2015
URBAN WATER MANAGEMENT PLAN
LINCOLN AVENUE WATER COMPANY

June 2016
Final Copy

2015

URBAN WATER MANAGEMENT PLAN

Lincoln Avenue Water Company

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June 2016 Final Copy

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ACRONYMS

Act	Urban Water Management Planning Act
AF	acre-feet
AFY	acre-feet per year
Basin	Raymond Groundwater Basin
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practice
Board	Metropolitan Water District of Southern California's Board of Directors
cfs	cubic feet per second
CII	Commercial/Industrial/Institutional
CIMIS	California Irrigation Management Information System
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CWC	California Water Code
DBPs	Disinfection Byproducts
DDW	State Water Resources Control Board Division of Drinking Water
DMM	Demand Management Measure
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ETo	Evapotranspiration
FMWD	Foothill Municipal Water District
GPCD	gallons per capita per day
HECW	High Efficiency Clothes Washer
HET	High Efficiency Toilet
IRP	Integrated Resource Plan
IWA	International Water Association
JWPCP	Joint Water Pollution Control Plant
LACSD	Sanitation Districts of Los Angeles County
LAGWRP	Los Angeles/Glendale Water Reclamation Plant
LAWC	Lincoln Avenue Water Company
LRSP	Local, Reliable Water Supply Program
MAF	million acre-feet
MCL	Maximum Contaminant Level

MGD	million gallons per day
MOU	Memorandum of Understanding
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
NDMA	N-nitrosodimethylamine
PPCPs	Pharmaceuticals and Personal Care Products
PWP	Pasadena Water and Power
QSA	Quantification Settlement Agreement
RHNA	Regional Housing Needs Assessment
SBx7-7	Senate Bill x7-7
SCAG	Southern California Association of Governments
SDP	Seawater Desalination Program
SWP	State Water Project
TDS	Total Dissolved Solid
ULFT	Ultra-Low-Flow Toilet
UWMP	Urban Water Management Plan
WBIC	Weather-Base Irrigation Controller
WRP	Water Reclamation Plant
WSAP	Water Supply Allocation Plan

EXECUTIVE SUMMARY

Introduction

This report serves as the 2015 update of the Lincoln Avenue Water Company (LAWC) Urban Water Management Plan (UWMP). The UWMP has been prepared consistent with the requirements under Water Code Sections 10610 through 10657 of the Urban Water Management Planning Act (Act). The Act requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan." These plans must be filed with the California Department of Water Resources (DWR) every five years describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. 2015 UWMP updates are to be adopted by July 1, 2016.

The Act has been amended on several occasions since its initial passage in 1983. New requirements of the Act due to SBx7-7 state that per capita water use within an urban water supplier's service area must decrease by 20 percent by the year 2020 in order to receive grants or loans administered by DWR or other state agencies. The legislation sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10 percent by December 31, 2015. Each urban retail water supplier shall develop water use targets by July 1, 2016. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans.

Service Area and Facilities

LAWC provides water to a population of approximately 13,631 throughout its service area. LAWC receives its water from three main sources: Raymond Groundwater Basin, surface water from Millard Canyon, and imported water from the Foothill Municipal Water District (FMWD). LAWC provides potable drinking water to its customers via two wells, an imported source, and a local surface water source and treatment facility.

Water Demand

Currently (2015), the total water demand for the 13,631 people served by LAWC is approximately 1,864 acre-feet annually, consisting of 267 acre-feet of imported water, and 1,597 acre-feet of local water.

LAWC has selected to comply with **Option 1** of the SBx7-7 compliance options. Under Compliance Option 3, LAWC's 2015 interim water use target is 164 GPCD and the 2020 final water use target is **145 GPCD**.

In 2015, with a water demand of 1,864 acre-feet, LAWC's water use is 122 GPCD. As a result, LAWC achieved its 2015 interim water use target and is set to achieve its 2020 target.

Water Sources and Supply Reliability

LAWC has three sources of water supply which include groundwater from the Monk Hill sub-basin of the Raymond Basin, local surface water from Millard Canyon, and FMWD imported water. As local production cannot supply 100 percent of the demand, LAWC supplements the remaining demand with imported water from Metropolitan Water District of Southern California (MWD) via FMWD. From time to time, Lincoln will lease water from other local purveyors with available water rights. LAWC takes FMWD imported water in the peak summer months, since groundwater production is not enough to meet the increased demands during the hotter months. The sources of imported water supplies include the Colorado River and the State Water Project (SWP). MWD's 2015 Integrated Water Resources Plan (IRP) update describes the core water resource strategy that will be used to meet full-service demands (non-interruptible agricultural and replenishment supplies) at the retail level under all foreseeable hydrologic conditions from 2020 through 2040.

It is required that every urban water supplier assess the reliability to provide water service to its customers under normal, dry, and multiple dry water years. MWD's 2015 UWMP finds that MWD is able to meet full service demands of its member agencies with existing supplies from 2020 through 2040 during normal years, single dry year, and multiple dry years. LAWC is therefore capable of meeting the water demands of its customers in normal, single dry, and multiple dry years between 2020 and 2040, as illustrated in **Table 3-11** to **Table 3-17**.

Future Water Supply Projects

The National Aeronautics and Space Administration (NASA) is currently constructing a new groundwater extraction well located in the rear parking lot area of the LAWC office. The new Well No. 6 enhances the groundwater cleanup efforts by removing contaminants in deeper levels of the aquifer, thus maintaining effective containment of the leading edge of groundwater chemicals originating from the Jet Propulsion Laboratory (JPL). The well will also serve as a modern, reliable water source for LAWC's customers, ensuring continued clean drinking water supplies for many decades. This project is funded through NASA and it will be LAWC's third well within its service boundaries.

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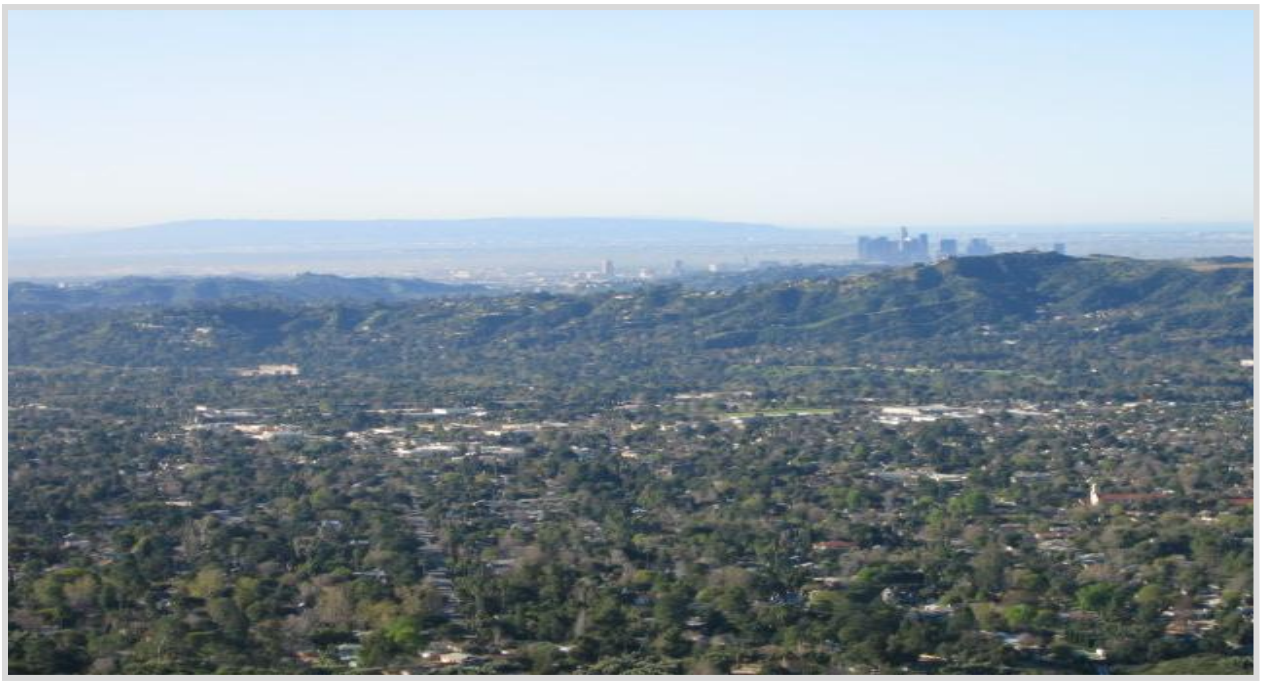
SECTION 1: INTRODUCTION

Incorporated in 1896, Lincoln Avenue Water Company (LAWC) is a retail water agency supplying water to over 13,000 residents in the City of Altadena.



SECTION 1: INTRODUCTION

1.1 URBAN WATER MANAGEMENT PLAN PURPOSE & SUMMARY

This is the 2015 Urban Water Management Plan (UWMP) for Lincoln Avenue Water Company (LAWC). This plan has been prepared in compliance with the Urban Water Management Planning Act (Act), which has been codified at California Water Code sections 10610 through 10657.

As part of the Act, the legislature declared that waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; that successful implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The Act requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan." These plans must be filed with the California Department of Water Resources (DWR) every five years describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. (*See generally* Wat. Code § 10631).

Figure 1-1: UWMPs Comply with State Water Code

1.2 PAST UPDATES TO THE UWMP ACT

The Act has been amended on several occasions since its initial passage in 1983. Of all the amendments, the most significant came in 2009 as a result of the requirements of Senate Bill 7 / Seventh Extraordinary Session (SBx7-7). The requirements of this bill states that per capita water use within an urban water supplier's service area must decrease by 20 percent by the year 2020 (20x2020) in order to receive grants or loans administered by DWR or other state agencies. The legislation sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10 percent by December 31, 2015. Each urban retail water supplier shall develop water use targets by July 1, 2016. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for

state water grants or loans. SBx7-7 substantially expanded the role of the UWMPs by requiring all urban retail water suppliers to develop baseline daily per capita water use data, urban water use targets, and other technical information, and to report all of the information in their 2010 UWMPs.

1.3 UPDATES TO THE UWMP ACT FOR 2015 UWMPS

There have not been any significant changes affecting the 2015 UWMPs on the level of SBx7-7; however, there have been several minor to moderate updates to the UWMP Act affecting the 2015 UWMPs as follows:

- **Demand Management Measures (DMMs):** Updates to the DMMs (CWC § 10631 (f) (1) & (2) AB 2067, 2014)
- **Submittal Date:** Submittal Date Has Been Extended (CWC § 10621 (d) (1) & (2) AB 2067, 2014)
- **Electronic Submittal:** New Submittal Format to DWR (CWC § 10644 (a) (2) SB 1420, 2014)
- **Standardized Forms:** Must Use Standardized Forms for DWR Submittal (CWC § 10644 (a) (2) SB 1420, 2014)
- **Water Loss:** New Submittal Format to DWR (CWC § 10631 (e) (1) (J) and (e) (3) (A) and (B) SB 1420, 2014)
- **Estimating Future Water Savings:** Water Use Projections Should Assume Water Savings Per Appendix K (CWC § 10644 (e) (4) SB 1420, 2014)
- **Voluntary Reporting of Energy Intensity:** Provide details of Energy to Produce Water (CWC § 10631.2 (a) (b) SB 1036, 2014)
- **Defining Water Features:** Provide details of Energy to Produce Water (CWC § 10632 (b) SB 2049, 2010)

Of the above, the changes to the DMMs are the most significant update affecting the 2015 UWMPs. AB 2067 and SB 1420, which amended the DMMs, mark a continued focus on water use reduction strategies. AB 2067 and SB 1420 not only change the amount of DMMs required (consolidated from 14 DMMs to 7 DMMs), but also require reporting requirements on the DMMs.

In addition to the above, there are several optional or voluntary categorical and data reporting changes to the UWMP Act (some of which applied to the 2010 UWMPs). These include optional categories of Climate Change, Energy Intensity, Passive Savings, as well as various optional data reporting.

1.4 2015 UWMP SCOPE & FORMAT

1.4.1 SCOPE & TOPICS OF DISCUSSION

This UWMP provides DWR with information on the present and future water resources and demands and provide an assessment of the water resource needs of LAWC. Specifically, this document will provide water supply planning for a 25-year planning period in 5-year increments. The plan will identify water supplies for existing and future demands, quantify water demands during normal year, single-dry year, and multiple-dry years, and identify supply reliability under the three hydrologic conditions. LAWC's 2015 UWMP update revises the 2010 UWMP. This document has been prepared in compliance with the requirements of the Act as amended in 2009, and includes the following topics:

- Water Service Area and Facilities
- Water Sources and Supplies
- Water Use by Customer Type
- Demand Management Measures
- Water Supply Reliability
- Planned Water Supply Projects and Programs
- Water Shortage Contingency Plan
- Recycled Water

With the passage of SBx7-7 in 2009, Demand Management Measures (DMMs) have become a critical component of an agency's UWMP.

The topics listed above are consistent with the 2010 UWMP, and no new stand-alone topics have been added to this 2015 UWMP; however, narratives related to the above topics have been revised to reflect current (2015) conditions. In addition, visual format changes, expansions of existing text, and addition of new sub-categories and/or new data, have been added to enhance this 2015 UWMP and provide more benefit for LAWC.

1.4.2 SBX7-7 CONSERVATION UPDATES

As required in the 2010 UWMP, each urban retail water supplier must include in its 2015 UWMP the following information from its target-setting process:

- Baseline daily per capita water use
- 2020 Urban water use target
- 2015 Interim water use target
- Compliance method being used along with calculation method and support data
- Updates on interim (2015) target

Since the above information is already contained in the 2010 UWMP, an agency has the option of re-stating this information if it is the same from the 2010 UWMP or revising it if different from the 2015 UWMP.

Figure 1-2: SBx7-7 Aims to Protect Water Sources, Including the Bay-Delta Pictured Above

Wholesale water suppliers, including LAWC's imported water supplier, Foothill Municipal Water District (FMWD), are required to include an assessment of present and proposed future measures, programs, and policies that would help LAWC achieve the

20x2020 goal. FMWD works with LAWC to promote water use efficiency within its service area. FMWD's main role on behalf of LAWC is to administer various conservation programs, including MWD rebate programs. Before conservation program budgets are approved by the FMWD's Board of Directors, they are vetted with LAWC and other retail agencies.

1.4.3 FORMAT OF THE REPORT

The sections in this Plan correspond to the UWMP Act (Article 2, Contents of Plans, Sections 10631, 10632, and 10633). The sequence used for the required information, however, differs slightly in order to present information in a manner reflecting the unique characteristics of LAWC's water utility. The Sections are as follows:

- **SECTION 1: INTRODUCTION**
  This section describes the UWMP Act, LAWC's planning and coordination process, the history of LAWC's water supply system, and a description of its service area.

- **SECTION 2: WATER DEMANDS**
  This section describes past, current, and projected future water demands within LAWC's service area, as well as factors that affect demand, including climate and population demographics. This chapter also discusses the requirements of the Water Conservation Act of 2009 (SBx7-7).

- **SECTION 3: WATER SOURCES AND SUPPLIES**
  This section describes LAWC's water supplies, including imported water from FMWD, and how LAWC handles those water supplies. This section also discusses the quality of LAWC's water sources, effects on management strategies, and supply reliability.

- **SECTION 4: CONSERVATION MEASURES**
  This section addresses LAWC's compliance with the current Demand Management Measures (DMMs).

- **SECTION 5: CONTINGENCY PLANNING**
  This section describes LAWC's efforts that will be utilized in the event of a water supply interruption, such as a drought or catastrophe. LAWC's Board adopted Water Shortage Contingency Plan (Adopted in 1992), which encourages conservation and

recommends minimum restrictions be placed on water use, is discussed. In addition, the Water Surplus and Drought Management Plan (WSDM) of Metropolitan Water District of Southern California (MWD) is also described.

- **SECTION 6: RECYCLED WATER**
  This chapter describes past, current, and projected recycled water use, along with a description of wastewater collection and treatment facilities.

- **SECTION 7: FUTURE WATER SUPPLY PROJECTS AND PROGRAMS**
  This section discusses planned and potential future water supplies and programs, including new supply sources, transfers and exchanges, and the feasibility of such supplies and programs.

- **SECTION 8: UWMP ADOPTION PROCESS**
  This Section describes LAWC's planning and coordination process for the 2015 UWMP, including public and outside agency participation, and Board adoption.

- **APPENDICES**
  The appendices contain references, supplemental information, and specific documents relating to LAWC used to prepare this 2015 UWMP.

1.5 AGENCY OVERVIEW

LAWC was established in 1883 and incorporated in 1896 when it took over the operations of the Millard Canyon Water Company, and is a nonprofit mutual water company. LAWC has transitioned from an irrigation/agricultural water supplier to a municipal water supplier through the drilling and development of wells. LAWC serves Altadena, an unincorporated area of LA County. Currently LAWC provides water to over 13,000 people through approximately 4,500 service connections. LAWC's service area is mostly built-out with only a small potential for new development in the northerly part of its service area (in the foothills). LAWC receives its water from three main sources, the Raymond Groundwater Basin, surface water from Millard Canyon, and imported water from FMWD.

By helping form FMWD in 1953, LAWC began receiving imported water in 1955 as a means to supplement its groundwater supply.

FMWD, LAWC's wholesale provider, was formed in early 1952 by voters in the area to help meet the increasing water needs of a rapidly growing population following World War II. Because local well water supplies were limited, a supplemental water source was needed. A group of concerned community leaders determined that membership with MWD was the solution to meeting these local water needs. FMWD provides water in the foothills of the San Gabriel Mountains, bordered between the City of Pasadena on the east and the City of Glendale on the south and west. The service area covers about 22 square miles and serves seven retail agencies located in four communities, as indicated on **Figure 1-3**. While a majority of these agencies pump local groundwater, they may purchase additional water from FMWD to meet their demands.

LAWC has a 5-member Board of Directors that participate in the management of the company. The current members of the Board of Directors are:

- **John C. Clairday** – President
- **Robert J. Gomperz** – Vice President
- **Lawrence W. Duncan** – 1st Vice President
- **Ann Dougherty** – Treasurer
- **Diego Fernandez** – Assistant Secretary

LAWC's mission statement is:

> "*The mission of the Lincoln Avenue Water Company is to reliably provide to its customers and shareholders high quality water, service, and maintenance of the Company's resources in an environmentally and fiscally responsible manner*."

1.6 SERVICE AREA AND FACILITIES

LAWC provides water service to the northwest section of Altadena, which encompasses an area of approximately 2.5 square miles. The service area is bounded on the west by The Arroyo Seco, east to Marengo Avenue, on the south by Figueroa Street and north by the San Gabriel Mountains. **Figure 1-4** on page 1-12 shows a map of LAWC's service boundaries.

1.6.1 SERVICE AREA DESCRIPTION

The LAWC serves the northwest portion of Altadena, which is an unincorporated area of

Los Angeles bordering Pasadena. LAWC's service area is located within the service area of MWD, a regional water wholesaler, and FMWD, the member agency of MWD that distributes imported water to LAWC and the surrounding foothill areas. LAWC is bounded on the south by the City of Pasadena, on the east by the Las Flores Water Company and the Rubio Cañon Land Water Association (RCLWA), and on the north by the San Gabriel Mountains.

Figure 1-3: A portion of LAWC's Service Area

1.6.2 LAWC'S WATER FACILITIES

LAWC provides potable drinking water to its customers via two wells, an imported source, and a local surface water source and treatment facility. The wells pump from the Raymond Groundwater Basin, which is LAWC's primary source of supply. The imported source water is obtained from the FMWD, a member agency of MWD. Its surface water source is the Millard Canyon, and supplies from this source are treated at the LAWC's South Coulter Surface Water Treatment Plant. **Figure 1-4** on page 1-12 shows LAWC's service boundaries and water facilities.

The system is serviced through eight pressure zones with four pumping stations. The two wells, wells No. 3 and 5, provide capacities up to 900 and 1,000 gallons per minute

(gpm), respectively. LAWC utilizes seven reservoirs with a total storage capacity of over 10.5 million gallons (MG). A breakdown of each tank is shown in **Table 1-1.**

Table 1-1: LAWC Reservoir Capacities

Reservoir	Capacity (Gal)
Olive Avenue Sump	200,000
Glenrose	4,520,000
Wapello	1,390,000
Ware	910,000
South Coulter	2,000,000
Swigart	482,000
La Vina	1,000,000
Total Capacity:	**10,502,000**

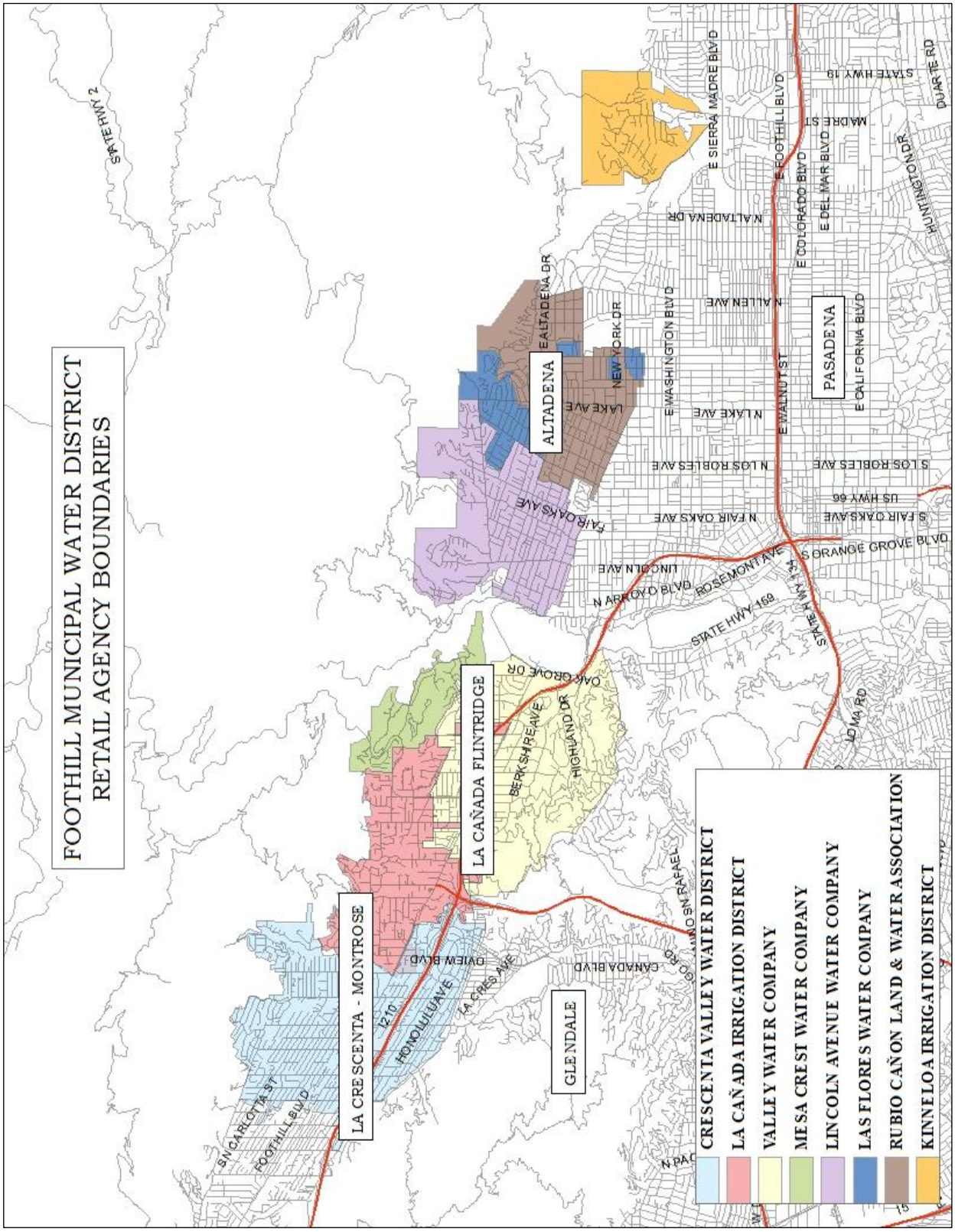


Figure 1-3: LAWC's Service Area & FMWD Member Agencies

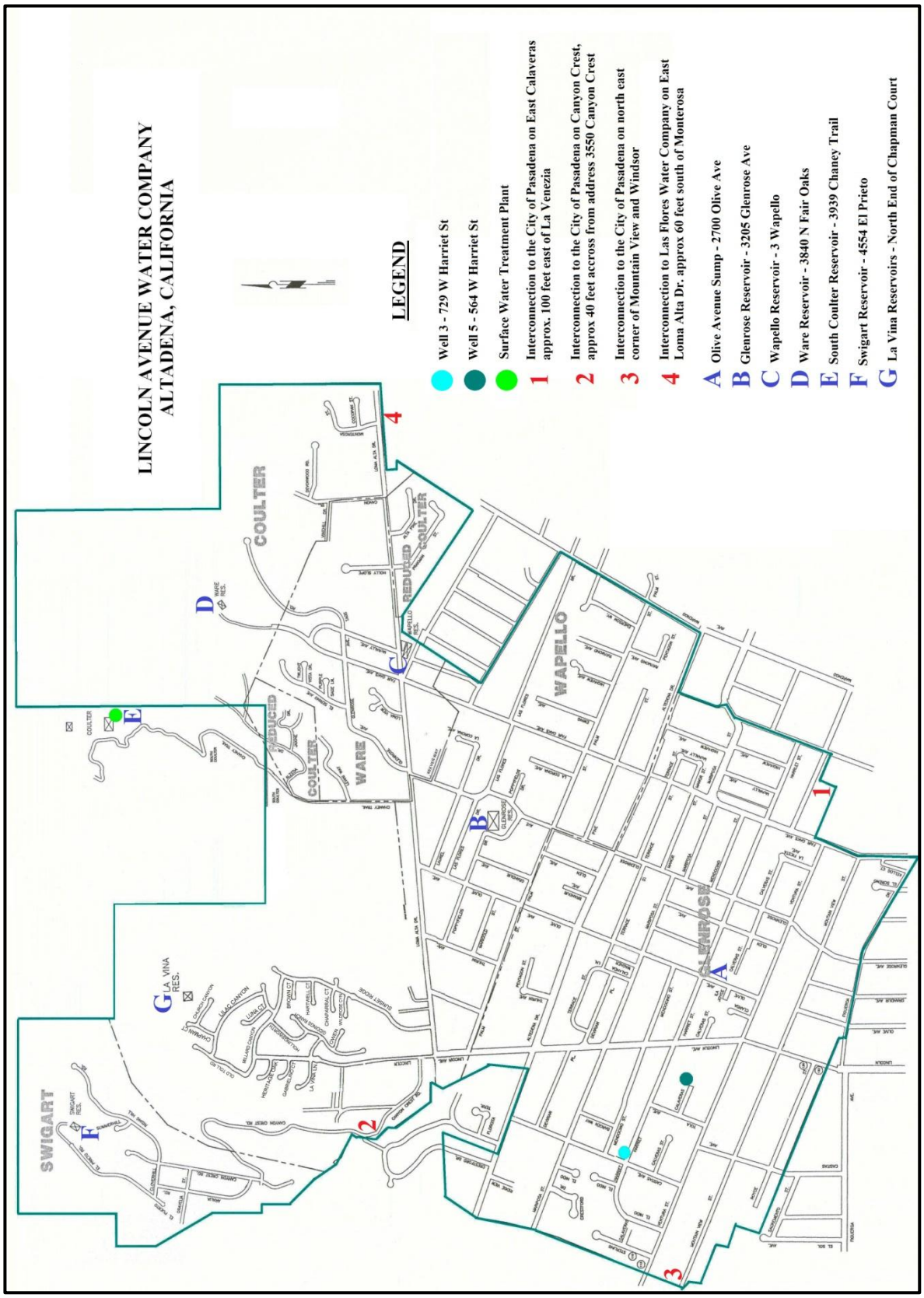


Figure 1-4: LAWC System Map

SECTION 2: WATER DEMANDS

LAWC is committed to protecting statewide water sources by achieving water use targets and reducing water demand. LAWC's water demand is mostly residential with some commercial and no industrial.

SECTION 2: WATER DEMAND

2.1 OVERVIEW

Water use within LAWC's service area includes residential potable use, commercial and industrial uses, and of course water losses. Water use is variable and depends on a number of factors which include seasonal climate changes, demographic shifts, changes in land use or redevelopment, and of course legislation. Since LAWC's service area is largely residential, changes in residential plumbing fixtures and customer usage habits can significantly affect water usage. LAWC is able to meet its demands with a blend of groundwater, surface water, and imported water.

This section explores the water usage trends within LAWC's service area and quantifies total usage per customer type. In addition, the provisions of the SBx7-7 are explored in detail.

2.2 FACTORS AFFECTING DEMAND

Water consumption is influenced by various factors including climate characteristics of

that hydrologic region, demographics (including social and economic demographics), land use characteristics, and economics. The key factors affecting water demand in LAWC's service area are discussed in the following sub-sections.

2.2.1 CLIMATE CHARACTERISTICS

Altadena has a Mediterranean climate with mild and dry summers, and cool winters. The region is subject to wide variations in annual precipitation, and also experiences periodic wild fires. The average annual rainfall is 22 inches per year. This translates to a region with low rainfall, prone to droughts. This type of climate is shown similarly throughout Southern California. **Table 2-1** lists the historical monthly average evapotranspiration (ETo), rainfall, and temperatures from 1922 to 2014.

