposing an adjoining 230 kV interconnection substation and a new double circuit 230 kilovolt (kV) transmission line. The proposed SCE 230 kV substation would be the interconnection point for the proposed 230 kV transmission line to existing SCE 230 kV transmission lines. Six new 69 kV transmission lines will connect the proposed 230/69 kV substation to RPU’s electric system. The project would also include upgrades to existing substations and new fiber optic communications lines. Potential impacts of the construction of the RTRP are analyzed in an EIR that is currently being prepared, for which the Notice of Preparation was circulated on January 23, 2007.

RPU plans to build several new photovoltaic (PV) stations within the City. The new sites, together with three existing PV power stations at the Autumn Ridge Apartments, La Sierra

Metrolink Station, and the Public Utilities Operation Center, are anticipated to generate additional renewable energy for the City.

Understanding that RPU's two long-term contracts with the California Department of Water Resources ended in 2005 and others will end in the future, the RPU commissioned a new power plant consisting of two 48-megawatt "peak" power generating units in June 2006. The natural gas powered plants are usually tapped only during limited hours of the hottest summer days, when air conditioner use creates huge peaks in energy consumption. The plant was constructed near the Santa Ana River north of the airport. This plant assists in keeping utility rates stable for both residents and businesses, and is able to keep critical services running in an emergency. In addition, two additional peak power generating units are proposed to be built adjacent to these existing facilities. If RPU is not allowed to build these new generators in the same location as the existing units, they can be built elsewhere within the Planning Area.

As of the 2004-05 fiscal year, RPU's annual power usage was 1,962,000 megawatt hours (MWh). Demand for the same period was 519 MW. Therefore, current electrical demand within the Planning Area is within the capacity limitations of the electrical facilities serving the area. Projected annual energy usage and demand for the Project are 4,824,478 MWh and 1,032 MW, respectively. Therefore, future demand will exceed current available capacity, however, as discussed above, the RTRP will double inlet capacity and is expected to be operational in 2009. **The RTRP and planned generating units will provide additional capacity for projected power demand at the Typical expected buildout of the Project and potential adverse impacts resulting in a need for new power capacity or supplies, or substantial alterations to existing systems will be less than significant.**

In the unlikely event that future growth of the City reaches the Maximum or Maximum w/PRD levels, the existing facilities plus RTRP facilities and planned generating units would not accommodate projected needs. The City is proactively upgrading and expanding the current electrical facilities to allow for future power demands and to improve efficiency. By implementing General Plan policies, such as, OS-8.1 to OS-8.11, which encourage renewable energy and energy efficient development and adherence to the Implementation Plan Tools, such as, OS-30 to OS-32 which promote energy efficient programs that conserve energy 15% above Title 24 requirements, demand can be reduced from projected levels. It is speculative to assume when and by how much conservation and energy efficient development alone will reduce demand. Therefore, **without mitigation, possible impacts associated with the worst case analysis presented above would be significant.** With implementation of the General Plan policies and Mitigation Measure MM UTL 3, impacts related to electric energy capacity are considered **less than significant.**

Specific development proposals consistent with the Project could require improvements to existing energy facilities and extension of facilities to currently underserved areas within the Planning Area. Because exact locations of facilities are not known, the specific impacts of such facilities cannot be described in this document. Nevertheless, the Project includes policies and programs that will minimize the environmental effects of the development of such facilities, as described throughout this EIR. Therefore, at the programmatic level, the Project's **impact on new power facilities will be less than significant.**

Threshold: Results in a need for natural gas systems or supplies, or substantial alterations to existing systems.

New development within the Planning Area consistent with the Project will result in additional demands for fuel. Table 5.16-O, Estimated Future Natural Gas Demand for Planning Area depicts the anticipated demand increases for natural gas. The implementation and buildout from the General Plan would generate a demand for natural gas of 41.39 million cubic feet per day at the Project expected Typical level.

Table 5.16-O Estimated Future Natural Gas Demand for Planning Area							
Land Use	Usage Factor (cf/day)	Proposed (du/sf)			Natural Gas Demand 2025 (mcf/day)		
		<i>Typical</i>	<i>Maximum</i>	<i>Max. w/ PRD</i>	<i>Typical</i>	<i>Maximum</i>	<i>Max. w/ PRD</i>
Single-Family Residential	222.17/du	87,893	102,439	135,622	19.53	22.76	30.13
Multi-Family Residential*	133.72/du	39,799	59,686	59,686	5.32	7.98	7.98
Commercial	.10/sf	20,984,886 sf	35,804,018 sf	35,804,018 sf	2.1	3.58	3.58
Light Industrial and Office	.07/sf	206,297,487 sf	271,025,708 sf	271,025,708 sf	14.44	18.97	18.97
Community Facilities	.07/sf	34,574 sf	172,871 sf	172,871 sf	.002	.012	.012
TOTAL					41.39	53.30	60.67

Sources: Generation Factors from the South Coast Air Quality Management District.
 Notes: cf = cubic feet; du = dwelling unit; sf = square feet; mcf = million cubic feet; ksf = thousand square feet
 *Land use designations with 15 du/acre or greater are assumed to be multi-family.

According to the 2006 California Gas Report, residential and wholesale gas requirements are expected to increase to approximately 9% between 2006 and 2025 as population in SCGC service area continues to grow. Commercial and industrial markets are expected to show modest customer gains due to the growing economy.