Table 2-1: Climate Characteristics

Month	Standard Monthly Average ETo (inches) [1]	Annual Rainfall (inches) [2]	Average Temperature (˚F) [2]
Jan	2.26	4.60	53.3
Feb	2.57	4.79	54.2
Mar	4.03	3.54	55.7
Apr	4.72	1.80	56.4
May	4.88	0.43	62.6
Jun	5.73	0.17	66.0
Jul	6.19	0.03	71.8
Aug	6.28	0.10	73.0
Sep	4.96	0.42	71.5
Oct	3.57	0.84	64.4
Nov	2.76	2.01	60.6
Dec	2.11	3.26	55.2
Annual	**50.04**	**21.99**	**62.0**

[1] Average ETo is an average value taken from station #133 (Glendale) and station #159 (Monrovia) provided by CIMIS.

[2] Data provided by Western Regional Climate Center from station 040144 (Altadena). Average from 1922-2014.

The sources of LAWC's imported water supplies, the State Water Project (SWP) and Colorado River Aqueduct (CRA), are influenced by weather conditions in Northern California and along the Colorado River Basin region. Both regions have recently been suffering from multi-year drought conditions and record low rainfalls which directly impact demands and supplies to LAWC and Southern California.

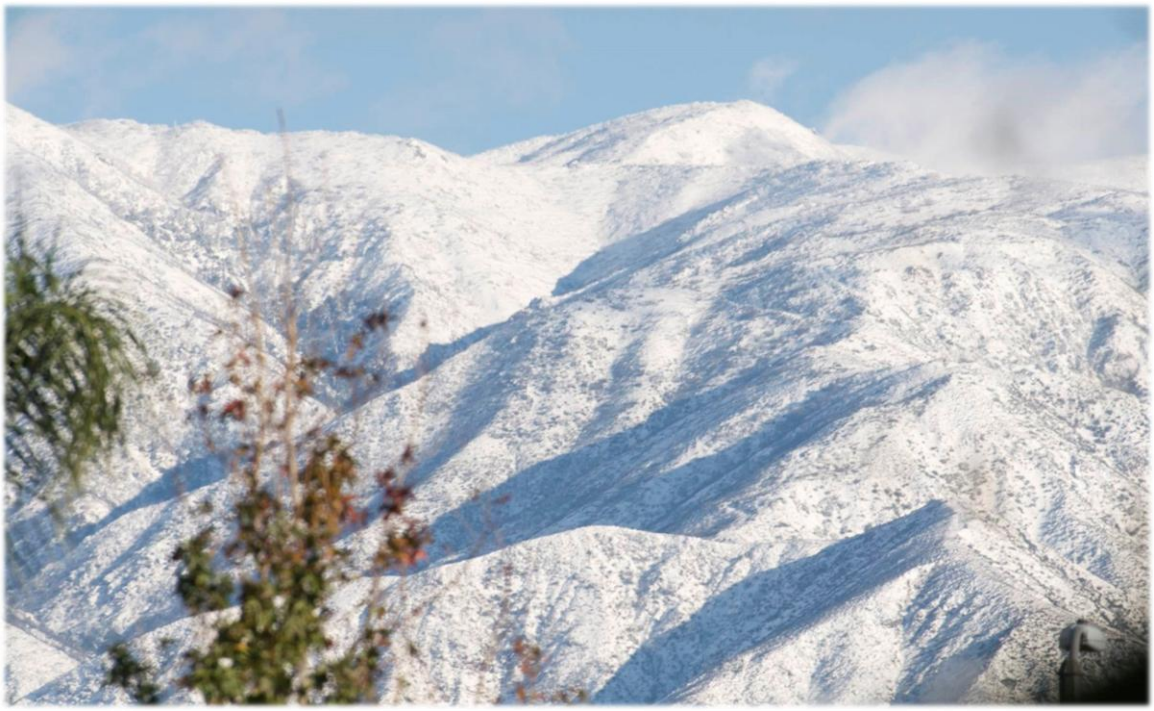


Figure 2-1: Snowfall on the San Gabriel Mountains

Climate fluctuations not only can increase or decrease demand, but can also directly affect LAWC's ability to meet demand, since reduced precipitation and snowfall means less groundwater replenishment. When faced with reduced groundwater supplies, LAWC will look to FMWD for supplemental supplies.

2.2.2 DEMOGRAPHICS

LAWC serves an estimate population of over 13,600. The population within LAWC's service area is expected to increase by 6.4 percent in the next 25 years, or 0.25 percent annually. **Table 2-2** shows the population projections for the next 25 years.

Table 2-2: Population – Current and Projected

Year	2015	2020	2025	2030	2035	2040
Service Area Population	13,631	13,801	13,972	14,146	14,322	14,500

The service area populations for LAWC was determined using the DWR Population Tool ("WUE") that uses the service boundaries, US Census data, and number of residential service connections. The tool calculates population by using past US Census data and

service connections to obtain persons per connection. Using the persons per connection and current count on service connections would provide the current service population. Future service population can be projected based on the average growth factor.

LAWC does not anticipate any significant increases in employment for the area based on the land availability and the zoning. Densification will occur as single-family lots are converted to multi-family dwellings where it is allowed by zoning classification and the governing agency.

2.2.3 LAND USE

LAWC currently provides water service to over 4,400 accounts. Approximately 97 percent of the accounts are residential and the remaining 3 percent are commercial. There is no industry within the service boundaries. LAWC's service area is, for the most part, built-out with densification accomplished through single-family lot splits and conversion of single-family to multi-family dwelling units.

Figure 2-2: Land Use within LAWC's Service Area

2.2.4 LEGISLATION

The passage of SBx7-7, discussed in **Section 2.4**, will increase efforts to reduce the use of

potable supplies in the future. As a retailer, LAWC has provided an assessment of its present and proposed future measures, programs, and policies to help its service area achieve the water use reductions.

Substantial water reductions can be gained by proper landscape design, installation, and maintenance. To improve water savings in this sector, DWR has updated the State Model Water Efficient Landscape Ordinance (MWELO) per Governor Brown's Executive Order B-29-15. MWELO promotes efficient landscapes in new developments and retrofitted landscapes.

The revised MWELO increases water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and by limiting the portion of landscapes that can be covered in turf. It also required reporting on the implementation and enforcement of local ordinances, with required reports due by December 31, 2015.

2.3 WATER USE WITHIN LAWC'S SERVICE AREA

The knowledge of an agency's water consumption by type of use or by customer class is key to developing that agency's water use profile which identifies when, where, and how much water is used, and by whom within the agency's service area. A comprehensive water use profile is critical to the assessment of impacts of prior water conservation efforts as well as to the development of future conservation programs.

This section provides an overview of LAWC's water consumption by customer type in 2010 to 2014. The customer classes are categorized as follows: single-family residential, multi-family residential, commercial/industrial/institutional (CII), dedicated landscape, and agriculture. Other water uses, including sales to other agencies and non-revenue water, are also discussed in this section.

2.3.1 WATER USE STATISTICS

LAWC has maintained approximately 4,440 customer connections to its potable water distribution system since 2014. As previously stated, the majority of the connections services residents at 97 percent. LAWC serves a small number of commercial connections and there is no industrial water use within its boundaries. Institutional

accounts consist of local schools and churches. **Table 2-3** portrays a breakdown of the connections by sector. LAWC does not maintain a breakdown of water demand by sector. A summary of the systems water demand is shown on **Table 2-4**.

Table 2-3: Historic Service Accounts by Sector

Sector	2010	2011	2012	2013	2014	2015
Single Family Residential	4,273	4,272	4,266	4,077	4,105	4,103
Multi-Family Residential	16	16	16	219	219	219
Commercial/Institutional	136	136	133	118	118	118
Landscape Irrigation	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total Connections:	**4,425**	**4,424**	**4,415**	**4,414**	**4,442**	**4,440**

Table 2-4: Historic Water Demand by Sector (AF)

Sector	2010	2011	2012	2013	2014	2015
Single Family Residential Multi-Family Residential Commercial/Institutional	1,957	1,922	2,084	2,116	2,136	1,685
Total Water Sales	**1,957**	**1,922**	**2,084**	**2,116**	**2,136**	**1,685**
Unaccounted for Water	196	201	252	314	216	179
Wholesale	109	0	0	96	0	0
Total Water Consumption (Total Supply into System)	**2,262**	**2,123**	**2,336**	**2,526**	**2,352**	**1,864**

LAWC does not sell water to other agencies except in case of emergencies. From 2010 to 2015, there have been a few occasions LAWC has delivered their water supply to Las Flores Water Company and City of Pasadena via interconnections.

2.4 WATER CONSERVATION ACT

2.4.1 SBX7-7 BACKGROUND

Due to reductions of water in the San Joaquin Delta, the Legislature drafted the Water Conservation Act of 2009 (SBx7-7) to protect statewide water sources. The legislation called for a 20 percent reduction in water use in California by the year 2020. The legislation amended the water code to call for 2020 and 2015 water use targets in the 2010 UWMPs, updates or revisions to these targets in the 2015 UWMPs, and allows DWR to enforce compliance to the new water use standards. In essence, the bill requires each urban retail water supplier to develop water use targets to help meet the 20 percent goal by 2020 and an interim 10 percent goal by 2015.

Figure 2-3: SBx7-7 was a Significant Boost to Water Conservation Efforts

The bill establishes methods for urban retail water suppliers to determine their targets to help achieve statewide water reduction targets, which may or may not be a strict 20 percent level. The retail water supplier must select one of the four target-setting methods as described in **Section 2.4.3**. The retail agency may also choose to comply with SBx7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier still has to report the

water use target for its individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 UWMPs. Beginning this year (2016), failure to comply with interim and final targets will make a retail agency ineligible for grants and loans from the State needed to attain water self-sufficiency by 2020; however, if an agency that is not in compliance documents a plan and obtains funding approval to come into compliance, then could become eligible for grants or loans.

Wholesale water suppliers, including FMWD, are required to include in their UWMPs discussions of programs they intend to implement to support water demand reduction goals for LAWC. Although wholesale water suppliers are not required to determine baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, programs that the wholesale supplier implements may support the retail water suppliers to attain their goals and targets.

2.4.2 SBX7-7 PROVISIONS

In addition to an overall statewide 20 percent water use reduction, the objective of SBx7-7 is to reduce water use within each hydrologic region in accordance with the agricultural and urban water needs of each region. Currently, DWR recognizes 10 separate hydrologic regions in California as shown in **Figure 2-4** on the following page. Each hydrologic region has been established for planning purposes and corresponds to the State's major drainage areas. LAWC is located in the South Coast Hydrologic Region (HR), which includes all of Orange County, most of San Diego and Los Angeles Counties, parts of Riverside, San Bernardino, and Ventura counties, and a small amount of Kern and Santa Barbara Counties. The South Coast HR is shown in **Figure 2-5**.

SBx7-7 recognizes different hydrologic regions and allows for conservation targets to be set based partly on regional targets.

Per capita water use, measured in gallons per capita per day (GPCD), in the South Coast HR varies between different water agencies, depending on the geographic and economic conditions of the agency's service area. Regions with more affluence, such as Beverly Hills, typically consume more water and therefore have higher per capita water use numbers. The South Coast HR has an overall baseline per capita water use of 180 GPCD and DWR has established a regional target of 149 GPCD for the region as a compliance target to satisfy SBx7-7 legislation.

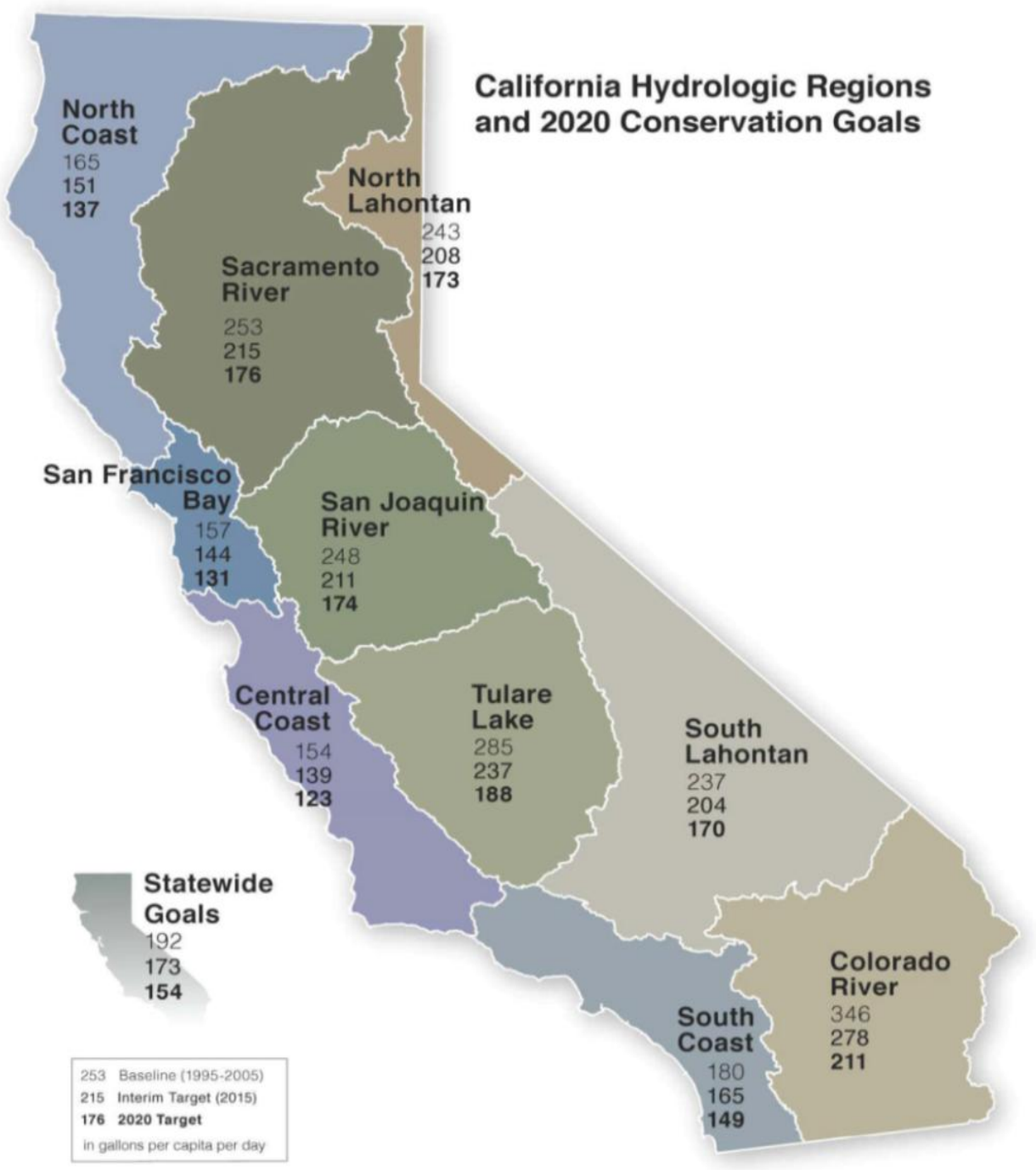


Figure 2-4: California's 2020 Water Conservation Goals

Figure 2-5: South Coast Hydrologic Region

2.4.3 SBX7-7 COMPLIANCE OPTIONS

To satisfy the provisions of SBx7-7, LAWC previously established a per capita water use target for the year 2020 as well as an interim target (2015) in its 2010 UWMP. DWR provided guidelines for determining these targets in its *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (2011) and also in the 2010 and 2015 UWMP Guidebooks. The *Methodologies* guidebook made provisions that allowed a water supplier to meet the target requirements by achieving any one of a number of target requirements, provided that the water supplier's per capita water use is low enough relative to the region within which it supplies water.

DWR has established four compliance options for urban retail water suppliers to choose

from. Each supplier is required to adopt one of the four options to comply with SBx7-7 requirements. The four options include:

- ***Option 1:*** A strict 20 percent reduction from the baseline by 2020 and 10 percent by 2015.

- ***Option 2:*** A budget-based approach by requiring an agency to achieve a performance stand based on three metrics:
  - Residential indoor water use of 55 GPCD
  - Landscape water use commiserate with Model Landscape Ordinance
  - 10 percent reduction in baseline CII water use

- ***Option 3:*** Requires achievement of 95 percent of the applicable state hydrologic region targets as set forth in the State's 20x2020 Water Conservation Plan.

- ***Option 4:*** Requires the subtraction of Total Savings from the Base GPCD:
  - Total Saving includes indoor residential savings, meter savings, CII savings, and landscape and water loss savings

These options were established in order to avoid placing any undue hardship on water agencies that have already been implementing water conservation measures for some time. The basic procedure for determining the applicable water reduction target is illustrated by **Figure 2-6** on the following page. If an agency's 10-year baseline is slightly higher than the Hydrologic region's target, that agency still must achieve a five percent reduction from its 5-year baseline. If an agency has a per capita use of 100 GPCD or less, that agency will not have to adhere to any reduction targets as that agency is already considered water efficient.

LAWC has the option of changing its SBx7-7 compliance target in its 2015 UWMP, if the data supports it.

While each retail agency is required to choose a compliance option in 2010, DWR allows for the agency to change its compliance option in 2015. This will allow LAWC to determine its water use targets for Compliance Options 2 and 4 since LAWC anticipates more data to be available for target calculation in the future.

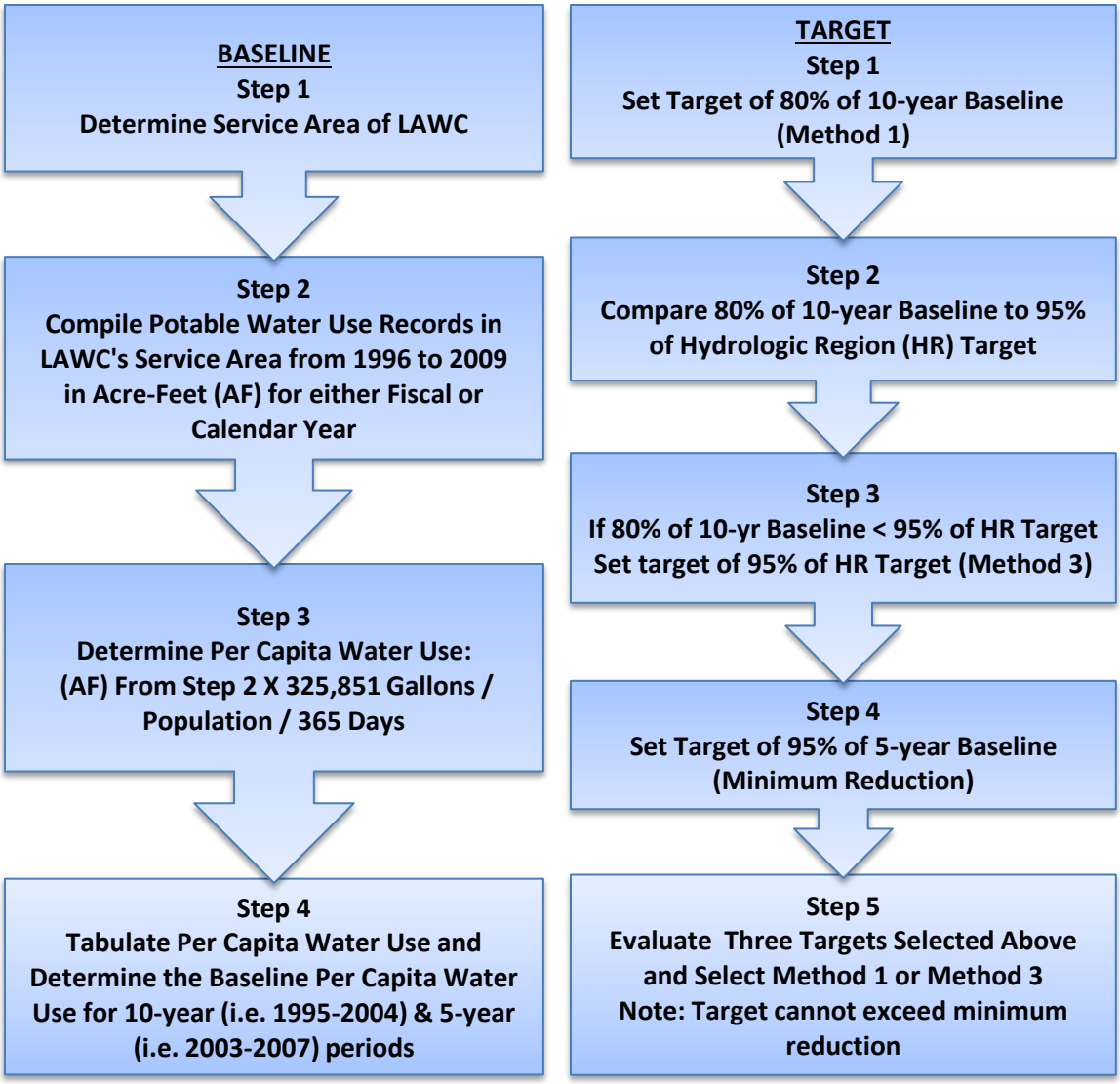


Figure 2-6: Procedure for Determining Baseline and Per Capita Water Use

The first step to calculating an agency's water use target is to determine its base daily-per-capita water use (baseline water use). This baseline water use is essentially the agency's gross water use divided by its service area population, reported in gallons per capita per day (GPCD). Gross water use is defined as volume into the distribution system while deducting any recycled water for direct use during a 10-year period. The baseline water use is calculated as a continuous 10-year average during a period which ends no earlier than December 31, 2004 and no later than December 31, 2010. Agencies for which recycled water made up 10 percent or more of 2008 retail water delivery can use up to a 15-year average for the calculation. The base period must end no earlier than December 31, 2007, and no later than December 31, 2010.

2.4.4 BASELINE WATER USE

Recycled water use represents less than 10 percent of LAWC's retail delivery in 2008; therefore, a 10-year instead of a 15-year rolling average was calculated. LAWC's baseline water use is **181.6 GPCD**, which was obtained from the 10-year period January 1, 2000 to December 31, 2009.

Table 2-5 provides the base period ranges used to calculate the baseline water use for LAWC as well as the service area population and annual water use data from the base daily per capita water use. The data was used to calculate the continuous 10-year and 5-year average baseline. Moreover, regardless of the compliance method adopted by LAWC, it will need to meet the minimum water use target of 5 percent reduction from a five-year baseline as calculated.

Table 2-5: Past GPCD Water Use

Calendar Year	Service Area Population	Gross Water Use (Acre-Feet)	Daily Per Capita Water Use
1996	13,023	2,217	152
1997	13,065	2,199	150
1998	13,107	2,044	139
1999	13,150	2,345	159
2000	13,186	2,452	166
2001	13,229	2,444	165
2002	13,279	2,704	182
2003	13,288	2,712	182
2004	13,293	2,806	188
2005	13,302	2,747	184
2006	13,319	2,930	196
2007	13,325	3,028	203
2008	13,327	2,723	182
2009	13,327	2,493	167
2010	13,527	2,262	149
10-Year Average (2000-2009) Base Daily per Capita Water Use:			**181.6**
5-Year Average (2003-2007) Base Daily per Capita Water Use:			**190.9**

2.4.5 SBX7-7 WATER USE TARGETS

In its 2010 UWMP, LAWC has selected compliance **Option 1**. Under Compliance Option 1, the simple 20 percent reduction from the baseline, LAWC's 2015 interim water use target is **164 GPCD**, and the 2020 final water use target is **145 GPCD** as summarized in **Table 2-6**.

Table 2-6: Preferred Compliance Option and Water Use Targets

Option 1	Baseline	2015 Target	2020 Target
Simple 20 percent Reduction from Baseline	182	164	145

Table 2-7 shows the GPCD within the past five years.

Table 2-7: Past 5-year GPCD Water Use

Calendar Year	Service Area Population	Gross Water Use (Acre-Feet)	Daily Per Capita Water Use
2011	13,548	2,123	140
2012	13,569	2,336	154
2013	13,589	2,526	166
2014	13,610	2,352	154
2015	13,631	1,864	122

As shown in **Table 2-7**, in LAWC 2015 water use is 122 GPCD. As a result, LAWC achieved its 2015 interim water use target and is set to achieve its 2020 target.

LAWC is not revising its interim or 2020 SBx7-7 targets.

By meeting and maintaining its water conservation targets, LAWC can reduce dependency on surface waters and help preserve the natural habitat of the Bay-Delta, among other surface water supplies.

Figure 2-7: SBx7-7 Seeks to Preserve the Waters of the Bay-Delta

2.5 WATER USE REDUCTION PLAN

2.5.1 ON-GOING WATER CONSERVATION EFFORTS

In order to meet the SBx7-7 targets, LAWC will continue to implement the water use efficiency measures described in **Section 4** of this UWMP and continue to participate in water use efficiency programs offered by its regional wholesaler, FMWD (via MWD). FMWD helps its retail agencies with water use efficiency in its service area. FMWD's goal is to administer conservation programs, including MWD rebate programs for its retail agencies. Before conservation program budgets are approved by the FMWD's Board, they are vetted with LAWC and other member agencies. Because residential homes are the largest water use sector in the region, the focus of water conservation efforts will continue to be residential rebate programs and public outreach programs. Single family residential homes and some large landscapes are common in the LAWC area. Through FMWD, LAWC also offers landscaping contests, rain

Governor Brown's 25% water use reduction executive order in 2015 helped to further the provisions of SBx7-7.

barrel rebate program, and public outreach, including MWD's California Friendly Landscape Program, in its effort to promote landscape water use efficiency.

In addition to the SBx7-7 provisions, agencies also are seeking to manage the provisions of Governor Brown's executive order. Governor Brown gave an executive order in April 2015 that mandated a statewide 25 percent reduction in water use. This executive order helped to further the goals of SBx7-7. To date, Californians have reduced water use by about 25 percent since emergency conservation regulations took effect in June. This continues to meet Governor Brown's 25 percent mandate (despite a recent decline in reduction).

Through financial incentive programs and various public outreach campaigns and events led by FMWD, LAWC and other member agencies that must comply with SBx7-7 are well on their way to achieving their water use reduction targets. Water demands in 2015 for two of the four retail agencies already meet the 2020 target under the third compliance option which is the achievement of 95 percent of the applicable state hydrologic region target as set forth in the state's draft 20x2020 Water Conservation Plan. This is due in part to Governor Brown's order. Furthermore, the development of recycled water will help agencies meet the 2020 target since recycled water offsets a required reduction in use.

2.5.2 FUTURE MWD PROGRAMS

OVERVIEW

In 2010, MWD, in collaboration with its member agencies, developed a draft Long-Term Conservation Plan, which was modified in April 2015, with the overarching goals to:

- Achieve the 2015 Integrated Water Resources Plan Update (IRP) conservation target. The target for new water savings through conservation is a regional per capita use of 159 gallons per day in 2015 and 141 gallons per day in 2020.
- Pursue innovation that will advance water conservation.
- Transform the public's value of water within this region. A higher value on water within this region can lead to a conservation ethic resulting in permanent change in water use behavior, earlier adoption of new water-saving technologies, and transition towards climate-appropriate landscapes.

Figure 2-8: MWD's IRP is a Valuable Resource for its Member Agencies

Achieving these goals requires the use of integrated strategies that leverage the opportunities within this region. It requires regional collaboration and sustained support for a comprehensive, multi-year program. It requires a commitment to pursue behavioral changes and innovation in technologies that evolve the market for water efficient devices and services. It requires strategic, focused implementation approaches that build from broad-based traditional programs. It requires that research be conducted to provide the basis for decisions. Lastly, it requires the support of local leaders to communicate a new value standard for water within the region.

STRATEGIES

MWD and its member agencies will implement five strategies through a traditional program, a market acceleration program, and legislation and regulation. The five strategies include:

- **Use catalysts for market transformation.** MWD and member agencies will pursue market transformation to affect the market and consumer choices for water efficient devices and services.
- **Encourage action through outreach and education.** MWD and member agencies will provide outreach, educational workshops, and training classes through a range of media and formats which are essential to changing public perceptions of the value of water.
- **Develop regional technical capability.** MWD and member agencies will conduct

research, facilitate information sharing, and/or provide technical assistance to member agencies and retail agencies to develop technical capabilities within the region for water budgeting, advanced metering infrastructure, ordinances, retail rate structures, and other conservation measures.

- **Build strategic alliances.** MWD and member agencies will form strategic alliances with partners to leverage resources, opportunities and existing momentum that support market transformation.
- **Advance water efficiency standards.** MWD and member agencies will work to advance water efficiency codes and standards to increase efficiency and reduce water waste.

METHODS TO ADVANCE STRATEGIES

Successful market transformation requires the integrated use of all five strategies. It is implemented through three complementary programs: traditional and market acceleration programs, and legislation and regulation. When used together, these approaches can be catalytic and transform markets.

- **Traditional Program:** A traditional program of incentives, outreach, education, and training will be used to provide a foundation of water savings, establish baseline conditions, provide market data, and help determine devices and services that are primed for market acceleration. Implementation may include regional incentive programs, pilot programs, regional outreach, and research for a variety of devices and services.

- **Market Acceleration Program:** A portion of MWD's resources will be used for market acceleration of devices and services that have potential for market change. MWD will use a strategic focus for a specified time period to affect the market for a particular device or service. Tactics may include strategic outreach to manufacturers, retailers, contractors, and consumers; enhanced incentives; and collaboration on implementation.

- **Legislation and Regulation:** Are important tools and often the primary means for ensuring future water savings from devices and services. Regulation, ordinances and codes establish conditions that will ensure a minimum level of water efficiency for a particular device or service in the future. Markets are

dynamic, and the influences on manufactures, retailers, and consumers are constantly changing. Progress made on changing consumer preferences a market share of efficient products is protected through legislation and regulations requiring a minimum efficiency standard. This benefits both water agencies and manufactures who invest in bringing water-efficiency technologies to the market. Legislation and regulation are also effective exit strategies to discontinue traditional incentive programs so that resources can be redirected to new technologies and approaches.

Implementation of the combined programs, Traditional - Market Acceleration – Legislation and Regulation, will be closely coordinated between MWD, member agencies and sub-agencies to maximize synergies. An adaptive management approach will be employed using research, implementation and evaluation to guide decisions on program activities and intensity.

PERIODIC REVIEW

A periodic review of conservation actions to measure progress towards the water savings goals will be an integral component of the effort. The review will include work that is completed or in progress. It will consider factors that have affected the results as well as the opportunities to improve cost effectiveness and water savings.

2.6 DEMAND PROJECTIONS

2.6.1 25 YEAR PROJECTIONS

One of the main objectives of this UWMP is to provide LAWC's future water demand outlook. Currently, LAWC's total annual water demand is 1,864 AF, which is met through a combination of 86 percent local supplies and 14 percent imported water as illustrated in **Table 2-8**.

Table 2-8: Current and Projected Water Demands on Supply Sources (AF)

Water Supply Sources	2015	2020	2025	2030	2035	2040
FMWD (Imported Treated Full Service (non-int.))	267	920	978	1,037	1,098	1,161
Local Water	1,597	1,000	1,000	1,000	1,000	1,000
Total	**1,864**	**1,920**	**1,978**	**2,037**	**2,098**	**2,161**

Table 2-9 below projects future demands based on water sector over the next 25 years. Demand projections were determined using 125 GPCD, assuming that individuals continue to save water, and the projected population. Per capita consumption rates should be expected to remain under 125 GPCD by 2020 and trend further below that rate.

Table 2-9: LAWC's Demand Projections by Water Sector (AF)

Sector	2020	2025	2030	2035	2040
Water Service Area Population	13,801	13,972	14,146	14,322	14,500
Demands					
Single Family Residential Multi-Family Residential Commercial/Institutional	1,704	1,725	1,746	1,768	1,790
Landscape Irrigation	0	0	0	0	0
Subtotal:	**1,704**	**1,725**	**1,746**	**1,768**	**1,790**

2.6.2 LOW-INCOME HOUSEHOLD PROJECTIONS

One significant change to the UWMP Act since 2005 is the requirement that retail water suppliers develop water use projections for "low-income" households at the single-family and multi-family level. These projections assist retail suppliers with compliance with Section 65589.7 of the Government Code, which requires suppliers to grant a priority for the provision of service to low-income households. Consistent with this Code section, a low-income household is defined as a household earning 80 percent of the County of Los Angeles' median income or less.

In order to identify the low income housing projections within its service area, DWR

recommends that retail suppliers rely on the Regional Housing Needs Assessment (RHNA) or Regional Housing Needs Plan information developed by the Local Council of Governments (COG), in coordination with the California Department of Housing and Community Development.

The RHNA process quantifies the need for housing by income group within each jurisdiction during specific planning period and is used in Housing Element and General Plan updates. COGs are required by the State Housing Law to determine the existing and projected regional housing needs for persons at all income levels. The RHNA is to prioritize local resource allocation and to help decide how to address existing and future housing needs.

Existing and projected housing needs for Los Angeles County were incorporated into the 5th Cycle Final RHNA Allocation Plan of the Southern California Association of Governments (SCAG). This plan covers the planning period from October 15, 2013 to October 15, 2021. LAWC serves the northwest portion of Altadena, an unincorporated area in Los Angeles County. Based on the RHNA Plan, the projected housing need for low and very low income households (hereafter referred to as low-income) in unincorporated area of Los Angeles County are 15.6 percent and 25.6 percent, respectively, or 41.2 percent combined.

Therefore, from inference, it is estimated that approximately 41.2 percent of the projected residential water demands within LAWC's service area will be for housing needed for low-income households as shown in **Table 2-10**. Breakdown of demand for by sectors is not available; however, the majority of customers are residential single-family residents.

Table 2-10: Projected Water Demands for Housing Needed for Low Income Households (AF)

Water Use Sector	2020	2025	2030	2035	2040
Total Residential Demand	1,704	1,725	1,746	1,768	1,790
Total Low-income Households Demand	***702***	***711***	***719***	***728***	***737***

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SECTION 3: WATER SOURCES AND SUPPLY RELIABILITY

LAWC's sources of supply consist of local groundwater, surface water, and imported water from MWD purchased through FMWD. The imported water consists of water from the Colorado River and the State Water Project (pictured).

SECTION 3: WATER SOURCES AND SUPPLY RELIABILITY

3.1 OVERVIEW

LAWC water supplies consist of groundwater produced from the Monk Hill sub-basin of the Raymond Basin, local surface water from Millard Canyon, and imported water purchased from FMWD to supplement local water production. Occasionally, LAWC will also lease water from other local water purveyors for supplementation. To ensure the community with a delivery of safe and high quality water supply during periods of drought and shortage, LAWC works together with MWD and FMWD. During the hot summer months, when demand increases, LAWC peaks on imported water to supplement their groundwater supplies. Imported water is purchased from MWD through FMWD, and is sourced from the Colorado River Aqueduct (CRA) and the State Water Project (SWP). This Section discusses water supply, quality, and water reliability under all foreseeable hydrologic conditions from 2020 through 2040.

3.2 IMPORTED WATER

3.2.1 WATER SOURCES (MWD)

MWD has access to imported water from the Colorado River and the Sacramento-San Joaquin River Delta in Northern California. These two water systems provide Southern California with over 2 million acre-feet (MAF) of water annually for urban uses.

COLORADO RIVER

The Colorado River supplies California with 4.4 MAF annually for agricultural and urban uses with approximately 3.85 MAF used for agriculture in Imperial and Riverside Counties. The remaining unused portion (600,000 to 800,000 AF) is used for urban purposes in MWD's service area. The use of Colorado River supplies is a critical issue as 13 years of drought continue to impact water levels in Lake Mead.

Figure 3-1: Parker Dam at Colorado River

BAY DELTA

In addition to the Colorado River, the Sacramento-San Joaquin River Delta provides a significant amount of supply annually to Southern California. The Delta is located at the confluence of the Sacramento and San Joaquin Rivers east of the San Francisco Bay and

is the West Coast's largest estuary. The Delta supplies Southern California with over 1 MAF of water annually.

The use of water from the Sacramento-San Joaquin Delta continues to be a critical issue as it competes between uses for water supply and ecological habitat that jeopardizes the Delta's ability to meet either need and may threaten the estuary's ecosystem.

Figure 3-2: Sacramento-San Joaquin Delta

An ongoing planning effort to increase long-term supply reliability for both the State Water Project (SWP) and Central Valley Project (CVP) is taking place. This plan, formerly known as the Bay Delta Conservation Plan (BDCP), includes co-equal goals to improve water supply reliability and restore the Delta ecosystem. In April 2015, state and federal agencies announced a new sub-alternative, California WaterFix and California EcoRestore, which replaced the proposed BDCP as the State's preferred project. The new alternative reflects the State's proposal to separate the conveyance facility and habitat restoration measures into two separate efforts: California WaterFix and California EcoRestore. These two efforts are a direct reflection of public comments and fulfill the requirement of the 2009 Delta Reform Act to meet co-equal goals. Preparation of the BDCP and now California WaterFix is through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental

organizations, and other interested parties. Several "isolated conveyance system" alternatives considered in the plan would divert water from the north Delta to the south Delta where pumped water travels into the south-of-Delta stretches of the SWP and CVP. The new conveyance facilities would allow for greater flexibility in balancing the needs of the estuary with the reliability of water supplies. The plan also provides other benefits, such as reducing the risk of long-term outages from Delta levee failures.

The BDCP/California WaterFix has been in development since 2006 and is currently undergoing extensive environmental review. In December 2013, officials released the Draft BDCP and its associated Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for public review. In response to public comments, the BDCP was reevaluated. Based on this reevaluation, as mentioned above, in April 2015 the lead agencies announced a modified alternative which effectively split the project into two parts: the conveyance portion (known as Cal WaterFix), and the restoration portion (known as EcoRestore). The Cal WaterFix alternative is evaluated in a partially recirculated draft environmental document (Recirculated Draft EIR/Supplemental Draft EIR) released for public review in July 2015. The final environmental documents for Cal Waterfix will be available in 2016.

While there is widespread support for the BDCP/Cal WaterFix project, plans are currently in flux and environmental review is ongoing. Additionally, several regulatory and legal requirements must be met prior to any construction. Because of this uncertainty, any improvements in SWP supply reliability or other benefits that could result from this proposed project are not included in this Plan.

AQUEDUCT SYSTEMS

In order to provide Southern California imported water, MWD utilizes two separate aqueduct systems (one for each source of supply) to obtain its supplies. These two aqueduct systems convey water from each source into two separate reservoirs whereupon MWD pumps the water to one of its five treatment facilities. One of these aqueduct systems is known as the Colorado River Aqueduct (CRA). The CRA was constructed as a first order of business shortly after MWD's incorporation in 1928. The CRA is 242 miles long and carries water from the Colorado River to Lake Matthews and is managed by MWD.

Figure 3-3: Colorado River Aqueduct

In addition to the CRA, MWD receives water from northern California via the California Aqueduct. Also known as the State Water Project (SWP), the California Aqueduct is 444 miles long and carries Delta water to Southern California and is operated by DWR.

Figure 3-4: California Aqueduct or "SWP"

The previously mentioned aqueducts supply Southern California with a significant amount of its water and are crucial to its sustainability. In addition to these two water systems, there are also several other aqueducts that are vital to the State. The major aqueducts in California are shown in **Figure 3-5** on the following page.

Figure 3-5: Aqueduct Systems in California

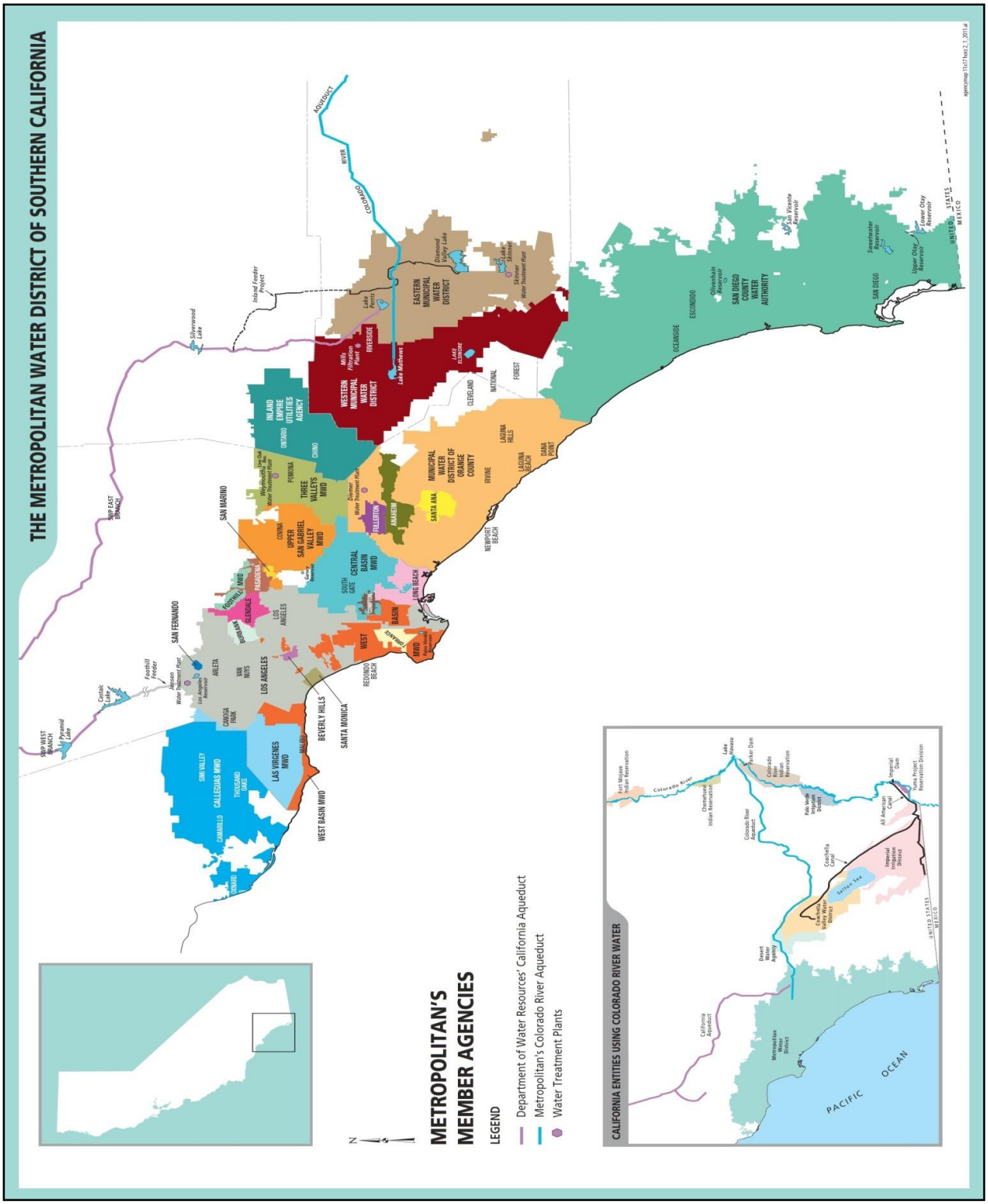


Figure 3-6: MWD Service Area Map

3.3 GROUNDWATER

Local potable water is produced from wells and treated runoff from the mountains. LAWC has an annual decreed right of 567 AF that it may pump from its adjudicated source, the Raymond Groundwater Basin (Basin). A copy of the judgment is included in this UWMP as **Appendix A**. The Basin, shown in **Figures 3-7** and **3-8**, is located in the northwest part of the San Gabriel Valley, in eastern Los Angeles County, and was considered a part of the San Gabriel Valley Groundwater Basin (4-13) in Bulletin 118-75 and Bulletin 118-80. The Raymond Basin includes the water-bearing sediments bounded by the contact with consolidated basement rocks of the San Gabriel Mountains on the north and the San Rafael Hills on the southwest. The west boundary is delineated by a drainage divide at Pickens Canyon Wash and the southeast boundary is the Raymond fault. The average precipitation over the basin is about 22 inches.

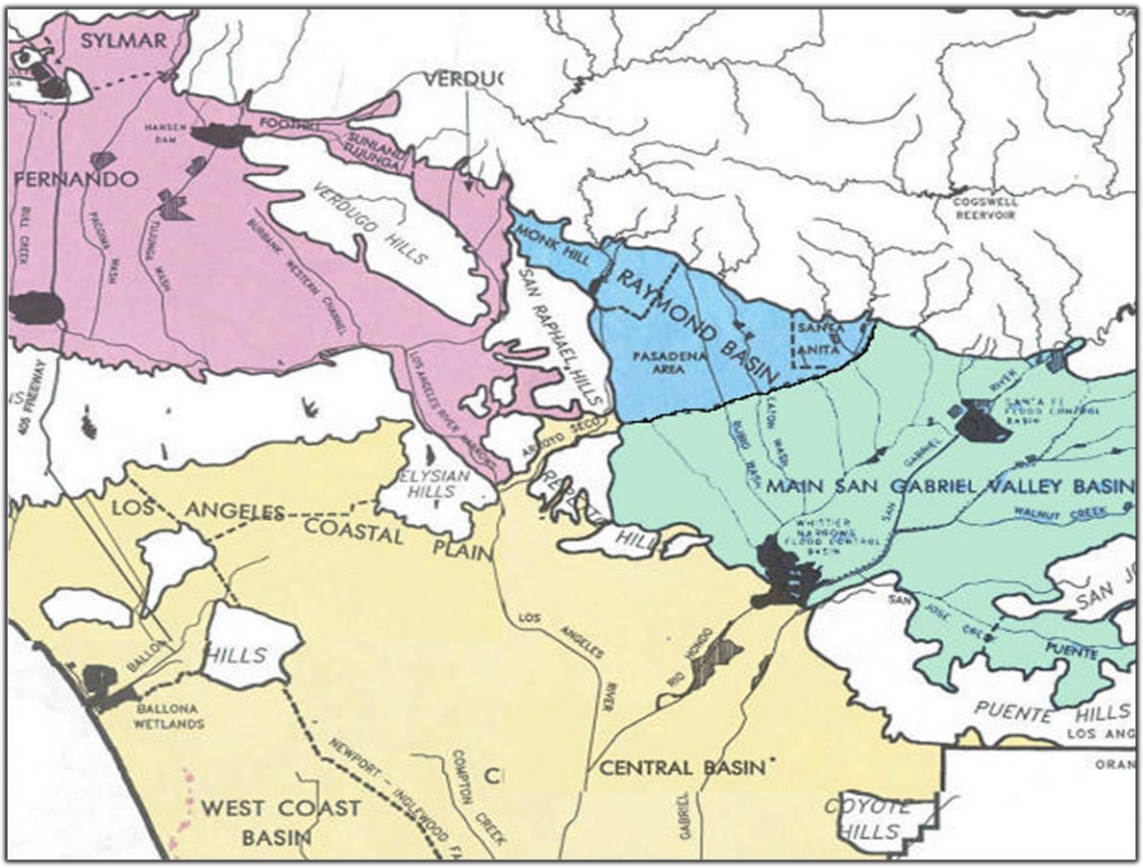


Figure 3-7: Local Groundwater Basins

Natural recharge to the Basin is mainly from direct percolation of precipitation and percolation of ephemeral streamflow from the San Gabriel Mountains in the north. The principal streams bringing surface inflow are the Arroyo Seco, Eaton Creek and Santa Anita Creek. Some stream runoff is diverted into spreading grounds, and some is impounded behind small dams allowing the water to infiltrate and contribute to groundwater recharge of the basin. An unknown amount of underflow enters the Basin from the San Gabriel Mountains through fracture systems.

Water levels in the Raymond Basin have varied through time but are managed to stay within limits of a long-time mean elevation. Hydrographs show the range of fluctuation in water level over the last 20 years to be about 50 to 60 feet in the northwest, 80 feet in the central, 30 feet in the south, and 140 feet in the northeast portions of the basin. Most hydrographs show 1999 water levels within about 30 feet of their long-time mean elevations.

The total storage capacity of the Basin was calculated at 1,450,000 AF applying specific yield values ranging from 3 to 35 percent to all aquifer material from 20 feet below the surface to the base of sediments. This value is based on a surface area of 26,200 acres, an average thickness of about 550 feet, and an average specific yield of about 10 percent. No estimates of available storage have been made recently in the Basin, although a 1971 DWR study estimated the available stored water to be 1 MAF in 1970, leaving about 450,000 AF of storage space available.

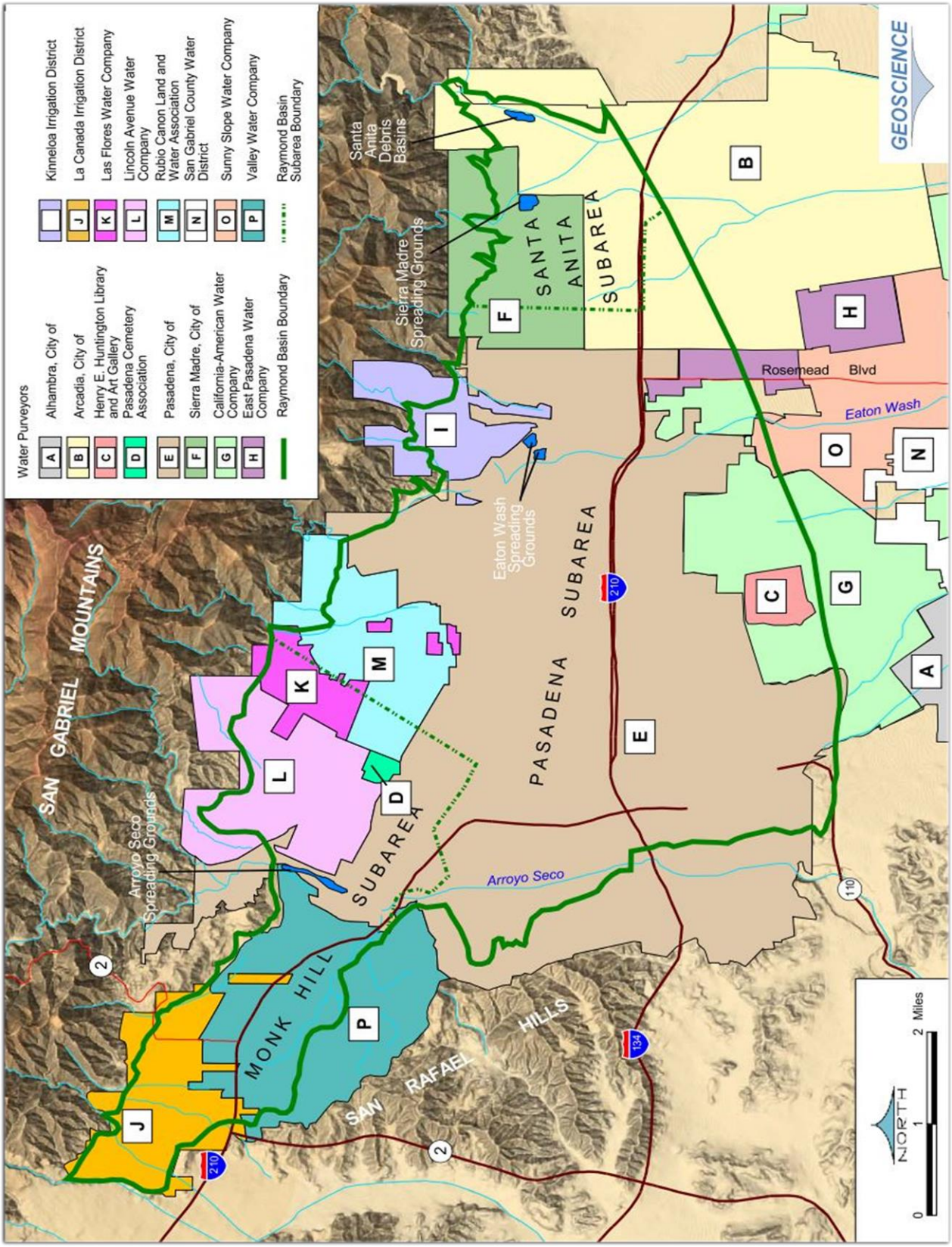


Figure 3-8: Raymond Basin (Outlined in Solid Green)

3.4 SURFACE WATER

LAWC maintains the South Coulter Surface Water Treatment Plant located north of Altadena. The facility began its operations in 1997, and it is capable of treating up to 1,130 AFY, dependent upon rainfall.

Currently, the Surface Water Treatment Plant is offline.

3.5 WATER QUALITY

In 1974, Congress passed the Safe Drinking Water Act in order to protect public health by regulating the nation's drinking water supply. As required by the Safe Drinking Water Act, LAWC provides annual Consumer Confidence Reports to its customers that detail the water quality. The quality of water delivered to the customers is directly related to the quality of the supply sources from which LAWC obtains its water.

Figure 3-9: Health Standards Protect Drinking Water

To ensure the quality of its water, LAWC is concerned with a number of threats to drinking water, including: turbidity, microbiological content, organic and inorganic chemical concentration, radionuclide content, and disinfection by-product concentration.

Adverse health effects from these contaminants include not only acute effects but also chronic effects that may occur if contaminants are ingested at unsafe levels over many years.

The two main sources of LAWC's water supply are imported water from FMWD via MWD and groundwater from the Raymond Groundwater Basin. Since MWD draws the majority of its water from the CRA and the SWP, the quality of LAWC's water supply is closely related to the quality of these two sources.

3.5.1 IMPORTED WATER QUALITY

MWD is responsible for providing water of a high quality throughout its service area. The water that MWD delivers is tested both for currently regulated contaminants and for additional contaminants of concern. Over 300,000 water quality tests are conducted each year to regulate the safety of its waters. MWD's supplies originate primarily from the CRA and from SWP. A blend of these two sources, proportional to each year's availability of the source, is then treated and delivered throughout MWD's service area.

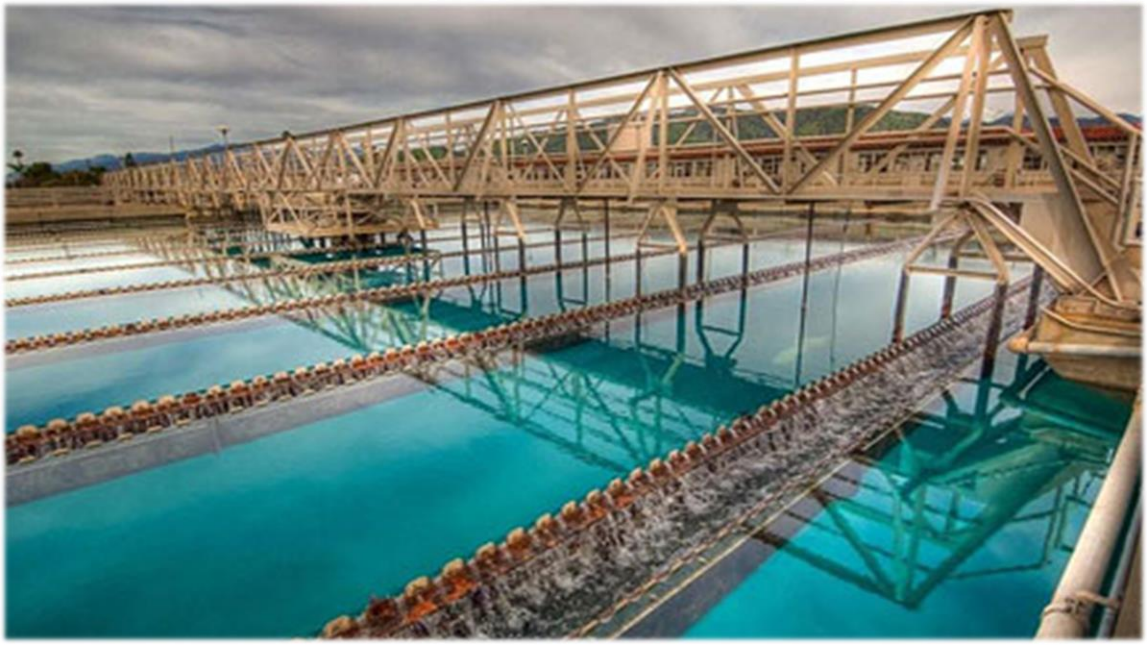


Figure 3-10: MWD's Weymouth Treatment Plant Provides a Safe Supply of Water

MWD's primary sources face individual water quality issues of concern. The CRA water source contains a higher level of total dissolved solids (TDS) and a lower level of organic

material, while the SWP contains a lower TDS level while its level or organic materials is much higher, lending to the formation of disinfection byproducts. To remediate the CRA's high level of salinity and the SWP's high level of organic materials, MWD has been blending CRA water with SWP supplies as well as implementing updated treatment processes to decrease the disinfection byproducts. In addition, MWD engages in efforts to protect its Colorado River supplies from threats of uranium, perchlorate, and chromium VI while also investigating the potential water quality impact of emerging contaminants, N-nitrosodimethylamine (NDMA) and pharmaceuticals and personal care products (PPCPs). MWD has assured its ability to overcome the above mentioned water quality concerns through its protection of source waters, implementation of renovated treatment processes, and blending of its two sources.

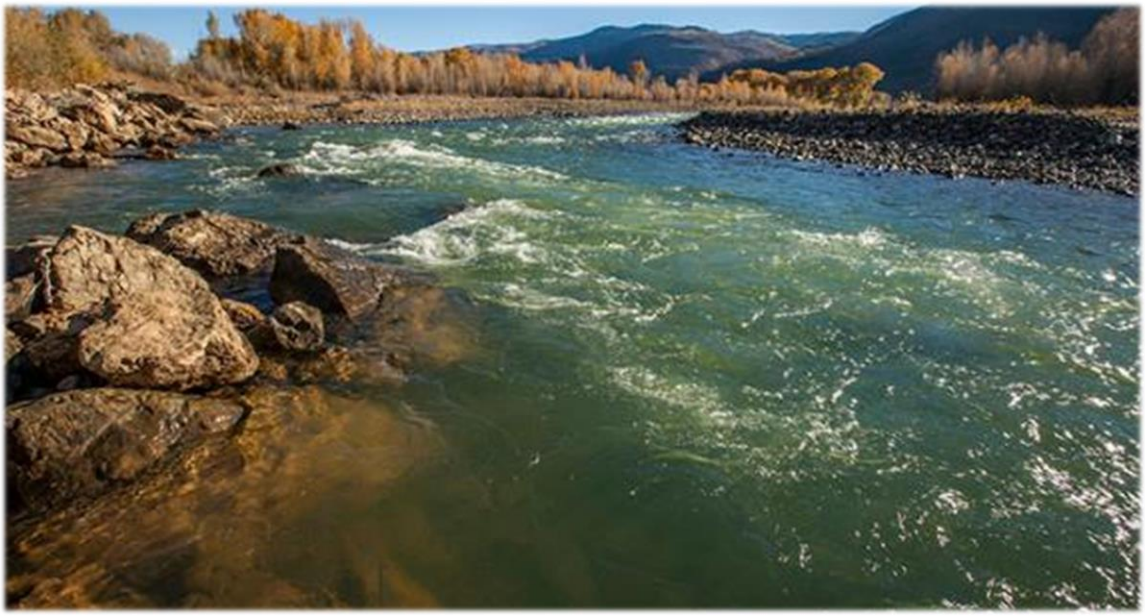


Figure 3-11: Native Rock adds to the Salinity of the Colorado River Water Supplies

While unforeseeable water quality issues could alter reliability, MWD's current strategies ensure the deliverability of high quality water. As a result of MWD's efforts, MWD's 2015 UWMP indicates that none of the water quality challenges described above will impact the reliability of its supplies during the next 25 years.