Over the past three years, California natural gas utilities, interstate pipelines, and in-state natural gas storage facilities have had an increase in demand. More projects have been proposed and some are currently under construction to add additional pipelines, expand existing pipelines, add new facilities, or to upgrade. SCGC has aggressively implemented energy efficiency goals and associated programs to reduce the anticipated increase in demand for natural gas. They are projected to reduce this demand 19% by 2025. Energy saving programs such as stricter building and appliance standards and utility energy efficiency programs are expected to help reduce the demand on natural gas.

Southern California Gas Company (SCGC) is considered a “reactive” utility. SCGC is continuously expanding its network of gas pipelines to meet the needs of new commercial and residential developments in Southern California. The Gas Company has an adequate supply of natural gas available to serve the additional development, and that the natural gas level of service

provided to the City would not be impaired by buildout under the General Plan. Therefore, impacts related to new infrastructure for natural gas production are considered **less than significant**.

Threshold: *Results in a need for new communications systems or substantial alterations to existing systems.*

There is a broad range of telecommunication services that allow people and devices to communicate regardless of its location. The implementation of the General Plan will result in increased demand on existing telephone, internet, wireless communication, fiber optics, and cable television service providers. Services and technologies which do not exist today may be common place by 2025.

Wireless communication facilities are allowed in all zones except for RC and RA-5 zones. Any proposed wireless facilities will be subject to the requirements set forth in the Zoning Code (Article VII). Implementation of the General Plan policies such as PF-7.1 through 7.9 will help ensure that residents, business community, educational institutions have access to internet and telecommunication services. At this stage of the General Plan analysis, construction of specific facilities are not known, so the specific impacts of such facilities cannot be described in this document. Nevertheless, the Project includes policies and programs that will minimize the environmental effects of the development of such facilities, as described throughout this EIR. Therefore, at the programmatic level, **impacts are considered less than significant**.

PROPOSED MITIGATION MEASURES

An Environmental Impact Report is required to describe feasible mitigation measures which could minimize significant adverse impacts (CEQA Guidelines, Section 15126.4). The implementation of the six project components was found to have less than significant impacts related to utilities and service systems under the Typical scenario. Nevertheless, the following mitigation measures are proposed to address the impacts of growth beyond that anticipated and described in the Typical scenario (Maximum and Max. w/PRD).

MM UTL 1: To mitigate potential impacts related to the need for expanded entitlements for water supply if population growth exceeds the Typical Project level, the City will review population and development trends with respect to water sources and supply in 2015 and 2020 to assure that growth is occurring as expected under the Typical Project development scenario which can be accommodated with the present and expected water sources. If the review finds that development is outpacing what would be expected under the Typical level, then mitigation and funding mechanisms shall be implemented to address expected deficiencies. Options for mitigation could include, but are not limited to, such approaches as outlined below:

1. acquire additional water from WMWD or other wholesale provider, or
2. implement water conservation regulations to provide incentives and/or penalties to achieve necessary water conservation.

MM UTL 2: To mitigate potential impacts to adequate wastewater treatment plant capacity, the City will review population and development trends with respect to capacity of the treatment plant in 2015 and 2020 to assure that growth is occurring as expected under the Typical Project development scenario which can be accommodated with the present plant and planned expansions. If the review finds that development is outpacing what would be expected under the Typical level, then mitigation and funding mechanisms shall be implemented to address expected capacity deficiencies. Options for mitigation could include, but are not limited to, such approaches as outlined below:

1. upgrade the 52.2 mgd wastewater treatment plant to accommodate excess growth , or
2. construct a new 40 mgd wastewater treatment plant. This plant could be funded by new development (General Plan Policy PF-3.2), or
3. develop an agreement with WMWD to take on additional wastewater generated within the City's service area.

MM UTL 3: To mitigate potential impacts to adequate electric service capacity and sources, the City will review population and development trends with respect to electricity consumption approximately every two years to assure that growth and demand are occurring as expected under the Typical Project development scenario which can be accommodated with the present facilities, two new peak generating units, and the RTRP. If the review finds that development and/or consumption is outpacing what would be expected under the Typical level, then mitigation and funding mechanisms shall be implemented to address expected capacity deficiencies. Options for mitigation could include, but are not limited to, such approaches as outlined below:

1. accelerated or mandated conservancy of electricity, or
2. construct new substations and transmission lines, or
3. develop renewable sources of energy generated within the City's service area.

MM UTL 4: The City will review the County Waste Management Annual Reports to California Integrated Waste Management Board (CIWMB) every five years to ensure that projections still show adequate capacity to and through the year 2025. If levels show that landfill capacity is becoming limited or exhausted, then the City shall increase efforts to divert waste from landfills such as meeting Policy PF 5.1 which encourages innovative methods and strategies to reduce the amount of waste materials entering landfills, including achieving 100% recycling citywide for both residential and non-residential development.

SUMMARY OF ENVIRONMENTAL EFFECTS AFTER MITIGATION MEASURES ARE IMPLEMENTED

Impacts on utilities and service systems will be less than significant at the programmatic level for the Project at the expected Typical build-out levels. With adherence to and implementation of the above General Plan policies, implementation tools, and EIR mitigation measures, impacts related to water, sewer, storm drain, energy, and telecommunications utilities and service systems caused by demand in excess of Typical Project levels will be less than significant. Solid waste generated by the Project at Typical levels will be less than significant. Solid waste generated by the Project in excess of Typical levels and cumulatively may be significant if landfill capacity in the region is not increased.