3.5.2 GROUNDWATER QUALITY

LAWC's water system is and has been in compliance with all the water quality standards of the State Water Resources Control Board's Division of Drinking Water (DDW).

Groundwater quality does not impact water supply.

LAWC have been working with the National Aeronautics and Space Administration (NASA) with maintaining water quality standards since 1990s. NASA recognizes the chemical contamination originated from the Jet Propulsion Laboratory (JPL) that raises significant issues regarding groundwater quality. As a result, NASA has created the Groundwater Cleanup Program in conjunction with NASA's cleanup responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Currently, NASA's JPL has three treatment facilities to aid in the chemical cleanup.

Table 3-1 shows the impact in AFY that water quality would have on supply.

Table 3-1: Water Quality – Current and Projected Water Supply Impacts (AFY)

Water Source	Fiscal Year Ending					
	2015	2020	2025	2030	2035	2040-opt
Imported	0	0	0	0	0	0
Local	0	0	0	0	0	0

3.6 CURRENT & PROJECTED WATER SUPPLY

3.6.1 CURRENT PRODUCTION

The Raymond Basin was adjudicated in 1944. This adjudication established a management that utilizes a fixed safe-yield operation.

LAWC's groundwater allocation is 567 AF per year, as shown in **Table 3-2**. This is supplemented, under the judgment, by a spread credit of 60 percent of the measured water that is not input to the South Coulter Surface Water Treatment Plant and flows into the spreading basins. All water that flows into the spreading basin is metered with an allowable extraction based on Raymond Basin Management Board percolation calculation. Between 2010 and 2014, LAWC received an average annual spreading credit of 216 AF.

LAWC has also entered into water lease agreements with the City of Pasadena.

Table 3-2: Groundwater Pump Rights (AFY)

Basin Name	Pumping Right (AFY)
Raymond Basin	567
Total	**567**

Table 3-3 shows LAWC's recent groundwater production from the Basin in the past six years from 2010 to 2015.

Table 3-3: Amount of Groundwater Pumped in 2010 – 2015 (AFY)

Basin Name(s)	Fiscal Year Ending					
	2010	2011	2012	2013	2014	2015
Raymond Basin GW	758	1,074	2,151	2,261	2,095	1,597
% of Total Water Supply	**34%**	**51%**	**92%**	**90%**	**89%**	**86%**

LAWC currently relies on 267 AF of imported water wholesaled by MWD through FMWD to supplement local groundwater. Currently, imported water represents approximately 14 percent of LAWC's total water supply. FMWD adopted their MWD Allocation Plan during April 2015. MWD has determined a set amount of water supplied to each of their agencies for further distribution taken into consideration the ongoing drought. MWD has allocated 8,279 AF to FMWD and they have further allocated this water to its retail agencies. Of that amount, LAWC has been allocated 247 AFY.

Table 3-4 shows the recent imported water from MWD via FMWD in the past six years from 2010 to 2015.

Table 3-4: Amount of Water Imported in 2010 – 2015 (AFY)

Wholesaler Source	2010	2011	2012	2013	2014	2015
FMWD	1,504	1,048	185	264	257	267
% of Total Water Supply	**66%**	**49%**	**8%**	**10%**	**11%**	**14%**

3.6.2 WATER SUPPLY PROJECTIONS

IMPORTED WATER SUPPLY PROJECTIONS

Based on MWD's supply projections that it will be able to meet full service demands under all three hydrologic scenarios, FMWD, LAWC's wholesale supplier, infers that it would also be able to meet the demands of its retail agencies under these conditions.

California Water Code section 10631 (k) requires the wholesale agency to provide information to the urban retail water supplier for inclusion in its UWMP that identifies and quantifies the existing and planned sources of water available from the wholesale agency. **Table 3-5** indicates the wholesaler's water availability projections by source for the next 25 years as provided to LAWC by FMWD.

Table 3-5: Wholesaler Identified & Quantified Planned Sources of Water (AFY)

Wholesaler Sources	Fiscal Year Ending				
	2020	2025	2030	2035	2040-opt
FMWD	920	978	1,037	1,098	1,161

GROUNDWATER SUPPLY PROJECTIONS

Table 3-6 shows the amount of groundwater projected to be pumped from the Basin by LAWC in the next 25 years.

Table 3-6: Amount of Groundwater Projected to be Pumped (AFY)

Basin Name(s)	Fiscal Year Ending				
	2020	2025	2030	2035	2040-opt
Raymond Basin GW	2,300	2,300	2,300	2,300	2,300

3.7 SUPPLY VS DEMAND

3.7.1 MWD'S SUPPLY OUTLOOK

COLORADO RIVER SUPPLIES

Water supply from the CRA continues to be a critical issue for Southern California as MWD competes with several agricultural water agencies in California for unused water rights to the Colorado River. Although California's allocation has been established at 4.4 MAF per year, MWD's allotment stands at 550,000 AFY with additional amounts increasing MWD's allotment to 842,000 AFY if there is any unused water from the agricultural agencies.

MWD's Colorado River Allocation continues to be a critical issue.

MWD recognizes that competition from other states and other agencies within California has decreased the CRA's supply reliability. In 2003, the Quantification Settlement Agreement (QSA) was signed, which facilitated the transfer of water from agricultural agencies to urban uses. This historic agreement provides California the means to implement transfers and supply programs that will allow California to live within the state's 4.4 MAF basic annual apportionment of Colorado River water.

Lake Mead, located on the Colorado River, is the largest reservoir in the United States. In 2015, it reached its lowest level since the 1930s when the reservoir was first filled. As of April 25, 2016, the water level in Lake Mead measured 1,077.1 feet above mean sea level, which is 37 percent of capacity and only 2 feet above the level (1,075 feet) that would trigger a first-ever shortage declaration on the Colorado River.

STATE WATER PROJECT SUPPLIES

The reliability of the SWP impacts MWD's member agencies' ability to plan for future growth and supply. DWR's Bulletin 132-14, November 2015, provides certain SWP reliability information, and in July 2015, the DWR Bay-Delta Office prepared a report specifically addressing the reliability of the SWP. This report, The State Water Project Delivery Capability Report, provides information on the reliability of the SWP to deliver water to its contractors assuming historical precipitation patterns.

On an annual basis, each of the 29 SWP contractors, including MWD, request an amount of SWP water based on their anticipated yearly demand. In most cases, MWD's requested supply is equivalent to its full Table A amount. After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snow pack on Northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements. For example, according to the State Water Project Delivery Capability Report 2015, the total SWP annual delivery of water to contractors ranged from 3.7 MAF in 2005 to 476,743 AF in 2014. Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A amount, but instead a percentage of that amount based on available supply.

MWD's initial requested SWP allocation for 2016 is 1.9 MAF, or 45 percent of Table A entitlement.

Each December, DWR provides the contractors with their first estimate of allocation for the following year. As conditions develop throughout the year, DWR revises the allocations. Currently, the total contractor requested allocation for Table A water is 4.2 MAF. MWD initially requested 1.9 MAF, which is 45 percent of the total contractors' requests for Table A water. Due to the variability in supply for any given year, it is important to understand the reliability of the SWP to supply a specific amount of water each year to the contractors.

STORAGE RESERVOIR SUPPLIES

Statewide, storage reservoir levels rise and fall due to seasonal climate changes, which induce increase in demand. During periods of drought, reservoir levels can drop significantly and can limit the amount of supplies available. As a result, both DWR and MWD monitor their reservoir levels regularly. In 2014, conditions of several key reservoirs indicated drought conditions affecting the entire state. As of April 21, 2016, several reservoir levels are below historical average levels as indicated by **Figures 3-12** and **3-13** while other reservoirs are threatening to crest. The reservoirs below historical average levels are south of the Delta and those that could crest are north of the Delta. This contrast is a direct result of the regulatory restrictions constraining DWR from using the pumps in the Delta to move water across the Delta to those reservoirs south of the Delta. The successful completion of the California WaterFix would resolve this issue.

3.7.2 MWD'S PROJECTED SUPPLY VS DEMAND COMPARISONS

MWD evaluated supply reliability by projecting supply and demand conditions for the single- and multi-year drought cases based on conditions affecting the SWP (MWD's largest and most variable supply). For this supply source, the single driest-year was 1977 and the three-year dry period was 1990-1992. MWD's analyses are illustrated in **Tables 3-7** and **3-8**, which correspond to Tables 2-1 to 2-6 in MWD's 2015 UWMP. These tables show that the region can provide reliable water supplies not only under normal conditions but also under both the single driest year and the multiple dry year hydrologies.

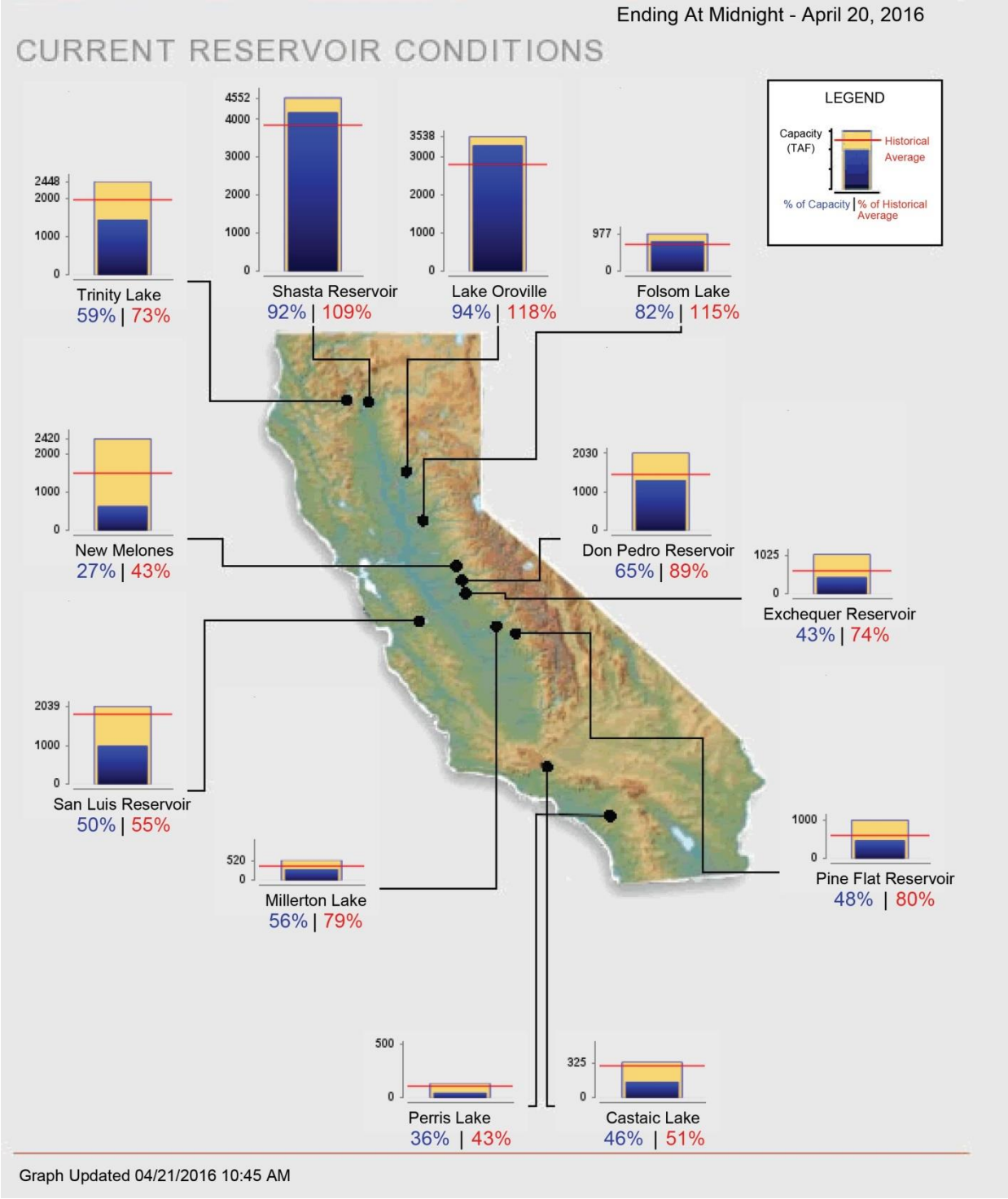


Figure 3-12: California State Reservoir Levels

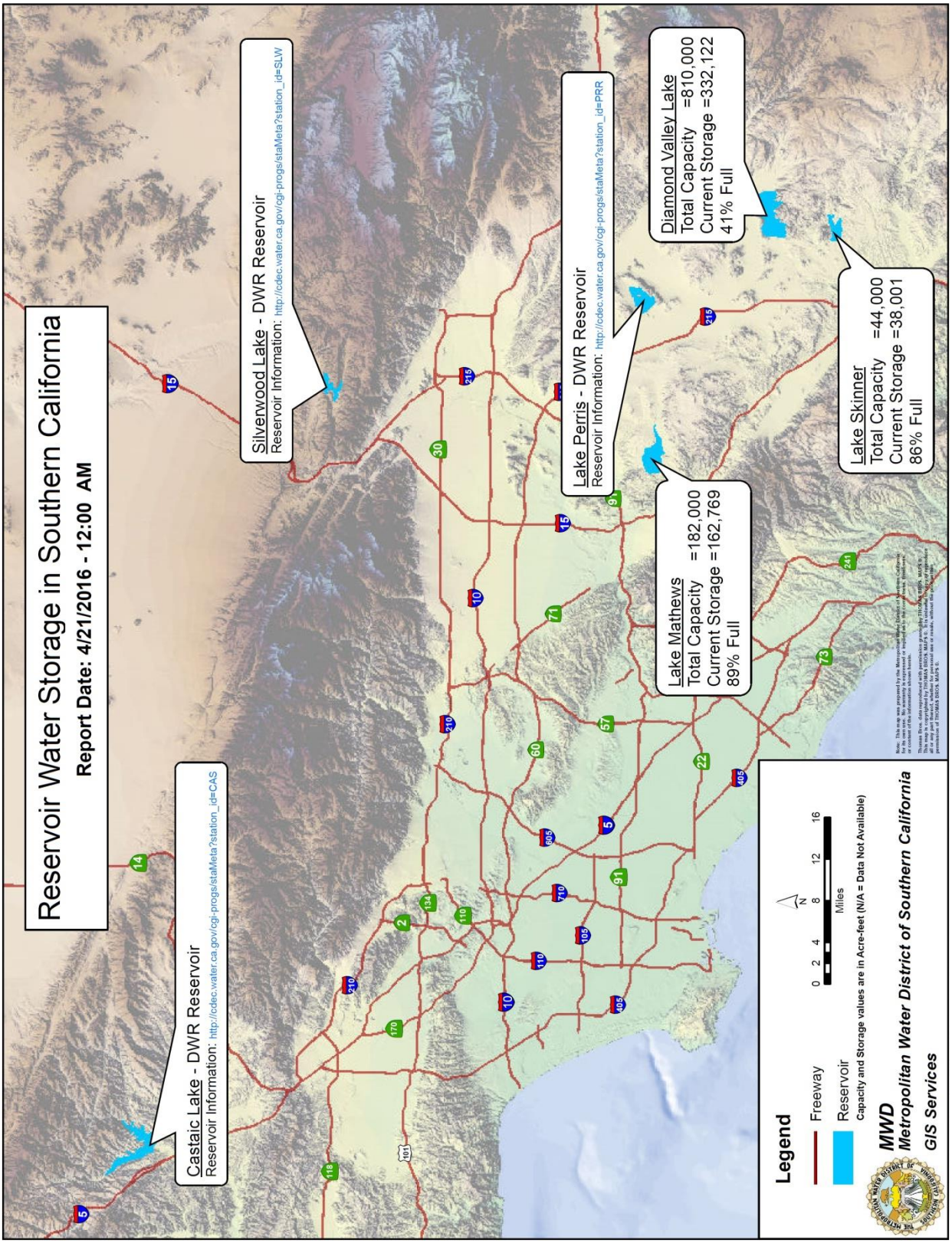


Figure 3-13: MWD Reservoir Levels

Table 3-7: MWD Regional Imported Water Supply Reliability Projections
Average and Single Dry Years (AF) for 2020 to 2040

Row	Region Wide Projections	2020	2025	2030	2035	2040
Supply Information						
A	Projected Supply: Average Year	3,653,000	3,755,000	3,925,000	4,055,000	4,091,000
B	Projected Supply: Dry Year	2,537,000	2,639,000	2,744,000	2,874,000	2,910,000
C = B/A	Projected Dry Yr. / Avg. Yr. Supply (%)	**69.4%**	**70.3%**	**69.9%**	**70.9%**	**71.1%**
Demand Information						
D	Projected Average Year Demand	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
E	Projected Dry Year Demand	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
F = E/D	Projected Dry Year / Avg. Year (%)	**107.8%**	**107.7%**	**107.6%**	**107.6%**	**107.5%**
Surplus						
G = A-D	Projected Surplus: Average Year	1,793,000	1,837,000	1,966,000	2,047,000	2,044,000
H = B-E	Projected Surplus: Dry Year	532,000	573,000	636,000	714,000	709,000
Programs Under Development						
I	Projected Capability of Programs (Average Year)	63,000	100,000	343,000	385,000	425,000
J	Projected Capability of Programs (Dry Year)	63,000	100,000	316,000	358,000	398,000
Potential Surplus						
K=A+I-D	Projected Surplus: Average Year	1,856,000	1,937,000	2,309,000	2,432,000	2,469,000
L=B+J-E	Projected Surplus: Dry Year	532,000	573,000	636,000	714,000	709,000
Comparisons						
I = A/D	Projected Avg. Yr. Supply/Demand (%)	**196.4%**	**195.8%**	**200.4%**	**201.9%**	**199.9%**
J = A/E	Projected Dry Yr. Supply/Demand (%)	**126.5%**	**127.7%**	**130.2%**	**133.1%**	**132.2%**

Table 3-8: MWD Regional Imported Water Supply Reliability Projections
Average and Multiple Dry Years (AF) for 2020 to 2040

Row	Region Wide Projections	2020	2025	2030	2035	2040
Supply Information						
A	Projected Supply: Average Year	3,653,000	3,755,000	3,925,000	4,055,000	4,091,000
B	Projected Supply: Multiple Dry Year	2,151,000	2,202,000	2,246,000	2,298,000	2,316,000
C = B/A	Proj. Mult. Dry Yr. / Avg. Yr. Supply (%)	**58.9%**	**58.6%**	**57.2%**	**56.7%**	**56.6%**
Demand Information						
D	Projected Average Year Demand	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
E	Projected Dry Year Demand	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
F = E/D	Projected Dry Year / Average Year (%)	**107.6%**	**110.4%**	**110.8%**	**110.4%**	**110.3%**
Surplus						
G = A-D	Projected Surplus: Average Year	1,793,000	1,837,000	1,966,000	2,047,000	2,044,000
H = B-E	Projected Surplus: Multiple Dry Year	150,000	84,000	75,000	82,000	58,000
Programs Under Development						
I	Projected Capability of Programs (Average Year)	63,000	100,000	343,000	385,000	425,000
J	Projected Capability of Programs (Multiple Dry Year)	43,000	80,000	204,000	245,000	286,000
Potential Surplus						
K=A+I-D	Projected Surplus: Average Year	1,856,000	1,937,000	2,309,000	2,432,000	2,469,000
L=B+J-E	Projected Surplus: Multiple Dry Year	150,000	84,000	75,000	82,000	58,000
Comparisons						
I = A/D	Projected Avg. Yr. Supply/Demand (%)	**196.4%**	**195.8%**	**200.4%**	**201.9%**	**199.9%**
J = A/E	Projected Dry Yr. Supply/Demand (%)	**107.5%**	**104.0%**	**103.5%**	**103.7%**	**102.6%**

3.8 LAWC'S SUPPLY RELIABILITY

3.8.1 OVERVIEW

It is required that every urban water supplier assess the reliability to provide water service to its customers under normal, dry, and multiple dry water years. LAWC depends on a combination of imported and local supplies to meet its water demands and has taken numerous steps to ensure it has adequate supplies.

3.8.2 IMPORTED WATER RELIABILITY

MWD is participating in the development of groundwater, groundwater recovery, recycled water systems, desalination opportunities, and collection of urban return flows to augment the reliability of the imported water system. There are various factors that may impact reliability of supplies, such as legal, environmental, water quality, and climatic, which are discussed below. The water supplies are projected to meet full-service demands; MWD's 2015 UWMP finds that MWD is able to meet with existing supplies full service demands of its member agencies starting in 2020 through 2040 during normal years, single dry year, and multiple dry years.

MWD's 2015 UWMP anticipates supplies meeting demand for all climatic conditions through 2040.

MWD's 2015 Integrated Water Resources Plan (IRP) update describes the core water resource strategy that will be used to meet full-service demands at the retail level under all foreseeable hydrologic conditions from 2020 through 2040. The foundation of MWD's resource strategy for achieving regional water supply reliability has been to develop and implement water resources programs and activities through its IRP preferred resource mix. This preferred resource mix includes conservation, local resources, such as water recycling and groundwater recovery, Colorado River supplies and transfers, SWP supplies and transfers, in-region surface reservoir storage, in-region groundwater storage, out-of-region banking, treatment, conveyance and infrastructure improvements. FMWD is reliant on MWD for all of its imported water. With the addition of planned supplies under development, MWD's 2015 UWMP finds that MWD will be able to meet full-service demands from 2020 through 2040, even under a repeat of the worst drought. **Table 3-9** shows the reliability of the wholesaler's supply for single dry year and multiple dry year scenarios.

Table 3-9: Wholesaler Supply Reliability - Percent of Normal AFY

Wholesaler Sources	Single Dry	Multiple Dry Water Years		
		Year 1	Year 2	Year 3
MWD	100%	100%	100%	100%

In addition to meeting full-service demands from 2020 through 2040, MWD projects reserve and replenishment supplies to refill system storage. **Table 3-10** shows the basis of water year data used to predict MWD's drought supply availability.

Table 3-10: Basis of Water Year Data

Water Year Type	Base Year	Base Year	Base Year
Normal Water Year	Average 1922 – 2004		
Single-Dry Water Year	1977		
Multiple-Dry Water Year	1990	1991	1992

3.8.3 FACTORS CONTRIBUTING TO LAWC'S SUPPLY RELIABILITY

The Act requires a description of the reliability of the water supply and vulnerability to seasonal or climatic shortage. The following are some of the factors identified by MWD that may have an impact on the reliability of MWD supplies.

Environment - Endangered species protection needs in the Sacramento-San Joaquin River Delta have resulted in operational constraints to the SWP system. The Bay-Delta's declining ecosystem caused by agricultural runoff, operation of water pumps and other factors has led to historical restrictions in SWP supply deliveries. SWP and CVP delivery restrictions due to the biological opinions have reduced SWP and CVP supplies by approximately 5.2 MAF since in 2008.

Legal - Listings of additional species under the Endangered Species Act and new regulatory requirements could further impact SWP operations by requiring additional export reductions, releases of additional water from storage, or other operational changes impacting water supply operations. Additionally, any challenges to the QSA in

the court systems may have impacts on the Imperial Irrigation District and San Diego County Water Authority transfer. If there are negative impacts, San Diego could become more dependent on MWD supplies. One such challenge was settled in 2013 upholding the validity of the QSA.

Water Quality - Water imported from the CRA contains a high level of salts. The operational constraint is that this water needs to be blended with SWP supplies to meet the target salinity of 500 mg/L of total dissolved solids (TDS). Another water quality concern is related to the quagga mussel. Controlling the spread and impacts of quagga mussels within the CRA requires extensive maintenance and results in reduced operational flexibility.

Climate Change - Changing climate patterns are expected to shift precipitation patterns and affect water supply. Unpredictable weather patterns will make water supply planning even more challenging. The areas of concern for California include the reduction in Sierra Nevada snowpack, increased intensity and frequency of extreme weather events, and rising sea levels causing increased risk of levee failure.

Legal, environmental, and water quality issues may have impacts on MWD supplies. It is felt, however, that climatic factors would have more of an impact than the others. Climatic conditions have been projected based on historical patterns; however, severe pattern changes may occur in the future. **Table 3-11** shows the factors that may affect inconsistency of supply. These and other factors are addressed in greater detail in MWD's 2015 UWMP.

Table 3-11: Factors That May Affect Inconsistency of Supply

Name of Supply	Legal	Environmental	Water Quality	Climatic
State Water Project	X	X	X	X
Colorado River			X	X

3.8.4 LAWC'S PROJECTED SUPPLY VS DEMAND COMPARISONS

To project future supply and demand comparisons, it will be assumed that demand will increase annually based on population growth and a constant of 125 GPCD in accordance with SBx7-7 requirements. During times of drought, however, demand will

increase at a time when supply will decrease. To project demands during drought periods, the following factors measured from actual demand data from dry years 2012 to 2014 will be assumed:

- **Single Dry Year Demand Increase**: 110% of Normal
- **Multiple Dry Year Demand Increases (Years 1, 2, & 3)**: 107%, 115%, 107% of Normal

Tables 3-12 to **3-18**, shown on the following pages, provide an analysis of LAWC's supply and demand projections.

Based on the data contained in **Tables 3-12** to **3-18**, LAWC can expect to meet future demands through 2040 for all climatologic classifications. Projected groundwater supply capacities are not expected to be significantly affected during times of low rainfall and over short term dry periods of up to three years; however, during prolonged periods of drought, LAWC's imported water supply capacities may potentially be reduced significantly due to reductions in MWD's storage reservoirs resulting from increases in regional demand.

Table 3-12: LAWC's Water Supply Availability & Demand Projections
Normal Water Year (AF)

Water Sources	2020	2025	2030	2035	2040
Population					
Water Service Area Population	13,801	13,972	14,146	14,322	14,500
Supply					
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Demand					
Total Normal Demand	**1,932**	**1,956**	**1,981**	**2,005**	**2,030**
% of 2010-2015 Avg. Demand (2,244)	86.1%	87.2%	88.3%	89.4%	90.5%
Supply/Demand Comparison					
Supply/ Demand Difference	615	591	566	542	517
Supply/Demand (%)	131.8%	130.2%	128.6%	127.0%	125.4%

Table is intended only to show LAWC has the capacity to meet demand for all years per the following*:

1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above.

2. Imported Water Supply represents supply available to LAWC, if needed, based on the LAWC's FMWD's Tier 1 Limit of 247 AFY.

3. Groundwater Supplies based on the assumed LAWC's maximum well pumping yield of 2,300 AFY.

**This Table not intended to be a projection of LAWC's actual groundwater production. LAWC may pump amounts different (above or below) from its adjudicated right of 567 AFY based on production and treatment capacity.*

**This Table is not intended to be a projection of LAWC's actual demand. Demand of 125 GPCD is based on SBx7-7 limits. Actual demand may be above or below the SBx7-7 limit of 150 GPCD in accordance with water usage needs in LAWC's service area.*

Table 3-13: LAWC's Water Supply Availability & Demand Projections
Single Dry Year (AF)

Water Sources	2020	2025	2030	2035	2040
Population					
Water Service Area Population	13,801	13,972	14,146	14,322	14,500
Supply					
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Normal Year Supply	2,547	2,547	2,547	2,547	2,547
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
Total Dry Demand	**2,120**	**2,146**	**2,173**	**2,200**	**2,227**
Normal Year Demand	1,932	1,956	1,981	2,005	2,030
% of Normal Year	109.7%	109.7%	109.7%	109.7%	109.7%
Supply/Demand Comparison					
Supply/Demand Difference	427	401	374	347	320
Supply/Demand (%)	120.2%	118.7%	117.2%	115.8%	114.4%

Table is intended only to show LAWC will be able to meet demand for all years per the following*:

1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 107%, 115%, and 107%.

2. All other items derived in similitude to Table 3-11.

**See notes below Table 3-11 for explanation of groundwater supply / overall demand.*

Table 3-14: LAWC's Water Supply Availability & Demand Projections
Multiple Dry Years (2016-2020) (AF)

Water Sources	2016	2017	2018	2019	2020
Population					
Water Service Area Population	13,665	13,699	13,733	13,767	13,801
Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Normal Year Supply	2,547	2,547	2,547	2,547	2,547
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		**Multiple Dry Years**		
Total Demand	**1,913**	**1,918**	**2,049**	**2,221**	**2,074**
Normal Year Demand	1,913	1,918	1,923	1,928	1,932
% of Normal Year	100.0%	100.0%	106.6%	115.2%	107.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	634	629	498	326	473
Supply/Demand (%)	133.1%	132.8%	124.3%	114.7%	122.8%

Table is intended only to show LAWC will be able to meet demand for all years per the following*:

1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 107%, 115%, and 107%.

2. All other items derived in similitude to Table 3-11.

**See notes below Table 3-11 for explanation of groundwater supply / overall demand.*

Table 3-15: LAWC's Water Supply Availability & Demand Projections
Multiple Dry Years (2021-2025) (AF)

Water Sources	2021	2022	2023	2024	2025
Population					
Water Service Area Population	13,835	13,869	13,903	13,938	13,972
Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Normal Year Supply	2,547	2,547	2,547	2,547	2,547
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		**Multiple Dry Years**		
Total Demand	**1,937**	**1,942**	**2,075**	**2,248**	**2,099**
Normal Year Demand	1,937	1,942	1,947	1,952	1,956
% of Normal Year	100.0%	100.0%	106.6%	115.2%	107.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	610	605	472	299	448
Supply/Demand (%)	131.5%	131.2%	122.8%	113.3%	121.3%

Table is intended only to show LAWC will be able to meet demand for all years per the following*:

1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 107%, 115%, and 107%.

2. All other items derived in similitude to Table 3-11.

**See notes below Table 3-11 for explanation of groundwater supply / overall demand.*

Table 3-16: LAWC's Water Supply Availability & Demand Projections
Multiple Dry Years (2026-2030) (AF)

Water Sources	2026	2027	2028	2029	2030
Population					
Water Service Area Population	14,007	14,042	14,076	14,111	14,146
Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Normal Year Supply	2,547	2,547	2,547	2,547	2,547
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		**Multiple Dry Years**		
Total Demand	**1,961**	**1,966**	**2,100**	**2,276**	**2,125**
Normal Year Demand	1,961	1,966	1,971	1,976	1,981
% of Normal Year	100.0%	100.0%	106.6%	115.2%	107.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	586	581	447	271	422
Supply/Demand (%)	129.9%	129.5%	121.3%	111.9%	119.8%

Table is intended only to show LAWC will be able to meet demand for all years per the following*:

1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 107%, 115%, and 107%.

2. All other items derived in similitude to Table 3-11.

**See notes below Table 3-11 for explanation of groundwater supply / overall demand.*

Table 3-17: LAWC's Water Supply Availability & Demand Projections
Multiple Dry Years (2031-2035) (AF)

Water Sources	2031	2032	2033	2034	2035
Population					
Water Service Area Population	14,181	14,216	14,252	14,287	14,322
Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Normal Year Supply	2,547	2,547	2,547	2,547	2,547
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		**Multiple Dry Years**		
Total Demand	**1,986**	**1,991**	**2,127**	**2,305**	**2,152**
Normal Year Demand	1,986	1,991	1,995	2,000	2,005
% of Normal Year	100.0%	100.0%	106.6%	115.2%	107.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	561	556	420	242	395
Supply/Demand (%)	128.3%	128.0%	119.8%	110.5%	118.4%

Table is intended only to show LAWC will be able to meet demand for all years per the following*:

1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 107%, 115%, and 107%.

2. All other items derived in similitude to Table 3-11.

**See notes below Table 3-11 for explanation of groundwater supply / overall demand.*

Table 3-18: LAWC's Water Supply Availability & Demand Projections
Multiple Dry Years (2036-2040) (AF)

Water Sources	2036	2037	2038	2039	2040
Population					
Water Service Area Population	14,358	14,393	14,429	14,465	14,500
Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	247	247	247	247	247
Groundwater	2,300	2,300	2,300	2,300	2,300
Total Supply	**2,547**	**2,547**	**2,547**	**2,547**	**2,547**
Normal Year Supply	2,547	2,547	2,547	2,547	2,547
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		**Multiple Dry Years**		
Total Demand	**2,010**	**2,015**	**2,153**	**2,333**	**2,179**
Normal Year Demand	2,010	2,015	2,020	2,025	2,030
% of Normal Year	100.0%	100.0%	106.6%	115.2%	107.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	537	532	394	214	368
Supply/Demand (%)	126.7%	126.4%	118.3%	109.2%	116.9%

Table is intended only to show LAWC will be able to meet demand for all years per the following*:

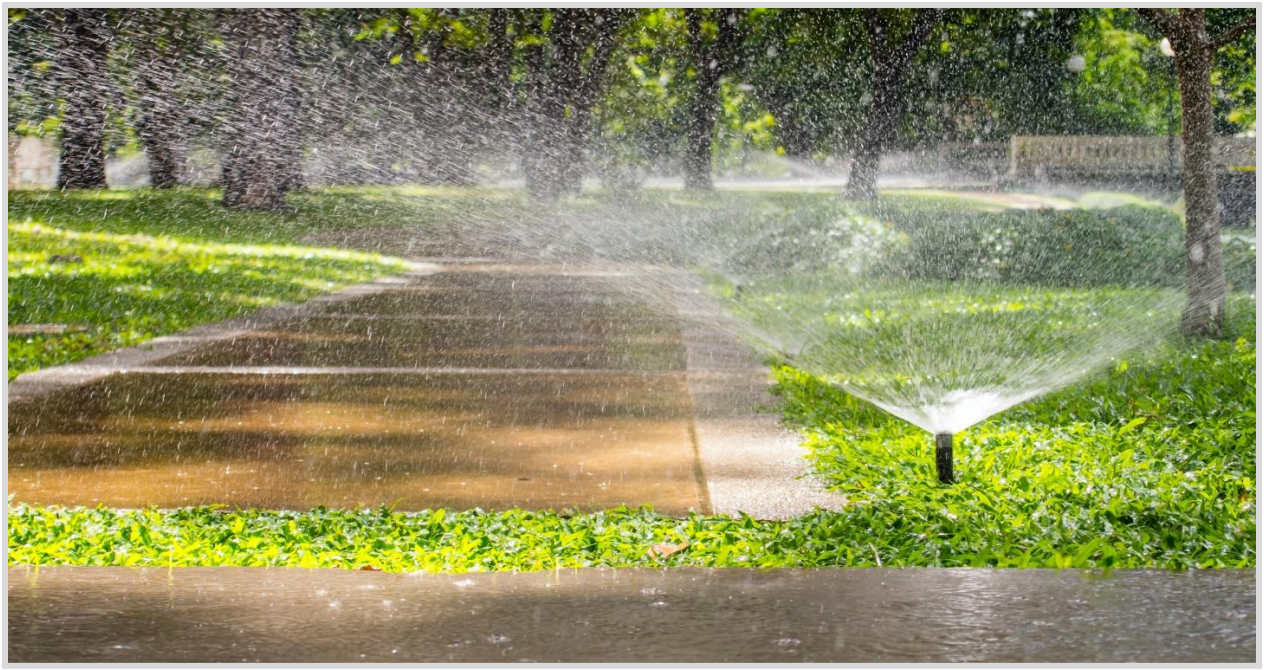
1. Total Demand based on 125 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 107%, 115%, and 107%.

2. All other items derived in similitude to Table 3-11.

**See notes below Table 3-11 for explanation of groundwater supply / overall demand.*

SECTION 4: CONSERVATION MEASURES

LAWC has continued to work with FMWD and MWD to implement all seven Demand Management Measures to the extent possible.



SECTION 4: CONSERVATION MEASURES

4.1 OVERVIEW

As a result of diminished existing supplies and difficulty in developing new supplies, water conservation is important to Southern California's sustainability. Agencies statewide acknowledge that efficient water use is the foundation of its current and future water planning and operations policies.

To conserve California's water resources, several public water agencies and other interested parties of the California Urban Water Conservation Council (CUWCC) drafted the Memorandum of Understanding Regarding Urban Water Conservation (MOU) in 1991. A that time, the MOU established 14 Best Management Practices (BMPs) which are defined roughly as policies, programs, practices, rules, regulations, or ordinances that result in the more efficient use or conservation of water. Demand Management Measures (DMMs), as defined by the UWMP Act, correspond for the most part to the CUWCC's BMPs.

This section of the UWMP satisfies the requirements of § 10631 (f) & (j) of the California Water Code (CWC) and describes how each DMM is being implemented by LAWC and how LAWC evaluates the effectiveness of the DMMs implemented. This section also provides an estimate of existing conservation savings where information is available.

4.1.1 UPDATES TO DMMS FOR 2015 UWMPS

In previous years, the 14 CUWCC BMPs coincided with the 14 DMMs defined in the UWMP Act. The DMMs are intended to reduce long-term urban demands from what they would have been without their implementation. The DMMs are in addition to programs which may be instituted during occasional water supply shortages.

For 2015 UWMPs, DWR has refined the list of DMMs required to be reported in the 2015 UWMPs as follows:

- ***DMM 1:*** *Water Waste Prohibition Ordinances*
- ***DMM 2:*** *Metering*
- ***DMM 3:*** *Conservation Pricing*
- ***DMM 4:*** *Public Education & Outreach*
- ***DMM 5:*** *Programs to Assess and Manage Distribution System Real Loss*
- ***DMM 6:*** *Water Conservation Program Coordination and Staffing Support*
- ***DMM 7:*** *Other Demand Management Measures (that have a significant impact on water use as measured in GPCD, including innovative measures, if implemented)*

As with previous UWMPs, agencies that are members of the CUWCC can submit the annual reports in lieu of proving details on the agency's DMMs. That is, in lieu of providing a description of each DMM, agencies can provide data on recent implementation and provide plans for future implementation. Currently, LAWC is not a member of CUWCC.

4.1.2 UPDATES TO CUWCC BMPS

As with the DMMs, the CUWCC BMPs have changed for CUWCC members. The BMPs are now listed as:

- ***BMP 1****: Utility Operations*

- ***BMP 2**: Public Education & Outreach*
- ***BMP 3**: Residential Programs*
- ***BMP 4**: Commercial, Institutional, and Industrial Programs*
- ***BMP 5**: Landscape Programs*

4.2 LAWC CONSERVATION PROGRAMS

LAWC, in conjunction with FMWD and MWD, plays an active role in promoting water use efficiency in its service area. FMWD, as a wholesale water agency, assists LAWC and its other retail agencies by administering various rebate programs for its retail agencies and providing assistance to the retail agencies in other water use efficiency programs, such as education and public information programs. To this day, LAWC is continuously working with FMWD and MWD towards implementing the DMMs through means of various conservation measures.

Table 4-1 provides a status overview of LAWC's Conservation Measures.

Table 4-1: LAWC Conservation Measures

BMP	Description
DMM No. 1: Water Waste Prohibition Ordinances	*Deals with water waste prohibitions and water efficiency ordinances related to managing water use.*
DMM No. 2: Metering	*Deals with providing water meters, charging for service, and any innovative metering programs.*
DMM No. 3: Conservation Pricing	*Deals with the pricing structure that is used by the water agency.*
DMM No. 4: Public Education & Outreach	*Deals with the public education and outreach efforts by the water agency.*
DMM No. 5: Programs to Assess and Manage Distribution System Real Loss	*Deals with the agency's programs to detect and repair leaks in the distribution system.*
DMM No. 6: Water Conservation Program Coordination and Staffing Support	*Deals with the activities of the water conservation program, if any, and the water conservation coordinator(s), staff, and program funding.*
DMM No. 7: Other Demand Management Measures	*Any additional BMPs supported by LAWC are listed on the following pages.*

4.2.1 DMM NO. 1: WATER WASTE PROHIBITION ORDINANCE

On February 17, 2015, the Los Angeles Board of Supervisor approved Ordinance No. 2015-0004 promoting water conservation in the county's unincorporated areas (**Appendix B**). The revisions offered stricter violations by increasing penalty fees. The ordinance prohibits certain activities regarding landscape irrigation, washing of sidewalks and driveways, washing of vehicles, filling and washing decorative fountains and similar structures, and serving of water at restaurants/hotels.

Figure 4-1: Water Waste is Prohibited by District Ordinance

On October 23, 2015, LAWC amended Resolution No. LAWC032015 Moratorium on New Water Connections. It was in the best interest of LAWC that redevelopment of properties will not require new service connections and shall maintain the existing connection. This is in efforts to encourage redevelopment of existing properties in a manner that reduce water demand. The moratorium also states water conservation measures similarly as mentioned for Ordinance No. 2015-0004.

4.2.2 DMM NO. 2: METERING

LAWC has a 4 Tier Water Rate Structure. Each account is allotted units in each tier. LAWC meters all of the accounts by volume of use and standby charge. LAWC will continue to install and read meters on all new and existing services, and will continue to

conduct its meter replacement program. Meter calibration and periodic replacement insures that customers are paying for all of the water they consume, and therefore encourages conservation. A summary of the water rates is shown on **Table 4-2**.

4.2.3 DMM NO. 3: CONSERVATION PRICING

LAWC has a 4 Tier Water Rate Structure. This tier rate system promotes conservation by offering our lowest rate to customers who use 7 billing units per month or less. Each water unit represents 100 cubic feet or 748 gallons. LAWC have provided their anticipation of price increases from 2015 to 2019. In an event of an unexpected shortage, LAWC will update the prices accordingly to promote conservation. **Table 4-2** summarizes the water rates within LAWC, effective as of June 1, 2015. LAWC also offers incentives for shareholders who own multiple shares. Shareholders will be allotted additional water units at the Tier 1 rate based on the number of shares owned.

Table 4-2: Water Rates Summary 2015-2019

Charge	2015	2016	2017	2018	2019
Monthly Stand-by Charge (Residential and Commercial Accounts)	$29.95	$30.90	$31.85	$32.80	$33.75
Residential					
➢ Tier 1: 0–7 units	$3.00	$3.00	$3.00	$3.00	$3.00
➢ Tier 2: 8-20 units	$3.30	$3.35	$3.40	$3.45	$3.50
➢ Tier 3: 21-40 units	$3.59	$3.68	$3.77	$3.86	$3.96
➢ Tier 4: 41+ units	$3.88	$4.02	$4.16	$4.31	$4.46

4.2.4 DMM NO. 4: PUBLIC EDUCATION & OUTREACH

SCHOOL PROGRAMS

FMWD implements this DMM on the behalf of its member agencies. FMWD supports MWD's extensive in-class education programs for specific grade levels. The District participates in a regional "*Water Is Life*" student art contest where top selections are sent to MWD for further consideration. FMWD also regularly sponsors a high school team in the annual Solar Cup competition held by MWD, where students build water crafts operated by solar power and compete at Lake Skinner.

Figure 4-2: Winning Art Entries to the 2014 FMWD Student Art Contest (LA Times)

Figure 4-3: A Class from St. Bede Elementary School Tours FMWD Facilities

On a local level, FMWD composes and makes information available to school districts for incorporation in student curriculum. A popular education program led by FMWD staff involves interactive water experiments/activities and the offering of tours of

District facilities. Staff also provides lectures and presentations to schools and other community groups upon request.

FMWD also offers volunteering opportunities, called Foothill Water Conservation Corps, to assist in water conservation and education outreach. These volunteers will participate in presentations for water conservation at clubs or events, setting up and operating booths at fairs and other community functions. Not only does this aid in spreading awareness but it also provides incentives for students to earn community service hours at a professional setting.

Tables 4-3 and **4-4** show past, current, and planned school education programs by grade level from 2011 to 2020.

Table 4-3: FMWD School Education Programs (2011-2015)

Actual	2011	2012	2013	2014	2015
Grades K - 3rd	Yes	Yes	Yes	Yes	Yes
Grades 4th - 6th	Yes	Yes	Yes	Yes	Yes
Grades 7th - 8th	Yes	Yes	Yes	Yes	Yes
High School	Yes	Yes	Yes	Yes	Yes
Actual Expenditures ($)*	$2,950	$2,950	$2,950	$4,175	$4,175

*Material distributed is part of conservation material used at other events as well and costs are not broken out by type of event.

Table 4-4: FMWD Projected School Education Programs (2016-2020)

Planned	2016	2017	2018	2019	2020
Grades K - 3rd	Yes	Yes	Yes	Yes	Yes
Grades 4th - 6th	Yes	Yes	Yes	Yes	Yes
Grades 7th - 8th	Yes	Yes	Yes	Yes	Yes
High School	Yes	Yes	Yes	Yes	Yes
Planned Expenditures ($)	$3,500	$3,500	$3,500	$3,500	$3,500

No method currently exists to evaluate water savings attributable to this DMM; however, FMWD continues to administer this DMM for its ability to educate and interact with customers.

4.2.5 DMM NO. 5: PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

LAWC conducts water audits and leak detection and repair on a daily and monthly basis. The distribution system is constantly being upgraded and repaired. LAWC's trained staff surveys the system during the daily inspection and maintenance schedule. LAWC monitors all water meters on a monthly basis. Stuck or faulty meters are detected and changed immediately. LAWC continues to upgrade meters monthly to reduce un-accounted for water.

4.2.6 DMM NO. 6: WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

LAWC has designated a staff member as a water conservation coordinator. This is not a full-time position but time is devoted to coordination and oversight of conservation programs, particularly with FMWD and DMM implementations. The coordinator of FMWD administers MWD's programs among FMWD's retail agencies.

4.2.7 DMM NO. 7: OTHER DEMAND MANAGEMENT MEASURES

RESIDENTIAL PROGRAMS

LAWC participates in various FMWD/MWD programs, such as SoCal Water$mart program, formerly Save Water Save a Buck Rebate program. The program is aimed at increasing water use efficiency for residential and commercial customers including rebate programs that provide financial incentives for customers. Listed below are the rebates offered through SoCal Water$mart program:

- ***Weather-Based Irrigation Controllers Program*** – This program, previously called the "Smart Timer Rebate Program," started in FY 2004-05. Under this regional program, residential and small commercial properties are eligible for a rebate when they purchase and install a weather-based irrigation controller (WBIC), which has the potential to save 13,500 gallons a year per residence. Rebates start at $80 per controller for landscapes less than 1 acre in area and $35 per station for more than 1 acre.

- ***Rotating Nozzle Rebate Program*** **–** This rebate program started in 2007 and is

offered to both residential and commercial customers. Through this program, site owners will purchase and install rotary nozzles, which can use up to 20 percent less water than conventional fan spray nozzles, in existing irrigation systems. These sprinklers reduce runoff onto sidewalks and into local storm drain system and provide uniform water distribution onto the landscape. MWD offers $2 per nozzle with a minimum of 30 nozzles.

- ***Rain Barrels & Cisterns Program –*** Residential and commercial customers can receive rebates for installing rain barrels and/or cisterns to collect rainwater for re-use for watering their landscapes. Customers may receive rebates starting at $75 per barrel or $300 per cistern. The barrels and cisterns must adhere to specified design guidelines.

- ***Soil Moisture Sensor System Program*** – For large residential sites, a soil moisture sensor, which measures soil moisture content in the active root zone, can be installed to receive rebates starting at $80 or $35 per irrigation controller station. The sensor must be connected to a compatible irrigation system controller.

- ***Turf Removal Program*** – Through this program, residential and small commercial customers of participating retail water agencies are eligible to receive a minimum of $2 per square foot of turf removed for qualifying projects.

  Currently, Turf Removal incentives are no longer being offered throughout the region due high popularity that led to the exhaustion of funds.

RESIDENTIAL PLUMBING RETROFIT

LAWC offers rebates for premium high efficiency toilets (PHETs) through MWD's SoCal Water$mart program. Initially, the rebate was offered for replacing existing toilets using 1.6 gallons per flush (gpf) or more with new toilets rating at 1.28 gpf. Starting November 11, 2015, rebate incentives are only offered for replacements for PHETs (1.06 gpf or less). There are also rebates for the installation of flow-sensing shut-off devices and hot water recirculation system.

HIGH-EFFICIENCY WASHING MACHINE REBATES

LAWC participates in the SoCal Water$mart residential rebate program offered by FMWD/MWD. This program offers financial incentives to single-family and multi-family residential customers through the form of a rebate. Residents in the FMWD service area are eligible to receive an $85 rebate when they purchase a new High Efficiency Clothes Washer (HECW). Rebates are available on a first-come, first-served basis, while funds last. Participants must be willing to allow an inspection of the installed machine for verification of program compliance. Machines must have a water factor of 3.7 or less. Participants are encouraged to contact their local gas and/or electric utility since additional rebates may be available.

Figure 4-4: HE Washing Machines

LANDSCAPE PROGRAMS

LAWC contains only five large landscapes, including parks, a cemetery, and a gated community. LAWC offers water audit by bill messages. LAWC will continue to implement this DMM by annual review of customers' water use, and by offering on-site follow-up evaluations to customers upon request. Landscapes that are upgraded based on survey recommendations could result in a 15 percent reduction in water demand.

In addition, LAWC supports large landscape conservation through FMWD/MWD's regional programs including:

SoCal Water$mart – As a member agency of FMWD, LAWC takes part in the SoCal Water$mart program, which offers financial incentives to both residential and commercial customers who purchase approved WBIC, rotating nozzles, and synthetic turf. The available landscape programs are previously described under "**Residential Programs"** and listed below:

- Weather-Based Irrigation Controllers Program (WBIC)
- Rotating Nozzle Rebate Program
- Rain Barrels & Cisterns Program
- Soil Moisture Sensor System Program (SMSS)
- Turf Removal Program

California Friendly Landscape Training – On behalf of its member agencies, FMWD support MWD's California Friendly Landscape and Gardening Training, which provides education to residential homeowners and professional landscape contractors on a variety of landscape water efficiency practices they can employ.

In addition, LAWC takes advantage of regional and local efforts that target and market to large landscape properties including bill inserts and direct marketing efforts.

PUBLIC INFORMATION PROGRAMS (BROCHURES, MAILINGS, WEBSITE, ETC.)

In concert with FMWD, LAWC provides literature, brochures, posters, videos, etc., to the public. FMWD maintains a library of water resource education conservation videos for loan to individuals and local organizations. FMWD provides speakers to various groups upon request.

No method currently exists to evaluate water savings attributable to this DMM. However, LAWC continues to provide public information services and materials to emphasize water use efficiency and other resource issues.
Table 4-5 shows past, current, and planned public information programs within FMWD's service area from 2011 to 2020.

Table 4-5: Public Information Programs

Actual	2011	2012	2013	2014	2015
Paid Advertising	No	No	No	No	No
Public Service Announcement	No	No	No	No	No
Bill Inserts/Newsletters/Brochures	Yes	Yes	Yes	Yes	Yes
Bill Showing Water Usage in Comparison to Previous Year's Usage	Yes	Yes	Yes	Yes	Yes
Demonstration Gardens	Yes	Yes	Yes	Yes	Yes
Special Events/Media Events	No	Yes	Yes	Yes	Yes
Speaker's Bureau	No	No	No	Yes	Yes
Program to Coordinate with Other Government Agencies, Industry and Public Interest Groups and Media	No	Yes	Yes	Yes	Yes
Planned	**2016**	**2017**	**2018**	**2019**	**2020**
Paid Advertising	No	No	No	No	No
Public Service Announcement	No	No	No	No	No
Bill Inserts/Newsletters/Brochures	Yes	Yes	Yes	Yes	Yes
Bill Showing Water Usage in Comparison to Previous Year's Usage	No	No	No	No	No
Demonstration Gardens	Yes	Yes	Yes	Yes	Yes
Special Events, Media Events	Yes	Yes	Yes	Yes	Yes
Speaker's Bureau	Yes	Yes	Yes	Yes	Yes
Program to Coordinate with Other Government Agencies, Industry and Public Interest Groups and Media	Yes	Yes	Yes	Yes	Yes

COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL PROGRAMS

LAWC has only a small number of commercial accounts and no industrial water use within their area. Local schools and churches would qualify as institutional accounts. In 1999, LAWC, through FMWD, implemented an agreement with MWD for participation in a Commercial-Industrial-Institutional (CII) retrofit incentive project. This conservation

credits program is designed to assist local water agency commercial customers in conserving water supplies.

Currently, LAWC offers financial incentives under the SoCal Water$mart, which offers rebates for various water efficient devices to CII customers.

SoCal Water$mart – MWD launched this program on July 1, 2008 and offers rebates to assist CII customers in replacing high-flow plumbing fixtures with low-flow fixtures. Rebates are available only on those devices listed in **Table 4-6** below and must replace higher water use devices. Installation of devices is the responsibility of each participant. Participants may purchase and install as many of the water saving devices as are applicable to their site.

Table 4-6: Retrofit Devices and Rebate Amounts under SoCal Water$mart Program

Retrofit Device	Rebate Amount
Premium High Efficiency Toilet	$40
Ultra-Low-Water or Zero Water Urinal	$200
Connectionless Food Steamers	$485 per compartment
Air-Cooled Ice Machines	$1,000
Cooling Tower Conductivity Controller	$625
pH / Conductivity Controller	$1,750
Dry Vacuum Pumps	$125 per 0.5 hp

WHOLESALE AGENCY PROGRAMS

LAWC is a retail water agency. Therefore, the DMM does not apply. LAWC is a member agency of FMWD. FMWD provides financial incentives or equivalent resources, as appropriate and beneficial to distributing retail agencies, to advance water conservation efforts and effectiveness.

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SECTION 5: CONTINGENCY PLANNING

During times of severe drought or catastrophic supply interruptions, LAWC will implement its Water Shortage Contingency Plan and Emergency Preparedness and Disaster Response Plan. LAWC's efforts are highly dependent on MWD's regional efforts, which call for reductions in water use and greater utilization of storage reservoirs.

SECTION 5: CONTINGENCY PLANNING

5.1 OVERVIEW

Water supplies may be interrupted or reduced significantly in a number of ways, including droughts, earthquakes, and power outages, that hinder a water agency's ability to effectively deliver water. The ability to manage water supplies in times of drought or other emergencies is an important part of water resources management for a community.

Recent water supply challenges throughout the American Southwest and the State of California have resulted in the development of a number of policy actions that water agencies would implement in the event of a water shortage. In Southern California, the development of such policies has occurred at both the wholesale and retail level. This section describes new and existing policies that MWD, FMWD, and LAWC have in place to respond to water supply shortages, including a catastrophic interruption and up to a 50 percent reduction in water supply.

5.2 STAGES OF ACTION

5.2.1 MWD STAGES OF ACTION

WATER SURPLUS & DROUGHT MANAGEMENT PLAN (WSDM)

In addition to the provisions of the County's Conservation Ordinance, LAWC also works in conjunction with FMWD and MWD to implement conservation measures within the framework of MWD's Water Shortage and Drought Management (WSDM) Plan. The WSDM Plan was developed in 1999 by MWD with assistance and input with its member agencies. The plan addresses both surplus and shortage contingencies. MWD's Water Surplus and Drought Management Plan (WSDM Plan) documents the stages of action that it would undertake in response to a water supply shortage. FMWD's water supply shortage stages reflect MWD's WSDM Plan.

Figure 5-1: Severe Droughts Highlight the Importance of Conservation Ordinances

The WSDM Plan guiding principle is to minimize adverse impacts of water shortage. The plan guides the operations of water resources (local resources, Colorado River, SWP, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-

service demands. Mandatory allocations are avoided to the extent practicable; however, in the event of an extreme shortage, an allocation plan will be implemented.

In addition to its WSDM Plan, MWD developed a Water Supply Allocation Plan (WSAP), which provides a standardized methodology for allocation of supplies during times of severe shortage (Stage 7 on MWD's WSDM Plan). During a shortage, LAWC's imported water supplies will be allocated based on the methodology documented in FMWD's Allocation Plan, which mostly mirrors the MWD allocation plan.

MWD's WSDM and WSAP Plans help guide drought management for many agencies throughout the region.

The following description of shortage stages is from MWD's 2015 UWMP, page 2-18:

> *"**Shortage**: Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.*
>
> ***Severe Shortage**: Metropolitan can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation.*
>
> ***Extreme Shortage**: Metropolitan allocates available supply to full-service customers.*
>
> *The WSDM Plan also defines six shortage management stages to guide resource management activities. These stages are not defined merely by shortfalls in imported water supply, but also by the water balances in Metropolitan's storage programs. Thus, a 10 percent shortfall in imported supplies could be a stage one shortage if storage levels are high. If storage levels are already depleted, the same shortfall in imported supplies could potentially be defined as a more severe shortage.*
>
> *When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Under most of these stages, Metropolitan is still able to meet all end-use demands for water. For shortage stages 1 through 3, Metropolitan will meet demands by withdrawing water from*

storage. At shortage stages 4 and 5, Metropolitan may undertake additional shortage management steps, including issuing public calls for extraordinary conservation and exercising water transfer options, or purchasing water on the open market."

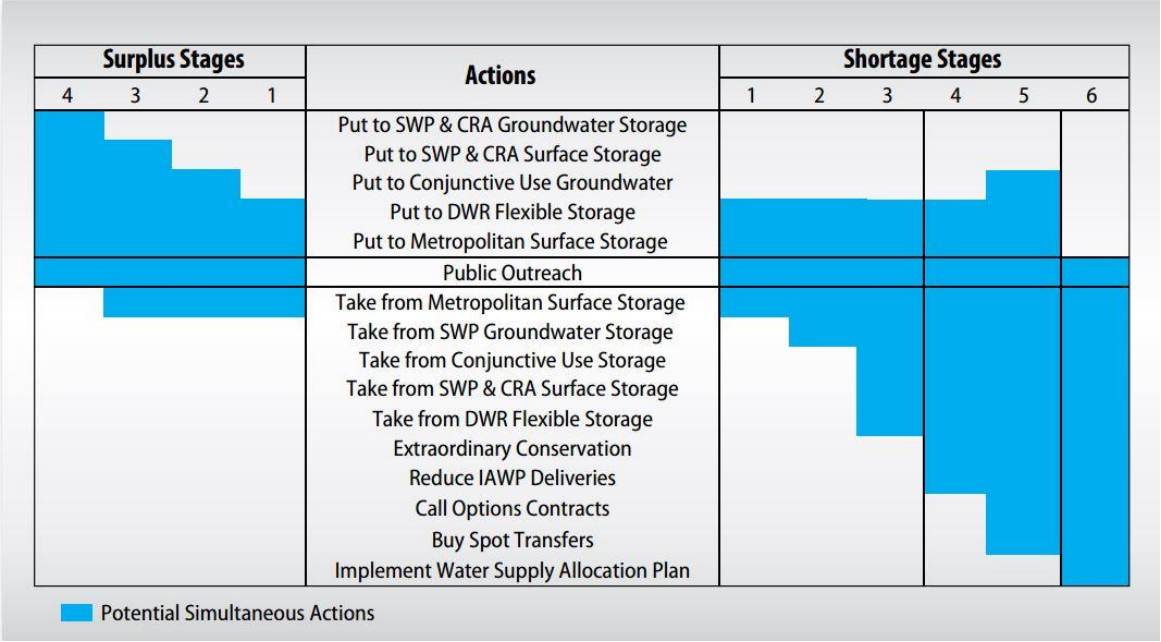

Figure 5-2: MWD WSDM Surplus & Drought Stages

MWD WATER SUPPLY ALLOCATION PLAN (FOR WSDM SHORTAGE STAGE 7)

In February 2008, MWD's Board of Directors adopted a WSAP, which includes a methodology for calculating supply allocations in the event that MWD enters a Shortage Stage 7 and is unable to meet the demands of its member agencies. MWD revised its WSAP in 2014 to include the following updates: new FY 12-13 to FY 13-14 baseline, implement a Conservation Demand Hardening Adjustment, create a separate Groundwater Replenishment Allocation for applicable agencies, and replace WSAP Penalty Rates with Allocation Surcharges based on the marginal costs of turf removal. It should be noted that the WSAP is not a rationing plan. Rather, it is a pricing plan where water is allocated at regular prices and agencies that choose to take more water pay surcharges. The surcharge pricing mechanism acts to discourage the use of water above the allocation. The WSAP uses a combination of estimated total retail demands and historical local supply production within the member agency service area to estimate the demands on MWD from each member agency in a given year. Based on a

number of factors, including storage and supply conditions, MWD then determines whether it has the ability to meet these demands or will need to allocate its limited supplies among its member agencies. Thus, implicit in MWD's decision not to implement an allocation of its supplies is that, at a minimum, MWD will be able to meet the demands identified for each of the member agencies.

According to MWD, the approach seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level and takes into account growth, local investments, changes in supply conditions and the demand hardening aspects of non-potable recycled water use and the implementation of conservation savings programs. The methodology attempts to allocate supplies based on an estimate of an agency's relative need for imported water using the following process:

1. Establish a baseline for total retail demands (and adjust for growth) to determine the allocation year total retail demands. ("*What are your total water demands?*")

2. Estimate the amount of local supplies to be utilized in the allocation year and subtract from total retail demands. This is the allocation year baseline demand on MWD. ("*How much imported water do you need from MWD?*")

When a WSDM Shortage Stage 7 is triggered, MWD's WSAP helps to asses resources in the most equitable way possible.

3. Apply the minimum allocation percentage (per the regional shortage level) to the allocation year baseline demand and provide minor adjustments based on various criteria. ("*Restrict normal supply deliveries and provide allocation.*")

BASE PERIOD CALCULATIONS (USED TO DETERMINE WSAP REDUCTIONS)

The Base Period is calculated using data from FY 2012-13 and FY 2013-14. Base Period wholesale demands are based on the two-year average of demands on MWD during the Base Period, including full-service, seawater barrier, seasonal shift, and surface storage operating agreement demands.

Local supplies for the base period are calculated using a two-year average of

groundwater production, groundwater recovery, Los Angeles Aqueduct supply, surface water production, and other imported supplies. Non-potable recycling production is not included in this calculation, which, according to MWD, is intended to address the impact of demand hardening due to recycled water use.

Total potable retail demands for the Base Period are then calculated by adding the Base Period wholesale demands on MWD and the Base Period local supplies.

WSAP ALLOCATION YEAR CALCULATIONS

The next step is to estimate water needs in an allocation year by (1) adjusting the Base Period total retail demands for population or economic growth, and (2) accounting for changes in local supplies.

The Base Period retail demands are adjusted for growth using the average annual rate of population growth occurring since the two-year base period based on county-level data generated by the California Department of Finance.

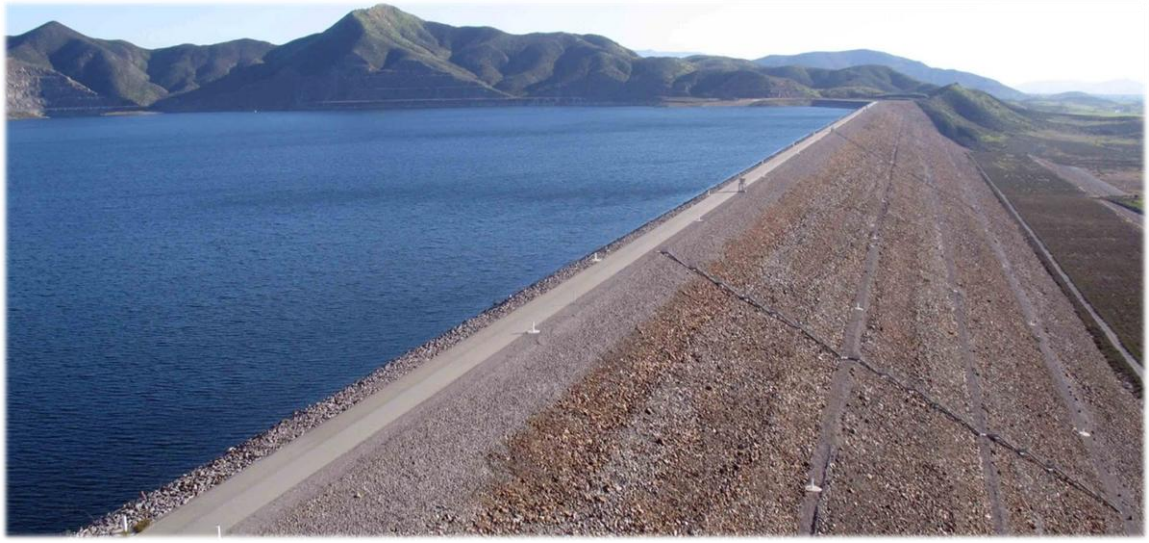

Figure 5-3: MWD's Diamond Valley Lake (Potential Reserves for WSAP Allocations)

Next, these growth-adjusted demands are adjusted again to account for (1) gains and losses of local supply, and (2) extraordinary increases in production over the base year. According to MWD, these adjustments are made to give a more accurate estimate of actual supplies in the allocation year, and, in turn, more accurately reflect an agency's demand for MWD supplies.

The adjustment for gains in local supplies is intended to account for planned or scheduled gains in local supply production above the Base Period, which are not due to extraordinary actions to increase water supply in the allocation year. These previously scheduled increases in supply programs (e.g., SDCWA/IID) or local production are added to the base period local supplies. Again, new supplies from non-potable recycling projects are not counted as local supplies.

While the local agency does become more reliable with the addition of the new supplies, assuming that the new supplies are available during an allocation, the benefits of these programs are partially offset because the impact of adding the new supplies to the Base Period local supplies is to reduce an agency's dependence on MWD and thus their allocation under the WSAP.

Alternatively, only a portion of the additional supplies from what are termed "extraordinary increases in production" are added back to Allocation Year local supplies depending on the retail shortage level. Extraordinary increases in production include such efforts as purchasing transfers or mining of groundwater basins. By adding only a percentage of the yield from these supplies to Allocation Year local supplies, it has the effect of "setting aside" the majority of yield for the agency who procured the supply.

Table 5-1 reflects the set of percentages used in the WSAP to establish water allocations for each agency.

Table 5-1: Water Allocation Percentages

Regional Shortage Level	Regional Shortage Percentage	Wholesale Minimum Percentage	Maximum Retail Impact Adjustment Maximum
1	5%	92.5%	2.5%
2	10%	85.0%	5.0%
3	15%	77.5%	7.5%
4	20%	70.0%	10.0%
5	25%	62.5%	12.5%
6	30%	55.0%	15.0%
7	35%	47.5%	17.5%
8	40%	40.0%	20.0%
9	45%	32.5%	22.5%
10	50%	25.0%	25.0%

5.2.2 FMWD STAGES OF ACTION

FMWD's plan mirrors MWD's plan with two exceptions. The first exception is that since FMWD does not take delivery of any Seawater Barrier water and FMWD is considered ineligible for the Replenishment Allocation, reference to those deliveries has been deleted.

The second exception is because of the way the water is allocated, without a further adjustment, total water allocated to FMWD's member agencies will never match the total water allocated to FMWD. Thus, an adjustment has been added to prorate the difference between the amount allocated to FMWD by MWD and the initial allocation by FMWD.

Additionally, FMWD will reconcile over use and under use of member agency allocations at the same time that MWD does, typically at the end of every 12 months. Any allocation under used by agencies will be pooled together in one pot to be distributed to those agencies who over use their allocation. Any agency using that pooled water will be charged the regular FMWD Tier 1 or Tier 2 rate for having taken the water plus 50 percent of MWD's penalty rate. Any penalties assessed would go into the Water Resource and Conservation Fund.

FMWD only assesses 50 percent of the surcharge against its retail agencies in situations where FMWD is not subject to the Allocation Surcharge from MWD. In cases where FMWD as a whole is subject to the Allocation Surcharge from MWD, member retail agencies that have over used their allocation will take on the obligation proportionally and be subject to 100 percent of the surcharge.

Supply Allocation Formula Elements

The following are the elements of the allocation formula:

Base Period – A two-year average of historical water use utilizing data from FY 2012-13 and FY 2013-14. Water use is divided into three components: total retail demand, locally produced water, and imported water.

Growth Adjustment – Retail demands are adjusted for growth between the base

period and the time of allocation based on county level estimates of average annual growth in population. Growth for Los Angeles County is 0.46 percent. Agencies have an option to use weighted average population and job growth instead based on an appeal process to MWD.

Local Supplies **–** The amount of local supplies that are planned to be utilized in an allocation year.

Extraordinary Allocation Year Local Supplies **–** These are previously unscheduled local water supplies to be utilized in an allocation year, including transfers, recycled water, desalination, and recovery of groundwater. This amount is credited without reduction in the Wholesale Minimum Allocation. In addition, it decreases both the Retail Impact Adjustment and the reliance on MWD.

Conservation Demand Hardening Adjustment **–** An adjustment is made for demand hardening due to active conservation based on GPCD. Calculation considers conservation savings, dependence on MWD and the associated Regional Shortage Level percentage.

Regional Shortage Percentage **–** This is the percentage of shortage between supplies and demands and will be declared by MWD's board. **Table 5-1** contains the percentages used to establish water allocations for agencies.

Wholesale Minimum Allocation **–** This is the first step in the formula and provides the minimum imported water allocation from MWD. It is calculated as an allocation baseline demand on MWD (Base Period Demands minus Local Supplies) multiplied by the Wholesale Minimum Percentage of the associated Regional Shortage Level.

Retail Impact Adjustment **–** This is the maximum additional allocation an agency may receive based on impacts to retail customers. Those agencies with less local supplies would receive a higher adjustment than those agencies with more local supplies. This is calculated as percent dependence on MWD times the allocation baseline demand on MWD multiplied by the Retail Impact Adjustment factor of the associated Regional Shortage Level.

Minimum Per-Capita Adjustment **–** An adjustment made should gallons per capita

per day for an agency drop to 100 GPCD or lower.

Total FMWD Allocation – A preliminary allocation is provided to agencies based on calculations that mirror MWD's WSAP. Without a further adjustment, total water allocated to FMWD's member agencies will never match the total water allocated to FMWD. Thus, an adjustment has been added to prorate the difference between the amount allocated to FMWD by MWD and the initial allocation by FMWD.

Allocation Surcharge – Previously WSAP Penalty Rates, an Allocation Surcharge will be in effect that is based on the costs to implement outdoor water use reductions through turf removal programs. The Allocation Surcharge would provide a price signal based on the marginal conservation costs incurred to reduce water use in dry and shortage years.

Conservation Plan Ordinance

FMWD Board of Directors adopted Water Conservation Plan Ordinance No. 772- 0409 in April 2009 (Revised plan adopted on April 20, 2015). Ordinance No. 772-0409 establishes a comprehensive staged water conservation program that will encourage reduced water consumption within FMWD through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within FMWD. Along with permanent water conservation requirements, FMWD's Water Conservation Plan consists of five stages found in **Table 5-2** to respond to a reduction in potable water available to FMWD for distribution to its customers. Stage 1 conservation requirements are in effect at all times unless a mandatory conservation stage has been implemented by the Board of Directors.

5.2.3 LAWC STAGES OF ACTION

As the water purveyor, LAWC must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a supply shortage or by contamination in one

source or a combination of sources. LAWC's potable water sources are groundwater, local surface, and imported. Because shortages overlap Stages, triggers automatically implement the more restrictive Stage.

On March 9, 1992, the LAWC Board of Directors adopted a Water Shortage Contingency Plan (attached as **Appendix C**) to better utilize the available water supplies and to preserve public health, safety, and general welfare.

On October 7, 2008, the Los Angeles County Board of Supervisors approved Ordinance No. 2008-00052U to promote conservation in unincorporated areas of the County and limits or prohibits certain water uses.

LAWC has also adopted a Voluntary Water Use Efficiency Ordinance in July 2008, which utilizes a number of water conservation measures to achieve a 10 percent reduction goal in their service area.

On February 17, 2015, the Los Angeles County Board of Supervisors approved Ordnance No. 2015-0004, a revision to Ordinance No. 2008-00052U. The revisions offered stricter violations by increasing penalty fees. **Table 5-2** shows the supply shortage stages and the corresponding water supply conditions and shortage percentages.

Table 5-2: Water Supply Shortage Stages and Conditions – Rationing Stages

Stage No.	Water Supply Conditions	% Shortage
1 – Normal Water Conservation	FMWD can meet all Member Agency Demands. Voluntary water conservation applies.	0%
2 – Increased Voluntary Conservation	Some supplies have been impacted and consumers should increase efforts to conserve.	0%
3 – Extraordinary Conservation	Extraordinary Conservation. MWD is withdrawing water from most of its storage programs to meet demands. Extraordinary conservation is called for from consumers.	0%
4 - Allocation	MWD has implemented its allocation plan to its member agencies thus supplies are limited.	Up to 50%
5 - Critical	Water supplies are only available for health and safety needs.	50% or greater

5.3 THREE-YEAR MINIMUM WATER SUPPLY

During a three-year drought, LAWC may import water to meet demands in excess of its

adjudicated pumping right of 567 AFY as necessary. Imported water supplies, like groundwater, are subject to demand increases and reduced supplies during dry years; however, MWD modeling in its 2015 UWMP, as referenced in **Tables 3-6** and **3-7** in **Section 3**, results in 100 percent reliability for full-service demands through the year 2040 for all climatic conditions. Based on the conditions described above, LAWC anticipates the ability to meet water demand for all climatic conditions for the near future.

Table 5-3 displays the minimum water supply available to LAWC based on a three-year dry period for the next three years:

Table 5-3: Three-Year Estimated Minimum Water Supply (AFY)

Source	Normal (2016)	2017	2018	2019
Imported Supply	247	247	247	247
Local Supplies	2,300	2,300	2,300	2,300
Total	**2,547**	**2,547**	**2,547**	**2,547**

Based on the above analysis, LAWC should expect 100 percent supply reliability during a three-year drought period over the next three years.

5.4 CATASTROPHIC SUPPLY INTERRUPTION

Given the great distances that imported supplies travel to reach the FMWD service area, the region is vulnerable to interruptions along hundreds of miles aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, this water is distributed to customers through an intricate network of pipes and water mains that are susceptible to damage from earthquakes and other disasters.

5.4.1 MWD

MWD has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies through its WSDM and WSAP Plans. MWD also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the Southern California region, including seismic events along the San Andreas Fault. In

addition, MWD is working with the State to implement a comprehensive improvement plan to address catastrophic occurrences that could occur outside of the Southern California region, such as a maximum probable seismic event in the Delta that would cause levee failure and disruption of SWP deliveries.

5.4.2 LAWC

LAWC has developed an Emergency Preparedness and Disaster Response Plan to ensure the most effective use of all LAWC resources for the benefit and protection of facilities and employees, in addition to the preservation of a reliable water supply for LAWC and its customers.

Auxiliary Generator **–** LAWC has a 375 kW portable auxiliary generator that can be hooked up at all pump stations.

Emergency Water Interconnections **–** LAWC has a total of 4 emergency water interconnections; 3 with the City of Pasadena and 1 interconnection with the Las Flores Water Company to provide mutual aid.

Conjunctive Use Program **–** LAWC participates in storage programs in the Raymond Basin. The water is stored primarily through the in-lieu process; using imported water instead of pumping water out of the groundwater basin.

Preparation Actions for possible catastrophes are listed in **Table 5-4**.

Table 5-4: Preparation Actions for Catastrophe

Possible Catastrophe	Preparation Actions
Regional Power Outage	• Emergency Preparedness and Disaster Response Plan • Portable Auxiliary Generator • Emergency Water Interconnections • Conjunctive Use Program
Earthquake	
Supply Contamination	
Terrorist Act which Interrupts Service	
Other(s)	

5.5 PROHIBITIONS, PENALTIES, AND CONSUMPTION REDUCTION METHODS

5.5.1 PROHIBITIONS

The FMWD Water Conservation Plan Ordinance No. 772-0409 lists water conservation requirements that shall take effect upon implementation by the FMWD Board of Directors. Combined with LAWC's Voluntary Water Use Efficiency Ordinance, these prohibitions shall promote the efficient use of water, reduce or eliminate water waste, complement the LAWC's Water Quality regulations and urban runoff reduction efforts, and enable implementation of the LAWC's Water Shortage Contingency Measures. Prohibitions include, but are not limited to: restrictions on outdoor watering, washing of vehicles, food preparation establishments, repairing of leaks and other malfunctions, swimming pools, decorative water features, construction activities, and water service provisions, which can be found in **Table 5-5**.

Table 5-5: Mandatory Prohibitions

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Leaks from any facility both inside and outside of a customer's premises must be repaired within seventy-two hours after the customer is notified of, or discovers the leak.	At All Times
All new plumbing fixtures installed within the FMWD service area must conform to the following requirements: • Toilets shall use less than 1.6 gallons per flush. • Showerheads shall flow at less than 2.5 gallons per minute. • Non-residential lavatory faucets shall be metering or self-closing. • Urinals shall use not more than 1.5 gallons per flush.	At All Times
Where recycled water is available and appropriate, the use of potable water for irrigation purposes shall be considered a waste of potable water. Upon written notice from the FMWD General Manager that recycled water is available and appropriate for use, the customer shall have 60 days to commence the use of recycled water.	At All Times
Potable water shall not be used for construction activities such as compaction and dust control when recycled water is available and appropriate. As used in this paragraph, "available" also means the cost of required recycled water conveyance facilities, is less than or equal to the cost of an equivalent amount of potable water priced at 150% of regular potable water rates, plus the cost of necessary potable water conveyance facilities. Both potable and non potable water for construction purposes	At All Times

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
including but not limited to debrushing of vacant land, compaction of fills and pads, trench backfill and other construction uses, shall be used in an efficient manner which will not result in runoff.	
No irrigation of new or existing parks, median strips, landscaped public areas or landscaped areas, lawns, or gardens surrounding singlefamily homes, condominiums, townhouses, apartments, and industrial parks shall occur in such a way as to waste water. The rate and extent of application of water shall be controlled by the consumer so as to eliminate runoff or overspray from the irrigated areas.	At All Times
Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard Time on any day, except by use of a hand held bucket or similar container, a hand held hose equipped with a positive self closing water shutoff nozzle or device, or for very short periods of time for the purpose of adjusting or repairing an irrigation system.	At All Times
Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device not continuously attended is limited to no more than ten (10) minutes watering per day per station. This subsection does not apply to landscape irrigation systems using only very lowflow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.	At All Times
Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand held bucket or similar container, a handheld hose equipped with a positive self closing water shutoff device, a lowvolume, highpressure cleaning machine equipped to recycle any water used, or a lowvolume high pressure water broom.	At All Times
Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.	At All Times
Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand held bucket or similar container or a hand held hose equipped with a positive self closing water shut off nozzle or device. This subsection does not apply to any commercial car washing facility or commercial service station; where health, safety and welfare of the public is contingent upon frequent	At All Times

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
vehicle cleaning, such as garbage trucks and vehicles which transport food and perishables.	
Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.	At All Times
Food preparation establishments, such as restaurants or cafes, are prohibited from using non water conserving dish wash spray valves.	At All Times
No watering, sprinkling or irrigating shall take place in any landscaped or vegetated areas on days when the wind is blowing causing overspray, and on days when it is raining.	At All Times
The use of potable water from fire hydrants shall be limited to firefighting related activities or other activities immediately necessary to maintain the health, safety, and welfare of the residents of the FMWD.	At All Times
Installation of single pass cooling systems is prohibited in buildings requesting new water service.	Stage 2
Installation of non recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.	Stage 2
All commercial conveyor car wash systems must have installed operational recirculating water systems, or must have secured a waiver of this requirement from LAWC.	Stage 2
Outdoor water use is limited to odd or even days, based on ending number of customer address.	Stage 2
Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week on Tuesdays, Thursdays and Saturdays. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two days per week on Tuesdays and Saturdays. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand held bucket or similar container, a hand held hose equipped with a positive self closing water shut off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.	Stage 3
Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on Tuesdays and Saturdays. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces	Stage 4

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a handheld bucket or similar container, a handheld hose equipped with a positive selfclosing water shut off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.	
All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within fortyeight (48) hours of notification by the local water purveyor unless other arrangements are made with LAWC.	Stage 4
Filling or refilling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this plan.	Stage 4
Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a handheld bucket or similar container, a handheld hose equipped with a positive self closing water shut off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water.	Stage 4
No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) will be issued, except under the following circumstances: • A valid, unexpired building permit has been issued for the project; or • The project is necessary to protect the public health, safety, and welfare; or • The applicant provides substantial evidence of an enforceable commitment that water demands for the project will offset prior to the provision of a new water meter(s) to the satisfaction of the local water purveyor	Stage 5
The FMWD will suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any increased use of water.	Stage 5
Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. Any waivers to this restriction must be obtained from the LAWC.	Stage 5

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the local water purveyor unless other arrangements are made with the LAWC.	Stage 5

5.5.2 CONSUMPTION REDUCTION METHODS

Methods to reduce the use of potable water exist in all Water Shortage Levels are listed in **Table 5-6**.

Table 5-6: Consumption Reduction Methods

Consumption Reduction Methods	Stage When Method Takes Effect
Stage 1 Conservation Measures	1
Stage 2 Conservation Measures	2
Stage 3 Conservation Measures	3
Stage 4 Conservation Measures	4
Stage 5 Conservation Measures	4

5.5.3 PENALTIES

Any customer who violates provisions of the Water Conservation Plan Ordinance by either excess use of water or by specific violation of one or more of the applicable water use restrictions for a particular mandatory conservation stage may be cited by the LAWC and may be subject to written notices, surcharges, fines, flow restrictions, service disconnection, and/or service termination as detailed in **Table 5-7**.

Table 5-7: Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
$100 Fine	Willful First Violation
$500 Fine	Willful Second and Subsequent Violations

5.6 IMPACTS TO REVENUE

LAWC is a private mutually owned water company and is a non-profit organization. The Company's water rates were structured to allow for operations and capital improvement expenditures.

In the event that water usage demand increases, more imported water may need to be purchased. The imported water rate has been increasing steadily and may require us to increase our water rates in order offset the difference.

In the event that water usage demand decreases, capital improvement projects may be minimal in order maintain current operations or water rates would be increase to offset the expenses. Such measures are listed in **Tables 5-8** and **5-9**.

Table 5-8: Proposed Measures to Overcome Revenue Impacts

Name of Measures
Rate Adjustment

Table 5-9: Proposed Measures to Overcome Expenditure Impacts

Name of Measures
Minimize Capital Improvement Projects

5.7 REDUCTION MEASURING MECHANISM

Under normal water supply conditions, potable water production figures are recorded daily. Water Production totals are available daily to management. Totals are reported monthly to the Board of Directors in the monthly production and sales records report. Such measures are listed in **Table 5-10**.

Table 5-10: Water Use Monitoring Mechanisms

Mechanisms for Determining Actual Reductions	Type of Data Expected
Daily Records	Potable Water Production Figures
Monthly Production and Sales Records Reports	Total Water Consumption

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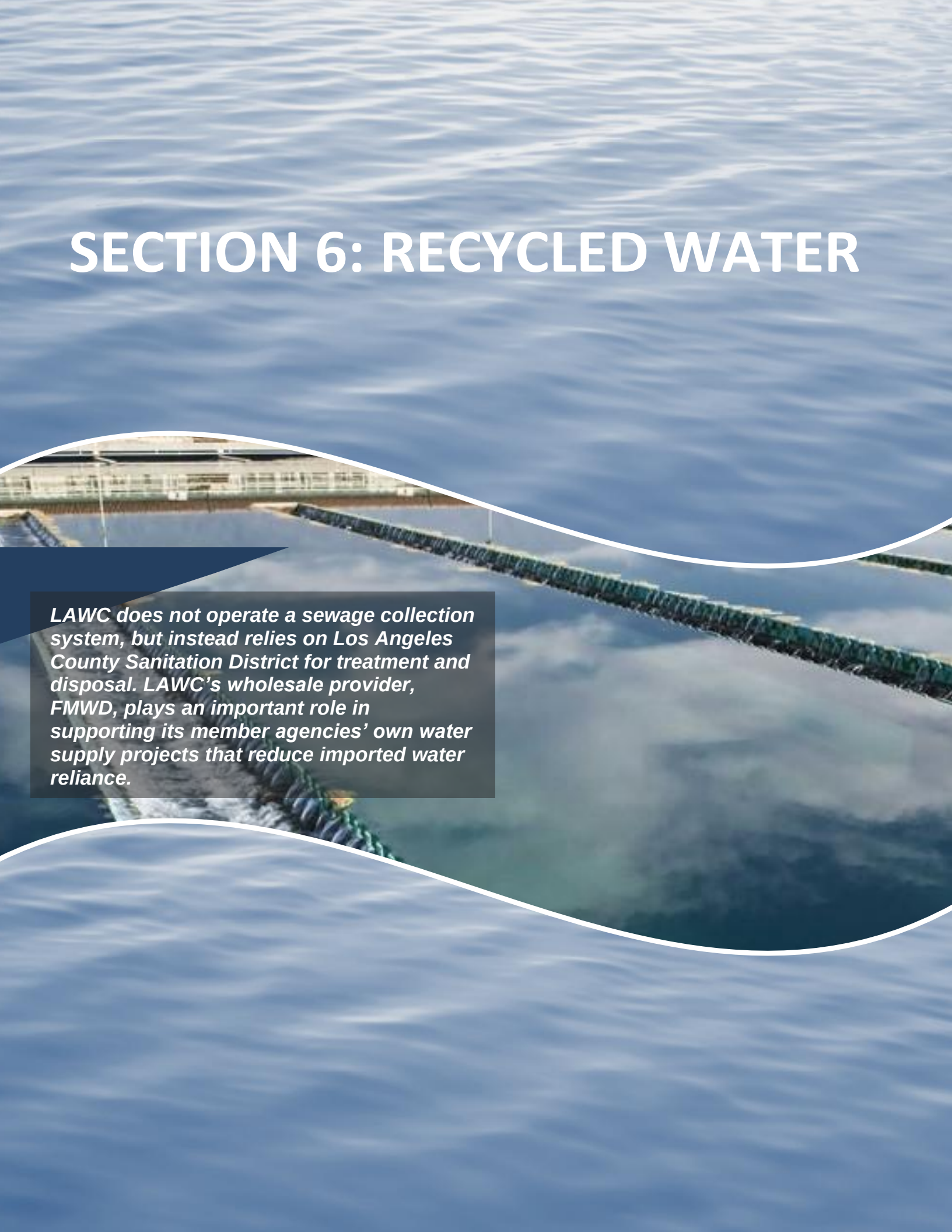
SECTION 6: RECYCLED WATER



LAWC does not operate a sewage collection system, but instead relies on Los Angeles County Sanitation District for treatment and disposal. LAWC's wholesale provider, FMWD, plays an important role in supporting its member agencies' own water supply projects that reduce imported water reliance.

SECTION 6: RECYCLED WATER

6.1 OVERVIEW

Recycled water is defined as domestic wastewater purified through primary, secondary and tertiary treatment. The Southern California region, from Ventura to San Diego, discharges over 1 billion gallons of treated wastewater to the ocean each day. Since recycled water is acceptable for a variety of non-potable water purposes such as irrigation, groundwater recharge, and commercial/industrial processes, it is considered a reliable and drought-proof water source and could greatly reduce the region's reliance on imported water. As technological improvements continue to reduce treatment costs, and as public perception and acceptance continue to improve, more reuse opportunities should develop, which will increase demands for recycled water. Recycled water is a critical part of the California water picture because of the area's high likelihood of drought. As part of its overall water resources planning, LAWC continues to investigate the feasibility and cost-effectiveness of using recycled water.

Cost-effective opportunities for using recycled water are limited due to the lack of large users or large irrigated areas within LAWC's service area. In addition, there is presently

no nearby source of such recycled water supply. This potential use of recycled water is continually assessed by LAWC, FMWD, and MWD.

Table 6-1: Participating Agencies

Participating Agencies	Participated
Water Agencies	FMWD, MWD
Wastewater Agencies	LACSD

6.2 WASTEWATER DESCRIPTION AND DISPOSAL

6.2.1 WASTEWATER COLLECTION

Municipal wastewater is generated in LAWC's service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and the water used in the service area.

LAWC does not provide wastewater services. Rather, the areas it serves rely on Los Angeles County Sanitation District (LACSD) for wastewater treatment and disposal and the Los Angeles-Glendale (LAG) Water Reclamation Plant (WRP) or LAGWRP. The County Sanitation Districts, which provide wastewater services within the FMWD service area, are Districts 16 (Pasadena), 17 (Altadena), 28 (the area of La Cañada Flintridge surrounding the La Cañada Country Club), and 34 (the majority remainder of La Cañada Flintridge).

6.2.2 WASTEWATER TREATMENT

LA CAÑADA WASTEWATER TREATMENT PLANT (WRP) or LANTERMAN PLANT

Of the sanitation districts near LAWC's service area, only District 28 provides local wastewater treatment. The La Cañada WRP provides extended aeration secondary treatment for 200,000 gallons of wastewater per day. The plant serves the Country Club and 425 surrounding homes. All of the disinfected, secondary effluent is put into the four lakes on the 105-acre Country Club golf course. Lake water (augmented by potable water during the summer) is used for landscape irrigation of the golf course.

The District 28 WRP (also known as the La Cañada WRP or the Lanterman Treatment Plant) is a secondary wastewater treatment plant with a capacity of 200,000 gallons per day. The plant provides wastewater treatment for the residential area around the La Cañada Flintridge Country Club and presently treats about 100,000 gallons per day. The effluent is discharged into ponds at the country club and is then pumped and used for irrigation of the fairways and greens. Disinfected secondary effluent meets the regulatory requirements for controlled access golf course irrigation but not for landscape irrigation.

Recycled water is made available near LAWC's service area by the LAGWRP and the La Cañada or "Lanterman" Plants.

The 100,000 gallons per day of effluent are adequate to meet the irrigation needs in the cooler months, although Mesa Crest Water Company (FMWD distributing agency) provides supplemental water to the ponds during the warmer summer months.

The District 28 Plant is the most expensive to operate in all of the LACSD water reclamation facilities, and there have been a number of investigations into alternative facilities that would allow for the abandonment of the facility. The most recent of these has resulted in the construction of a sewer to the northwest beyond JPL, which would allow for the discharge of raw wastewater from the plant's service area into the LACSD Joint Outfall System through the City of Pasadena's Linda Vista Trunk sewer. At present, LACSD only plans for the discharge of sludge from the District 28 plant into this line, since they recognize the value of the effluent as a water resource for the golf course. There is also the possibility of capturing storm water flows and introducing those flows into the system for use to irrigate the adjacent golf course.

The remainder of the wastewater collected in or near LAWC's service area goes to either LACSD's Whittier Narrows WRP in El Monte or LACSD's JWPCP in Carson. LACSD does not monitor the amount of wastewater collected from the areas, but only measures the amount of wastewater that enters the plants. Also, LACSD has no way of quantifying the percentage of flow from each city as it enters the treatment plants

LOS ANGELES-GLENDALE WRP

The LAGWRP serves a small portion of the west side of La Cañada Flintridge and La

Crescenta with tertiary treated water through a three-step process imitating nature's cleaning processes. The LAGWRP processes approximately 20 MG of non-potable water each day.

Figure 6-1: Los Angeles-Glendale Plant

6.3 CURRENT RECYCLED WATER USES

There are currently no recycled water uses within LAWC's service area.

6.4 POTENTIAL RECYCLED WATER USES

In the past, FMWD, LAWC's wholesale provider, promoted a Local, Reliable Water Supply Program (LRWSP) aimed to reduce imported water demands by implementing increased conservation, stormwater capture, and recycled water projects. The LRWSP evolved over time to FMWD focusing its efforts on recycled water development and conservation support for its member agencies. In January 2012, FMWD completed a facilities planning study for the development of recycled water. As recycled water project planning progressed, in September 2013, the FMWD retail agencies asked FMWD to suspend recycled water development due to implementation costs.

Despite a holding pattern for internal recycled water development, FMWD is committed to various conservation programs. FMWD plays an important role in supporting its retailing agencies' own water supply projects that reduce imported water reliance. FMWD also actively monitors outside recycled water development and opportunities that may beneficial for its member agencies.

FMWD supports the implementation of Pasadena Water and Power's (PWP) Recycled Water Program (Program), which could assist in the reduction of imported supplies to FMWD's retail agencies. Developing the Program is one potential element of an overall solution to address PWP water resource challenges. Maximizing the beneficial use of recycled water provides an opportunity to use available local water resources and increase water supply reliability. PWP completed a Water Integrated Resources Plan (WIRP) in January 2011, which included non-potable reuse (NPR) and groundwater recharge with recycled water (GWR-RW). PWP then completed a Recycled Water Planning Study in February 2012, which was partially funded by a grant from the SWRCB Water Recycling Funding Program and by a grant from the USBR Title XVI Water Reclamation and Reuse Program. PWP has moved forward with CEQA and NEPA for the Project. Phase 1 of the Program is approximately $12M and will supply approximately 700 AFY to irrigation customers to be implemented by 2018.

In addition, MWD is developing a Regional Recycled Water Supply Program. MWD's Regional Water Supply Program is exploring the potential of a water purification project to beneficially reuse water currently discharged to the Pacific Ocean for recharge of regional groundwater basins. Under a partnership with LACSD, MWD would build a new purification plant and distribution lines to groundwater basins in Los Angeles and Orange counties including a basin within FMWD's service area. The Regional Water Supply Program would represent the first in-region production of water by MWD. Diversifying the region's water supply sources, advancing conservation, and maintaining imported supplies are all part of MWD's long-term Integrated Water Resources Plan.

Table 6-2 compares the recycled water use projections from LAWC's 2010 UWMP with the actual 2015 recycled water use.

Table 6-2: Recycled Water Uses – 2010 Projections Compared with 2015 Actual (AFY)

User Type	2010 Projection for 2015	2015 Actual Use
Agriculture		
Landscape		
Wildlife Habitat		
Wetlands		
Industrial		
Groundwater Recharge		
Total	**0**	**0**

6.4.1 DIRECT NON-POTABLE REUSE

LAWC does not have the potential for direct non-potable reuse within their service area due to no existing recycled water system.

6.4.2 INDIRECT POTABLE REUSE

LAWC does not have the potential for indirect potable reuse within their service area.

6.5 OPTIMIZATION PLAN

Because LAWC is not using recycled water at this time, it is not practicable to provide a recycled water optimization plan. LAWC has positioned itself to receive recycled water if it becomes available to serve some of the large development areas.

To determine if a recycled water project is cost-effective, cost/benefit analyses must be conducted for each potential project. This raises the issue of technical and economic feasibility of a recycled water project requiring a relative comparison to alternative water supply options. Analyses indicate that capital costs of water recycling in LAWC exceed the cost of purchasing additional imported water from MWD.

LAWC will continue to conduct cost/benefit analyses for various recycled water projects and seek creative solutions in coordination with MWD and other cooperative agencies. These include solutions for funding, regulatory requirements, institutional arrangements, and public acceptance.

SECTION 7: FUTURE SUPPLY PROJECTS AND PROGRAMS

To ensure long-term water reliability, LAWC is invested in future projects and programs that will help to meet the demands of its service area connections. These include new conservation measures, alternate sources of supply, and transfer and exchange agreements with other agencies through FMWD.

SECTION 7: FUTURE WATER SUPPLY PROJECTS AND PROGRAMS

7.1 OVERVIEW

In general, LAWC continually reviews practices that will provide its customers with adequate and reliable supplies. As discussed in previous sections, LAWC is dedicated to maximizing its supply sources while reducing its dependency on imported supplies. LAWC considers, at least on some level, plans for alternate sources such as recycled, greywater, and rainwater harvesting. This section discusses planned and potential future water supply projects and programs, while updating existing plans from 2010 as well as presenting new plans.

7.2 MWD REGIONAL SUPPLY PROJECTS & PROGRAMS

MWD is implementing water supply alternative strategies for the region and on behalf of member agencies to ensure available water in the future, including:

- Conservation
- Water recycling & groundwater recovery
- Storage and groundwater management programs within the region
- Storage related to SWP & CRA
- Other water supply management programs outside of the region

MWD has made investments in conservation and supply augmentation as part of its long-term water management strategy. MWD's approach to a long-term water management strategy was to develop an Integrated Resource Plan (IRP) to include many supply sources. MWD's IRP was updated in 2015.

MWD's IRP projects demands and identifies a mix of supplies to meet those demands. These supplies include desalination, recycling, conservation, brackish groundwater recovery and conjunctive use. MWD has financial incentive programs in place for local agencies to develop these supplies. FMWD, as a member agency of MWD, supports these incentive programs and contributes to these financial incentives through its payments for water from MWD.

7.3 WATER MANAGEMENT TOOLS

Resource optimization, such as recycled feasibility studies to minimize the needs for imported water, is led by the regional agencies in collaboration with local agencies. With the eventual replacement of older wells with new more efficient wells and the continued efforts in reducing water waste, LAWC can meet projected demands with existing facilities and distribution system.

7.4 TRANSFER OR EXCHANGE OPPORTUNITIES

At this time, LAWC is not currently involved in any transfers or exchanges of water with other agencies. However, LAWC may pursue groundwater and surface water transfer or exchange opportunities with local water agencies in addition to leasing groundwater

rights from the City of Pasadena as an additional water supply source.

7.5 PLANNED WATER SUPPLY PROJECTS AND PROGRAMS

NEW WELLS

The National Aeronautics and Space Administration (NASA) is currently constructing a new groundwater extraction well located in the rear parking lot area of the LAWC office. The new Well No. 6 enhances the groundwater cleanup efforts by removing contaminants in deeper levels of the aquifer, thus maintaining effective containment of the leading edge of groundwater chemicals originating from the Jet Propulsion Laboratory (JPL). The well will also serve as a modern, reliable water source for LAWC's customers, ensuring continued clean drinking water supplies for many decades. This project is funded through NASA and it will be LAWC's third well within its service boundaries.

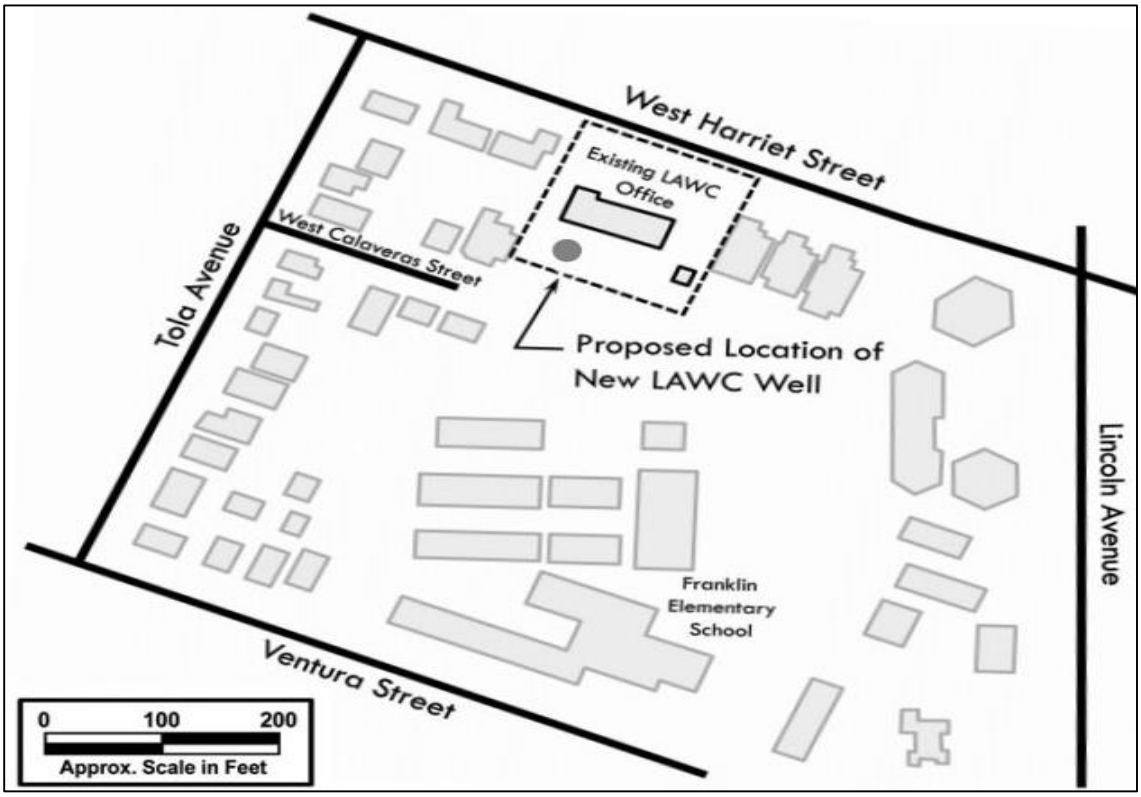


Figure 7-1: Location of New Well

7.6 DESALINATION OPPORTUNITIES

There are technologies in place to remove the salts in both brackish groundwater and ocean water for potable use. LAWC does not have any projects to remove salts from local supplies to replace imported water; however, it supports these projects through MWD's programs where MWD provides incentives to other agencies for treatment.

7.6.1 DESALINATION OF GROUNDWATER

There are currently no brackish groundwater opportunities within LAWC's service area.

7.6.2 DESALINATION OF OCEAN WATER

LAWC does not have the opportunity to directly develop desalinated supplies. It does not border the ocean and cannot participate directly in ocean desalination; however, LAWC supports MWD's Seawater Desalination Program (SDP), which provides incentives to MWD's member agencies of up to $340 per AF for the production of desalinated ocean water. Although LAWC is not able to directly participate in seawater desalination, it participates indirectly by supporting MWD's program.

SECTION 8: UWMP ADOPTION PROCESS

LAWC recognizes that the success of its operations comes from the participation of other agencies and the general public. For this 2015 UWMP, LAWC encouraged broad participation prior to the public hearing and Board Adoption.

SECTION 8: UWMP ADOPTION PROCESS

8.1 OVERVIEW

Recognizing that close coordination among other relevant public agencies is the key to the success of its 2015 UWMP, LAWC worked closely with other entities to develop and update this planning document. LAWC provided 60-day notification letters to encourage agencies to participate in the UWMP preparation process. Copies of the draft UWMP were made available for public review at the LAWC office prior to the public hearing. Shortly before the public hearing, a two-week and a one-week notice was published in the local press alerting the public of the public hearing. At a subsequent board meeting following the public hearing, LAWC adopted the 2015 Plan on June 17, 2016. Finally, as required by the UWMP Act, this 2015 UWMP is being provided by LAWC to DWR, the California State Library, and the public within 30 days of Board adoption. Details of coordination efforts are provided in **Sections 8.1.1** and **8.2**.

LAWC's 2015 UWMP is a collaborative effort involving its own staff, outside agencies, and the general public.

8.1.1 WATER CODE REQUIREMENTS

Article 3 of the California Water Code (CWC) requires that LAWC provide a minimum level of agency and public participation during the UWMP preparation process, as well as the adoption and implementation process of the UWMP. **Table 8-1** summarizes external coordination and outreach activities carried out by LAWC during the preparation of its 2015 UWMP, along with corresponding dates.

Table 8-1: Coordination & Outreach during UWMP Preparation

Effort	Description	Date
"60-Day Notification"	Letters sent to Cities, County, & other Agencies	March 29, 2016
Public Hearing	Public Hearing Held at LAWC Headquarters (two-week and one-week notices published)	June 17, 2016
Board Adoption	Board Adoption of UWMP by Resolution	June 17, 2016

Also in accordance with Article 3 of the CWC, LAWC is required to distribute its official (adopted) UWMP and make it publicly available. After the adoption of the 2015 UWMP by Board Resolution (attached as **Appendix D**) on June 17, 2016, LAWC provided copies of its adopted UWMP in accordance with **Table 8-2**.

Table 8-2: UWMP Distribution Following UWMP Adoption

Effort	Description	Date
DWR Submittal	Submitted UWMP to DWR (within 30 days of adoption)	June 29, 2016
Agency Submittal	Submitted UWMP to: the California State Library & County of Los Angeles (within 30 days of adoption)	July 1, 2016
Public Access	Made UWMP available to public (within 30 days of submittal to DWR)	July 1, 2016

8.2 DETAILS OF COORDINATION EFFORTS

8.2.1 GENERAL PUBLIC COORDINATION

To meet CWC and to provide for its own benefit, LAWC has actively solicited community participation during the UWMP preparation and adoption process by encouraging the following:

- Encouraging attendance and participation in Board Meetings prior to the actual UWMP Public Hearing as part of LAWC's ongoing community outreach efforts
- Soliciting comments on the UWMP while providing copies of its Draft 2015 UWMP at the LAWC office and on its website
- Holding a public hearing for the express purpose of inviting UWMP comments and opening the floor for public comments to be received

On June 17, 2016, LAWC held a Public Hearing to receive comments on the 2015 UWMP. Notification of the public meeting for consideration of adoption of LAWC's draft UWMP was printed in a local newspaper, a copy of which is provided in **Appendix E**. All comments received prior to and during the Public Hearing were taken into consideration in the preparation of the final report. No comments were received during the public hearing.

8.2.2 OUTSIDE AGENCY COORDINATION

LAWC coordinated the development of this UWMP with several outside agencies and the cities that reside in LAWC's service area.

All of LAWC's water supply planning relates to the policies, rules, and regulations of its regional and local providers. LAWC is dependent on imported water from MWD via FMWD and local groundwater from the Raymond Basin, which is managed by the Raymond Basin Management Board. LAWC serves water to the northwestern portion of Altadena, an unincorporated area within the County of Los Angeles. In addition, LAWC consistently negotiates to lease groundwater rights, at a lower cost than imported water, from other water purveyors who cannot pump their groundwater. As such, LAWC involved these entities in the development of its 2015 UWMP at various levels of contribution as summarized in **Table 8-3**.

Table 8-3: UWMP Coordination Efforts

Agency	Helped Plan Prep.	Contacted for Assistance	Comments on Draft	Notified of Public Hearing	Attended Public Hearing
FMWD	x	x	x	x	x
Raymond Basin Management Board		x		x	
LA County		x		x	
General Public		x		x	

8.3 UWMP SUBMITTAL

LAWC's final 2015 UWMP was approved by its Board of Directors on June 17, 2016. This final plan was submitted to DWR within 30 days of Board approval and includes all information necessary to meet the requirements of CWC Division 6, Part 2.6 (Urban Water Management Planning).

By June 29, 2016, LAWC's approved 2015 UWMP was filed with DWR. By July 1, 2016, the 2015 UMWP was submitted to the California State Library, County of Los Angeles, and cities within its service area. LAWC will make the plan available for public review during normal business hours no later than 30 days after filing with DWR.

APPENDICES A - I

Appendix A: Raymond Basin Adjudication Court Order

Lincoln Avenue Water Company 2015 Urban Water Management Plan

Victor Kaleta
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City Hall
Pasadena, California 91109

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Special Counsel for Plaintiff

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

CITY OF PASADENA, a municipal corporation, Plaintiff, vs. CITY OF ALHAMBRA, a municipal corporation, et al., Defendants.	NO. Pasadena C-1323 JUDGMENT (As Modified and Restated March 26, 1984)

The above-entitled action was brought by plaintiff, City of Pasadena, a municipal corporation, against City of Alhambra, a municipal corporation, City of Monrovia, a municipal corporation, City of Arcadia, a municipal corporation, City of Sierra Madre, a municipal corporation, City of South Pasadena, a municipal corporation, La Canada Irrigation District, San Gabriel County Water District, Lincoln Avenue Water Company, a corporation, The Las Flores Water Company, a corporation, Rubio Canon Land and Water Association, a corporation, Valley Water Company, a corporation, Flintridge Mutual Water Company, a corporation, California-Michigan Land and Water Company, a cor-

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poration, Mira Loma Mutal Water Company, a corporation, El Campo Mutual Water Company, a corporation, Sunnyslope Water Company, a corporation, California Water and Telephone Company, a corporation, Crown City Ice Company, a corporation, Rancho Santa Anita, Inc., a corporation, Royal Laundry and Dry Cleaning Company, a corporation, Alice H. Graves, A. V. Wagner, Eugene E. Bean, Fred M. Wilcox, and Charles Hueston Hastings, Defendants, for the purpose of quieting the title of said plaintiff as against said defendants to the alleged prior and paramount right of said plaintiff to take, divert and use the waters within the area involved in the issues of the action situate in the County of Los Angeles, State of California, and to enjoin each defendant found to own a right to take or divert water from the Raymond Basin from taking therefrom, in any year, water in such volume as, when added to the amount which the other parties shall be adjudged and decreed to be entitled to take and divert, would result in a total annual diversion from said basin in excess of the average annual supply of water thereto; and on July 13, 1939, the above-entitled Court having issued its order directing said plaintiff to bring in and make parties to said action Ross M. Lockhard, Pasadena Cemetery Association, a corporation, Altadena Golf Club, a corporation, Henry E. Huntington Library and Art Gallery, a corporation, Bradbury Estate Company, a corporation, and East Pasadena Water Company, Ltd., a corporation, and said Court on the 8th day of November, 1939, having made its order declaring void the order to bring in new parties made July 13, 1939, insofar as East Pasadena Water Company, Ltd., is concerned, and said defendant having been dismissed from

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this action; and

All said parties defendant having been duly served personally with summons and a copy of the complaint, and the issues having been joined; defendant Ross M. Lockhard having answered by his true name Ross M. Lockhart; and Robert A. Millikan, Archer Milton Huntington, Herbert Hoover, William B. Munro and Edwin P. Hubbell, Trustees of the Henry E. Huntington Library and Art Gallery answering for defendant Henry E. Huntington Library and Art Gallery, a corporation; defendants Bradbury Estate Company, a corporation, and Eugene E. Bean having disclaimed any right, title, interest or estate in and to the properties involved in this action, Charles Hueston Hastings, having answered by his true name Charles Heuston Hastings, and since the commencement of this action said defendant Charles Heuston Hastings having died and Ernest Crawford May as Executor of the Last Will and Testament of Charles Heuston Hastings, deceased, having been substituted for said decedent, and A. V. Wagner having answered and having asserted and claimed a right to water on his own behalf and on behalf of others claiming under and through him, and Canyon Mutual Water Company, a corporation, sued herein as Doe Corporation No. 1, having answered under its true name, and defendant Alice H. Graves having died since the commencement of this action, and Alice Graves Stewart and Katharine Graves Armstrong and Francis P. Graves being the heirs at law of said Alice H. Graves, deceased, and being the residuary legatees under the Last Will and Testament of Alice H. Graves, deceased, and having been substituted by stipulation as parties defendant for said

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Alice H. Graves, and plaintiff since the commencement of this action having acquired the water rights owned and claimed by Jacob Bean Securities Company, a corporation, Alice Graves Stewart, Katharine Graves Armstrong and Francis P. Graves, exclusive of the rights of the last named individuals which are hereinafter set forth and defined, and plaintiff having duly filed its supplemental complaint with respect thereto, and the defendant City of Arcadia, since the commencement of this action, having acquired all water rights involved herein of the Rancho Santa Anita, Inc., a corporation, and said defendants having duly filed their supplemental answer with respect thereto, and First Trust and Savings Bank of Pasadena, a corporation, answering as successor in interest to defendant Altadena Golf Club, defendant Sunnyslope Water Company, a corporation, having stipulated that its true name is Sunny Slope Water Company, Chesley E. Osborn and Kathleen M. Osborn having been substituted as parties defendant in the place and stead of defendant Fred M. Wilcox, and Dell A. Schweitzer, executor of the estate of Fred M. Wilcox, deceased; motion of defendant City of South Pasadena for permission to file its amended answer disclaiming any interest or estate in the water and/or water rights in the Raymond Basin as described in plaintiff's complaint, having been granted, and said defendant, City of South Pasadena, having been dismissed from this action, subject to the obligation of said defendant to pay certain costs, plaintiff and certain defendants having jointly filed herein their motion that reference should be made to the Division of Water Resources, Department of Public

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Works, State of California, as referee; after hearing thereon, following notice duly served on all defendants not parties to said motion, said Division of Water Resources having been appointed referee herein to investigate all of the physical facts involved herein, and seasonably to report to the Court thereon, and the said referee having filed its report herein and the objections thereto filed with it, a stipulation in writing having been entered into on the 29th day of September, 1943 by and between the attorneys for certain parties, to wit: City of Alhambra, City of Arcadia, California Water and Telephone Company, Canyon Mutual Water Company, Crown City Ice Company, El Campo Mutual Water Company, First Trust and Savings Bank of Pasadena, Flintridge Mutual Water Company, Francis P. Graves, Alice Graves Stewart and Katharine Graves Armstrong, being the heirs of Alice H. Graves, deceased, and being the residuary legatees under the Last Will and Testament of Alice H. Graves, deceased, Las Flores Water Company, Lincoln Avenue Water Company, Ross M. Lockhart, Ernest Crawford May, as Executor of the Last Will and Testament of Charles Heuston Hastings, deceased, Robert A. Millikan, Archer Milton Huntington, Herbert Hoover, William B. Munro and Edwin P. Hubbell, Trustees of the Henry E. Huntington Library and Art Gallery, Mira Loma Mutual Water Company, City of Monrovia, Chesley E. Osborn and Kathleen M. Osborn, Pasadena Cemetery Association, City of Pasadena, Royal Laundry and Dry Cleaning Company, Rubio Canon Land and Water Association, San Gabriel County Water District, City of Sierra Madre, Sunny Slope Water Company, Valley Water Company, A. V. Wagner and those

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claiming under and through him, and said stipulation having been filed herein on the 24th day of November, 1943, requesting that a certain judgment be entered herein as between said parties, and stipulating that the amount of water pumped or otherwise taken by non-parties to this action in the Western Unit of the Raymond Basin Area as described in Paragraph I of the proposed judgment attached to said stipulation was 340 acre feet per year and that the amount of water pumped or otherwise taken by non-parties to this action in the Eastern Unit of said Raymond Basin Area was 109 acre feet per year, and the Court on November 24, 1943 having made its order making each and all of the terms and provisions of said proposed judgment immediately effective as to said stipulating parties, and on April 5, 1944 the Court having made its order appointing and authorizing the Division of Water Resources of the Department of Public Works of the State of California to act and serve herein as Watermaster in accordance with the provisions of the proposed judgment attached thereto and made a part thereof, and a stipulation between said stipulating parties and the defendant La Canada Irrigation District making the defendant La Canada Irrigation District a party to said stipulation for said judgment and order having been filed in this Court on April 28, 1944, and this Court on April 28, 1944 having ordered that during the pendency of this litigation or until further order of this Court the said defendant La Canada Irrigation District be made a party to the stipulation for judgment and order entered into on the 29th day of September, 1943 and filed on the 24th day of

November, 1943, and all objections and exceptions to the Report of Referee, except those of defendant California-Michigan Land and Water Company, having been withdrawn, and defendant Flintridge Mutual Water Company having assigned all its water rights involved herein to defendant Valley Water Company,

This cause came on regularly for hearing of the objections and exceptions of defendant California-Michigan Land and Water Company filed to the Report of Referee and the further trial of the cause between said defendant and the other parties on the 18th day of May, 1944 before the Honorable Frank C. Collier, judge presiding in Department Pasadena A of the above-entitled Court, the Court sitting without a jury; said hearing and trial were held on the following dates in the year 1944, to wit: May 18, May 19, May 23, May 24, May 25, May 31, June 1, June 2, June 6, June 7, June 8, July 20, August 7 and August 8. A. E. Chandler, Esq., Special Counsel, and Harold P. Huls, Esq., City Attorney, appearing as attorneys for plaintiff; Messrs. Goodspeed, McGuire, Harris & Pfaff by Richard C. Goodspeed, Esq., J. Donald McGuire, Esq., and Paul Vallee, Esq., appearing as attorneys for defendant California-Michigan Land and Water Company; Emmett A. Tompkins, Esq., City Attorney, and Kenneth K. Wright, Esq., appearing as attorneys for defendant City of Alhambra; Paul F. Garber, Esq., City Attorney, and Kenneth K. Wright, Esq., appearing as attorneys for defendant City of Monrovia; Kenneth K. Wright, Esq., appearing as attorney for defendant Ross M. Lockhart; Kenneth K. Wright, Esq., appearing

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as attorney for defendant Flintridge Mutual Water Company; Kenneth K. Wright, Esq., appearing as attorney for defendant Valley Water Company; John C. Packard, Esq. and Kenneth K. Wright, Esq., appearing as attorneys for defendant El Campo Mutual Water Company; Messrs. Derthick, Cusack and Ganahl by W. J. Cusack, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant Crown City Ice Company; Messrs. Dunn & Sturgeon by Walter F. Dunn, Esq., Messrs. Chandler & Wright by Howard W. Wright, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendants Francis Graves, Alice Graves Stewart and Katharine Graves Armstrong; Messrs. Bailie, Turner & Lake by Norman A. Bailie, Messrs. Cruickshank, Brooke & Dunlap by Robert H. Dunlap, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant Ernest Crawford May, as Executor of the Last Will and Testament of Charles Heuston Hastings, deceased; Messrs. Gibson, Dunn & Crutcher by Ira C. Powers, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendants Robert A. Millikan, Archer Milton Huntington, Herbert Hoover, William B. Munro and Edwin P. Hubbell, trustees of the Henry E. Huntington Library and Art Gallery; Messrs. Anderson and Anderson by Trent G. Anderson, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant Rubio Canon Land and Water Association; Frank P. Doherty, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant La Canada Irrigation District; Messrs. Boyle, Holmes & Garrett by John W. Holmes, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant First Trust and Savings Bank of Pasadena; Walter F.

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Dunn, Esq., City Attorney, and Kenneth K. Wright, Esq., appearing as attorneys for defendant City of Sierra Madre; Wilton W. Webster, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant Royal Laundry and Dry Cleaning Company; Messrs. Bacigalupi, Elkus & Salinger by Claude Rosenberg, Esq., and Kenneth K. Wright, Esq., appearing as attorneys for defendant California Water and Telephone Company; Kenneth K. Wright, Esq., appearing as attorney for defendant San Gabriel Valley Water Company; Messrs. Merriam, Rinehart & Merriam by Ralph T. Merriam, Esq., appearing as attorneys for defendant Pasadena Cemetery Association; Frederick G. Stoehr, Esq., appearing as attorney for defendant A. V. Wagner; Messrs. Potter and Potter, by Bernard Potter, Esq., appearing as attorneys for defendant Mira Loma Mutual Water Company; Gerald E. Kerrin, Esq. and James C. Bone, Esq., City Attorney, appearing as attorneys for defendant City of Arcadia; Laurence B. Martin, Esq., appearing as attorney for defendant Sunny Slope Water Company; Robert E. Moore, Esq., appearing as attorney for defendant Lincoln Avenue Water Company; Messrs. Hahn and Hahn by Edwin F. Hahn, Esq., appearing as attorneys for defendant The Las Flores Water Company; Messrs. Hahn and Hahn by Edwin F. Hahn, Esq., appearing as attorneys for defendants Chesley E. Osborn and Kathleen M. Osborn; and Messrs. Hahn and Hahn by Edwin F. Hahn, Esq., appearing as attorneys for defendant Canyon Mutual Water Company, and

All objections and exceptions to the Report of Referee filed by defendant California-Michigan Land and Water Company having been overruled by the Court with the exception

of objection 18 which was withdrawn by said defendant, and

Certain stipulations having been entered into by and between the parties and evidence both oral and documentary having been introduced and the cause having been submitted to the Court for its decision upon briefs, and briefs for the respective parties having been filed and considered, the Court, being fully advised in the premises, and having made its findings of fact and conclusions of law, and

The Court, by reason of the stipulation aforesaid and the findings of fact and conclusions of law, having rendered its Judgment on December 23, 1944, and such Judgment having been entered in Book 1491, page 84, on December 26, 1944, and

Pursuant to its reservation of jurisdiction in this case, and pursuant to appropriate motions, the Court having modified the Judgment on April 29, 1955; on January 17, 1974; and on June 24, 1974, and

Plaintiff having moved the Court for an order further modifying and restating the Judgment as modified, such motion having come on regularly for hearing on the 16th day of March, 1984, in Department A of the Northeast District of this Court, the Honorable Robert M. Olson, Judge, presiding; and notice of such motion having been duly served on all defendants and interested parties; and no objections to the granting of the motion having been filed or made at the hearing; and good cause having been shown, and the Court having therefore granted the motion, pursuant to the continuing jurisdiction of the Court,

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IT IS HEREBY ORDERED, ADJUDGED AND DECREED that the Judgment in this case be modified and restated (including all transfers of rights and prior modifications which remain valid) as follows:

I

There exists in the County of Los Angeles, State of California, a field of groundwater, known and hereinafter referred to as the Raymond Basin Area, and subdivisions thereof herein designated the Eastern Unit and the Western Unit which are shown on the map attached hereto and hereby made a part hereof.

Under existing conditions, the safe yield of said Eastern Unit is 5,290 acre feet per year, and the safe yield of said Western Unit is 25,480 acre feet per year.

The amount of water pumped or otherwise taken by non-parties to this action in said Western Unit is less than 100 acre feet per year, and the amount of water pumped or otherwise taken by non-parties to this action in said Eastern Unit is zero acre feet per year.

The parties hereto pumping from wells or otherwise taking water for beneficial use from the ground in said subdivisions of said Raymond Basin Area are as shown in the table in Paragraph IV hereof.

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II

As to those parties hereto who are taking or diverting water for beneficial use from any source contributing to the supply of water in the ground in said Raymond Basin Area, each of said parties has the right as against all parties other than the defendant California-Michigan Land and Water Company, no determination as to the existence of such right being made as against it, to continue to divert from such source for such use an amount of water measured by the maximum capacity of its diversion works and other facilities as the same existed at any time within five (5) years prior to October 1, 1937. That said maximum capacities of the said works and facilities of each of said parties in cubic feet per second are as follows:

La Canada Irrigation District (Snover Canyon)	1.20
Las Flores Water Company	0.50
Lincoln Avenue Water Company	6.59
Lockhart, Ross M.	1.20
May, Ernest Crawford, as Executor of the Last Will and Testament of Charles Heuston Hastings, deceased	0.26
Mira Loma Mutual Water company	0.81
Pasadena Cemetery Association	0.02
Pasadena, City of	
Arroyo Seco Including Millard Canyon	25.00
Eaton Canyon	8.90
Rubio Canon Land and Water Association	2.20
Sierra Madre, City of	6.00

Each of said parties, and each of their agents, employees, attorneys, and any and all persons acting by, through, or under them, or any of them, are and each of them is hereby forever enjoined and restrained from increasing its taking or diversion from such source beyond the amount of

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such taking or diversion as measured by said maximum capacity of its diversion works and other facilities.

Each of the said parties, and their successors in interest, having diversion rights as set forth above in the Western Unit of the Raymond Basin Area shall have the right in its discretion to spread the surface water diverted pursuant to its respective right, and to recapture eighty percent (80%) thereof by pumping, subject to and upon the following terms and conditions.

(1) The water shall be spread for percolation into the underground in the existing water conservation facilities of the Los Angeles County Flood Control District, or in such additional spreading grounds as the parties may acquire or construct, or in any natural stream channels leading to such existing or future spreading grounds, provided that all such spreading locations shall be located within the Monk Hill Basin or Pasadena Subarea hydrologic subdivisions of the Western Unit of the Raymond Basin Area.

(2) A metering device, or devices, shall be installed and maintained by each diverting party at such party's expense to measure all amounts of water diverted by such party for spreading purposes. Such metering facilities, and the continued accuracy thereof, shall be subject to the approval of the Watermaster and the Los Angeles County Flood Control District, and all such measurements shall be available to them. The Watermaster, with such assistance as the Los Angeles County Flood Control District may provide, shall determine and account for all water diverted for spreading, the amount of water spread

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and available for recapture, and the amount so recaptured, and shall include such determinations and accounting in its reports.

(3) In the event that the capacity of any of the spreading grounds of the Los Angeles County Flood Control District is fully utilized for the conservation of natural flows, and water diverted for spreading in such facilities cannot be percolated into the Basin and escapes therefrom, such quantity of water shall be subtracted from the amount diverted for spreading to determine the amount available for recapture. Such losses shall be divided among the parties diverting water for such spreading in proportion to the amounts diverted at the time the loss occurs.

(4) Each such party shall have the right to pump from any wells in the Monk Hill Basin an amount of water equal to eighty percent (80%) of the amount which it has diverted for such spreading therein and which is available for recapture, and the right to pump from any wells in the Pasadena Subarea an amount of water equal to eighty percent (80%) of the amount which it has diverted for such spreading therein and which is available for recapture. Such amounts pumped shall be in addition to the respective Decreed Rights of the parties as provided in the Judgment herein, as modified on April 29, 1955, and in addition to the amounts which can be pumped or otherwise taken under the provisions of Paragraph V hereof. Any amounts recaptured under the terms of this Paragraph shall be pumped in such a manner as not to injure other parties having rights under this Judgment. The effect of such pumping shall be monitored by the Watermaster, and the Watermaster shall report any such injury to the Court

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for appropriate action.

(5) Any additional amounts allowed to be taken as provided in subparagraph (4) above shall be pumped by the end of the next accounting year utilized by the Watermaster following such diversions for spreading. If such pumping does not occur within this period of time, the right to take such amount of water shall be lost.

(6) For accounting purposes, the first water taken from the Western Unit of the Raymond Basin Area during any accounting year, by any party having made diversions for spreading purposes during the previous accounting year, shall be considered by the Watermaster as water pumped pursuant to subparagraph (4) above, unless such water was pumped during the same accounting year in which it was diverted and spread.

(7) The rights provided in subparagraph (4) above shall apply to all water diverted for spreading as required herein after May 1, 1973.

(8) The right to divert for spreading and recapture is an alternative, in whole or in part, to the right to make direct use of such diversions, and does not preclude the direct use of such water, provided that the total amount of water diverted, either for spreading or direct use, does not exceed the respective rights of the parties set forth above.

(9) These provisions concerning the right to spread and recapture by pumping remain subject to the continuing jurisdiction of the Court. Any additional costs incurred by the Watermaster in making determinations, accountings, reports, and monitoring of pumping as required in connection with such

spreading and recapture of water shall be paid by the parties diverting water for spreading in proportion to the amount of water which each party diverts for such purpose. Such costs shall be included as part "C" of the Watermaster's Annual Budget.

III

Each and all of the rights of the parties hereto to pump water from wells or otherwise take water from the ground in said Raymond Basin Area are of equal priority and of the same legal force and effect.

IV

Subject to the provisions of Paragraphs V, VI and XXI hereof, each party hereto is the owner of the right to pump water from wells or otherwise take water from the ground in each of said units in the amount set forth opposite the name of each party in the following table, which said right, for convenience, is designated the "present unadjusted right":

PRESENT UNADJUSTED RIGHTS TO TAKE
WATER IN RAYMOND BASIN AREA

Eastern Unit	Acre Feet Per Year
Arcadia, City of	2,527
Sierra Madre, City of	1,264

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Western Unit

Alhambra, City of	1,042
Arcadia, City of (including, as successor, the rights of the City of Monrovia)	2,141
California American Water Company (as successor to the California Water and Telephone Company, and including, as successor, the rights of the El Campo Mutual Water Company)	2,324
Crown City Ice Company	0
East Pasadena Water Company (as successor to the California-Michigan Land and Water Company)	521
Henry E. Huntington Library and Art Gallery (as successor to Robert A. Millikan, et al., Trustees of the Henry E. Huntington Library and Art Gallery)	265
Kinneloa Irrigation District (as successor to the rights of Francis P. Graves, et al.; Ross M. Lockhart; A. V. Wagner; Mira Loma Mutual Water Company; Canyon Mutual Water Company; and Chesley E. and Kathleen M. Osborn)	522
La Canada Irrigation District	101
Las Flores Water Company	252
Lincoln Avenue Water Company	573
May, Ernest Crawford, as Executor of the Last Will and Testament of Charles Heuston Hastings, deceased	0
Milum Textile Services Company (as successor to Royal Laundry and Dry Cleaning Company)	111
Pasadena Cemetery Association	92
Pasadena, City of (including, as successor, the rights of the First Trust and Savings Bank of Pasadena)	12,946

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Rubio Canon Land and Water Association	1,234
San Gabriel County Water District	1,103
Sunny Slope Water Company	1,575
Valley Water Company (including, as successor, the rights of the Flintridge Mutual Water Company)	806

The total of said rights in the Eastern Unit is 3,791 acre feet per year, and the total of said rights in the Western Unit is 25,608 acre feet per year.

V

In order to maintain and protect the supply of water in the ground in said Raymond Basin Area, it is necessary that the respective parties to this action be limited in the exercise of their respective present unadjusted rights, and the right, so limited, in acre feet per year, of each party to pump water from wells or otherwise take water from the ground, in the Western Unit, is as set forth in the table at the end of this Paragraph V, and in the Eastern Unit as set forth in Paragraph VI hereof. Said right, for convenience, is designated the "decreed right." In said Western Unit the amount of the decreed right of each party hereby is determined by reducing the present unadjusted right of each party as tabulated in Paragraph IV hereof, in the proportion that the safe yield of said unit, less the water taken therein by non-parties hereto, bears to the aggregate of such rights of the parties hereto in said unit. Each of said parties and

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each of their agents, employees, attorneys, and any and all persons acting by, through, or under them, are and each of them is, subject to the terms of Paragraph XXI hereof, hereby forever enjoined and restrained on and after July 1, 1944, as to all parties other than California-Michigan Land and Water Company, and on and after July 1, 1945 as to said California-Michigan Land and Water Company, from pumping or otherwise taking from the ground in said Western Unit more water than its decreed right in this Paragraph determined; provided that a party may exceed its decreed right to the extent that it has acquired and exercises the decreed right of any other party, or as may become necessary in the case of an emergency or temporarily for other reasonable cause as determined by the Watermaster, taking into account the basin supply, quality conditions, the impact on other parties, and subject to such conditions as the Watermaster may impose, including whether or not such excess extractions must be made up in future years; and provided, however, that any of the parties to this action may take in any twelve-month period beginning July 1 for its own beneficial use, and for the release of water for use by other parties or persons pursuant to and in accordance with the Raymond Basin Area Water Exchange Agreement for 1943 and amendment thereto, hereinafter referred to, attached hereto and hereby made a part hereof, an amount not exceeding one hundred ten percent (110%) of its decreed right as fixed herein, plus any amount of allowable underpumping as hereinafter provided. Any such extractions in excess of a party's decreed right (not including any emergency or temporary

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extractions authorized by the Watermaster) shall be made up in the following year, and the amount of water which a party may take under its decreed right in that year shall be reduced by an equivalent amount. If a party in any twelve-month period, beginning July 1, takes less than its decreed right, or less than the amount allowed after reduction for any excess extractions, the amount of such underpumping, but not exceeding ten percent (10%) of its decreed right or such additional amount as the Watermaster may allow for an emergency or other reasonable cause, may be carried over and taken during the next succeeding year. The yearly period from July 1 to June 30 hereby is adopted and shall be used in the administration and enforcement of this Judgment.

DECREED RIGHTS TO TAKE WATER FROM THE GROUND
IN SAID WESTERN UNIT IN ACRE FEET PER YEAR

	Acre Feet Per Year
Alhambra, City of	1,031
Arcadia, City of (including, as successor, the rights of the City of Monrovia)	2,118
California American Water Company (as successor to the California Water and Telephone Company, and including, as successor, the rights of the El Campo Mutual Water Company)	2,299
East Pasadena Water Company (as successor to the California-Michigan Land and Water Company)	515
Henry E. Huntington Library and Art Gallery (as successor to Robert A. Millikan, et al., Trustees of the Henry E. Huntington Library and Art Gallery)	262

Kinneloa Irrigation District (as successor to the rights of Francis P. Graves, et al.; Ross M. Lockhart; A. V. Wagner; Mira Loma Mutual Water Company; Canyon Mutual Water Company; and Chesley E. and Kathleen M. Osborn)	516
La Canada Irrigation District	100
Las Flores Water Company	249
Lincoln Avenue Water Company	567
Milum Textile Services Company (as successor to Royal Laundry and Dry Cleaning Company)	110
Pasadena Cemetery Association	91
Pasadena, City of (including, as successor, the rights of the First Trust and Savings Bank of Pasadena)	12,807
Rubio Canon Land and Water Association	1,221
San Gabriel County Water District	1,091
Sunny Slope Water Company	1,558
Valley Water Company (including, as successor, the rights of the Flintridge Mutual Water Company)	797
Total Western Unit	25,332

VI

The decreed right of each party hereto in said Eastern Unit is as follows:

City of Arcadia, 3,526 acre feet per year;

City of Sierra Madre, 1,764 acre feet per year.

Each of said parties, and each of their agents, employees, attorneys and any and all persons acting by, through, or under them, are and each of them is subject to

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the terms of Paragraph XXI hereof, hereby forever enjoined and restrained on and after July 1, 1944, as follows:

(1) From pumping or otherwise taking from the ground in said Eastern Unit more water than its decreed right in this Paragraph determined; provided that a party may exceed its decreed right to the extent that it has acquired and exercises the decreed right of any other party, or as may become necessary in the case of an emergency or temporarily for other reasonable cause as determined by the Watermaster, taking into account the basin supply, quality condition, the impact on other parties, and subject to such conditions as the Watermaster may impose, including whether or not such excess extractions must be made up in future years; and provided, however, that any of the parties to this action may take in any twelve-month period beginning July 1 for its own beneficial use, and for the release of water for use by other parties or persons pursuant to and in accordance with the Raymond Basin Area Water Exchange Agreement for 1943 and amendment thereto, hereinafter referred to, attached hereto and hereby made a part hereof, an amount not exceeding one hundred ten percent (110%) of its decreed right as fixed herein, plus any amount of allowable underpumping as hereinafter provided. Any such extractions in excess of a party's decreed right (not including any emergency or temporary extractions authorized by the Watermaster) shall be made up in the following year, and the amount of water which a party may take under its decreed right in that year shall be reduced by an equivalent amount. If a party in any twelve-month

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period, beginning July 1, takes less than its decreed right, or less than the amount allowed after reduction for any excess extractions, the amount of such underpumping, but not exceeding ten percent (10%) of its decreed right or such additional amount as the Watermaster may allow for an emergency or other reasonable cause, may be carried over and taken during the next succeeding year.

(2) From pumping or otherwise taking water from the ground in said Eastern Unit in any year within one-half mile of its western boundary in an amount which, in addition to other extractions, would be in excess of the average amount pumped or taken in said one-half mile zone during the period 1927-28 to 1937-38, to wit: 88 acre feet per annum, the half mile being measured along a perpendicular erected on the boundary between said unit and said Western Unit as shown on the map attached hereto.

(3) From pumping or otherwise taking water from the ground in said Eastern Unit in any year in excess of the average amount pumped or taken therein during the period 1927-28 to 1937-38, to wit: 3,261 acre feet per annum, during any year in which static groundwater level measurements, made at the time of maximum high water table in the spring season of each year, show that the average water table elevation in the area between Foothill Boulevard and Raymond Fault and between a line 300 feet west of Rosemead Boulevard and a line 100 feet east of Michillinde Avenue, less any increase in such elevation that is attributable to any groundwater storage program, is higher than that at the Arcadia group of

wells designated as such on said map attached hereto and located west of the intersection of Orange Grove and Santa Anita Avenues in the City of Arcadia, this limitation to apply only when the water table elevation at said group is less than 500 feet above sea level, United States Geological Survey datum.

VII

There is now and, so long as the requirements in sub-paragraphs 2 and 3 of Paragraph VI hereof are fulfilled and maintained, there will be no material movement of water across the boundary between the Western Unit and the Eastern Unit.

VIII

Nothing in this Judgment contained shall be deemed to modify the rights as between the defendants City of Sierra Madre and City of Arcadia as set forth in that certain Judgment entitled "The City of Sierra Madre, a municipal corporation, et al., vs. The City of Arcadia, a municipal corporation," No. 209747 in the Superior Court of the State of California, in and for the County of Los Angeles, entered on the 22nd day of April, 1930, but in the exercise of such rights each of said parties shall be subject to the express provisions of Paragraph VI hereof.

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IX

A Watermaster shall be appointed by this Court to serve at the pleasure of the Court to administer and enforce the provisions of this Judgment, the Raymond Basin Area Water Exchange Agreement of 1943 and amendment thereto, attached hereto and made a part hereof, and the instructions and orders of this Court, and if any such provisions, instructions or orders of the Court, or any order, rule or direction of such Watermaster, made in accordance with and for the enforcement of this Judgment and said Agreement and amendment thereto, shall have been disobeyed or disregarded, said Watermaster hereby is empowered and authorized to report promptly to the Court such fact and the circumstances connected therewith and leading thereto.

A violation of any provision of this Judgment, or attached Agreement and amendment thereto, or order, instruction, rule or direction of the Court or of the Watermaster, shall be punished in such manner as the Court may direct.

The compensation of said Watermaster shall be fixed by an order or orders which the Court hereafter from time to time may make.

X

There is hereby established a Raymond Basin Management Board (sometimes hereafter called "Board") which shall be the Watermaster. The Board shall have all of the rights,

and shall carry out all of the responsibilities, of the Watermaster as provided in this Judgment. In addition, in order to implement sound water management practices within the framework of the rights of the parties as determined herein, the Board shall have the powers set forth in Paragraph XII.

XI

The Board shall be organized and constituted as follows:

(1) Each party holding a decreed right of 1,000 acre feet or more shall appoint one member to the Board.

(2) The parties within each subarea, namely, Monk Hill Subarea, Pasadena Subarea, and the Eastern Unit, who each hold decreed rights of less than 1,000 acre feet shall together appoint a member from each respective subarea. The appointment for each subarea shall be by majority vote, with each such party having one vote.

(3) No party shall have the right to appoint, or to participate in the appointment of, more than one member to the Board.

(4) Board members shall have broad engineering or management experience in the operation of a water utility or groundwater basin.

(5) Each member shall be appointed for a term of one year, or until replaced. Members shall serve at the pleasure of the appointing party, parties or body. No member

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shall be appointed by or represent more than one party or group of parties. The Board shall select its own officers. A quorum of the Board shall consist of six members, and the Board may act by a majority of those members present at a meeting. The Board shall meet at least quarterly, and all parties to the action may attend. Minutes of the Board meetings shall be kept and sent to all parties in the action. The Board shall have the power to adopt such by-laws, rules and regulations, not inconsistent with the terms of this Judgment, as may be necessary for its own organization and operation.

XII

The powers and responsibilities of the Raymond Basin Management Board, as Watermaster and otherwise, shall be exercised with a view toward protecting the long-term quantity and quality of the groundwater supply; utilizing the groundwater storage capacity of the basin for the maximum advantage of the parties, without however causing significant adverse impact upon any party; integrating to the extent feasible the use of surface and groundwater supplies so as to reduce costs, improve reliability of supply, and to protect against drought; and to encourage the parties to cooperate in the utilization of their respective water rights and water systems for the mutual good. The Board shall have power:

(1) To contract with the California Department of Water Resources, or with any other competent person or firm,

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to perform all or part of the Watermaster functions.

(2) To determine the amount of storage capacity that is available in the basin from time to time for groundwater storage programs.

(3) To allocate such storage capacity among the parties, and to provide for its use and the recapture of equivalent amounts of stored water. The Board may approve, condition or disapprove proposed water storage programs, and imported, nontributary water shall not be stored in the basin without the Board's approval. Approved programs shall include provisions for the duration of allowed storage of water, for determination of losses, for the rates and places of recapture, and for such other conditions as may be necessary to prevent operational problems for other parties, including degradation of water quality.

(4) To control the direct recharge into the basin of imported, non-tributary water.

(5) To issue such rules and regulations as may be necessary in order to account properly for sales, leases, exchanges or other transfers among the parties of decreed rights and the use of water. The Board shall attempt to facilitate, not restrict, such transfers, including efforts to develop agreements for the production and distribution of water through facilities of other parties where such practices promote efficiency and sound water management. This policy shall extend to the use of stored water where consistent with the policies of The Metropolitan Water District of Southern California with respect to the use of supplemental water

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which it provides.

(6) To conduct studies or undertake other activities for the common benefit of the parties in the operation of the Raymond Basin Area; to obtain engineering, legal and other professional services in such connection; and, in addition to the Watermaster budget procedures, to assess the parties in an equitable manner and as may be necessary to pay the costs of the Board's operations, which assessments shall be paid by the parties. Payment shall be enforced in the same manner as provided in Paragraph XV for the annual budget, although the actual apportionment of costs may differ from the method provided in Paragraph XV. All actions of the Board, including any assessments imposed, shall be subject to review by the Court, pursuant to the procedures of Paragraph XVII.

XIII

Each party hereto at its own expense shall:

(1) Measure and keep records of all its diversions from any source contributing to the supply of water in the ground, of its importations of water, and of its production of water from the ground in the Raymond Basin Area, subject to the approval of the Watermaster as to equipment and methods;

(2) Measure and keep records of its production and distribution in such manner as to show its use in, transfers within, and exports of water from the Raymond Basin Area, or any subdivision thereof, as required by the Watermaster;

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(3) Measure and record the depth to the water table in all wells owned or operated by it within the Raymond Basin Area once a month, or as required by the Watermaster.

Any party owning any facilities for the diversion from any source contributing to the supply of the water in the ground in the Raymond Basin Area, or for pumping or otherwise taking water from the ground in said area, at its own expense shall install and at all times maintain in good working order reliable measuring devices and facilities for testing said devices and shall keep records of its diversions and production through the use of such devices and facilities as may be required by the Watermaster; that upon failure of any such party to install such devices and facilities on or before such day as the Watermaster shall fix, after due notice from the Watermaster so to do, the Watermaster shall give the Court notice of such failure for proper action in the premises.

XIV

In addition to other duties herein provided, the Watermaster shall:

(1) Supervise the collection, assembly and presentation of the records and other data required of the parties; such records and other data to be open to inspection by any party or its representative during normal business hours.

(2) Require all parties hereto to operate their respective wells in a manner which will accomplish the stated

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purposes of said Agreement and amendment thereto, and will effectuate this Judgment without placing undue burden on any party; study separately pumping patterns in the Monk Hill Basin, Pasadena Subarea, and the Eastern Unit, and report recommendations thereon not less than twice each year; such report shall recognize the right of each party to pump its decreed right, but shall include recommendations as to whether more or less water should be pumped from individual wells; such recommendations shall be calculated to minimize interference among parties, to conserve energy, expense and local water supplies, and to provide for the most efficient and equitable use of groundwater in the Raymond Basin Area; such recommendations shall be advisory only, and shall not be binding upon the parties unless confirmed by order of this Court.

(3) Establish an ongoing program to monitor water quality in the Raymond Basin Area.

(4) Prepare a tentative annual budget for the fiscal year commencing July 1, separately stating the anticipated expense for administering the provisions of said Agreement and amendment thereto for the release and receipt of water, and the anticipated expense of the administration of the other provisions of said Agreement and amendment thereto and of enforcing this Judgment. The Watermaster shall serve said tentative budget upon each of the parties on or before May 1 of each year. If any party has any objection to said tentative budget, or any suggestions with respect thereto, it shall present the same in writing within ten (10) days after

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service thereof upon it. Thereafter, the Watermaster shall prepare a final budget and serve the same upon each party. If any party objects to said final budget it may make written objection thereto by filing its objection with this Court within fifteen (15) days after service of the same upon it, after first having served such objection upon each party hereto, and shall bring such objection on for hearing before this Court within fifteen (15) days after such filing, or at such time as the Court may direct.

If no objection to said budget be made as herein provided, it shall be the annual budget for the particular year involved. If objection to such budget be filed with this Court as herein provided, then the annual budget shall be determined by the order of this Court.

(5) Make an annual report on or before September 1 of each year to the parties hereto of the scope of the Watermaster's work during the preceding fiscal year and a statement of receipts and expenditures in appropriate detail, segregated as to the items attributable to the administration of the provisions of said Agreement and amendment thereto respecting the release and receipt of water, and as to the items attributable to the administration of the other provisions of said Agreement and amendment thereto and to the enforcement of this Judgment.

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XV

The cost of enforcing this Judgment or any order or direction of this Court or of the Watermaster (other than those with respect to the release and receipt of water in accordance with the provisions of said Agreement and amendment thereto) shall be borne by the parties in proportion to their respective decreed rights as determined in Paragraphs V and VI of this Judgment, and the Watermaster shall assess such cost to each party accordingly.

Payment thereof shall be made by each party within thirty (30) days after the annual budget shall have become final and the service on such party by the Watermaster of a statement of the amount due. If payment be not made within said thirty (30) days, such payment shall be delinquent and the Watermaster shall add a penalty of ten percent (10%) thereof to said statement, and the amount of said statement plus said penalty thereupon shall be due and payable. Payment required of any party hereunder or under the terms of said Agreement and amendment thereto may be enforced by execution issued out of this Court or as may be provided by any order hereinafter made by this Court. All payments and penalties received by the Watermaster, except payments received on account of the release and receipt of water, shall be deposited by the Watermaster in a fund which shall be designated "The Watermaster Service Fund" and shall be expended for the administration of the Agreement and amendment thereto and the enforcement of this Judgment in accordance with the annual

budgets herein provided for. Any money remaining at the end of any year shall be available for use the following year for such Watermaster service. Money collected or received by the Watermaster in connection with the release and receipt of water under the provisions of said Agreement and amendment thereto shall be deposited by him in a special deposit fund and paid out by him in accordance with the provisions of said Agreement and amendment thereto.

XVI

Any Watermaster ceasing to perform Watermaster service hereunder immediately upon such cessation shall deposit with the clerk of this Court all funds in his possession collected from the parties in accordance with this Judgment or said Agreement and amendment thereto, and forthwith shall serve upon the parties hereto and file with this Court his final account and report, and shall deliver to his successor, or as the Court may direct, all property and all records or certified copies thereof.

XVII

Any party having objection to any determination or finding made by the Watermaster, other than as provided in subparagraph (4) of Paragraph XIV hereof, may make the same in writing to the Watermaster within thirty (30) days after the making of such determination or finding after first

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having served a copy of such objection upon each party, and within thirty (30) days thereafter the Watermaster shall consider said objection and shall amend or affirm his finding or determination; any party objecting thereto within thirty (30) days thereafter may file its objections with this Court, bringing the same on for hearing before said Court within sixty (60) days thereafter, or at such time as the Court may direct, after first having served said objection upon each party. The Court may affirm, modify, amend or overrule any such finding or determination of the Watermaster.

XVIII

Within thirty (30) days after the appointment of the Watermaster, each of the parties shall file with the Watermaster and serve on each party the name and address of the person to whom any notice, demand, request, objection or the submission of any budget and the annual report is to be made or given, and each of said parties may change the name and address of said person from time to time by filing said changed name and address with the Watermaster and by serving a copy thereof upon each of the parties hereto.

Any notice, demand, request, objection or the submission of a budget and the annual report required or authorized by this Judgment or said Agreement and amendment thereto to be given or made to or served upon any party or the Watermaster, shall be delivered or mailed by registered mail postage prepaid to the person so designated at the

address last filed with the Watermaster. Such service by mailing shall be complete at the time of the deposit in the United States mail.

Notice of any other motion or proceeding herein may also be given by service upon the person and at the address filed with the Watermaster, in the manner designated in this Paragraph, provided that certified or registered mail may be used. If any party or successor in interest has failed to make such filing with the Watermaster, notice may be mailed to the address which the Watermaster uses for such party or successor.

XIX

The agreement entered into by certain parties, entitled "Raymond Basin Area Water Exchange Agreement of 1943" and amendment thereto, a copy of which is attached hereto, and each and all of its terms and provisions be, and the same is and are hereby fully approved, and said Agreement and amendment thereto is hereby expressly made a part of this Judgment to the same purpose and effect as though said Agreement and amendment thereto were at this point fully herein written and set forth at length; provided, however, that California-Michigan Land and Water Company, Sunny Slope Water Company, and Ernest Crawford May, as Executor of the Last Will and Testament of Charles Heuston Hastings, deceased, who are not parties to said Agreement or amendment thereto, shall not be bound by nor required to perform any of the provisions

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thereof, nor pay any part of the cost of administering or enforcing said Agreement or amendment thereto; that the power of the Court is hereby expressly made to underlie all of the terms and provisions of said Agreement and amendment thereto and the enforcement thereof, and that the parties thereto, and each thereof, are hereby ordered to perform fully said Agreement and amendment thereto and all of its said terms and provisions.

No taking of water by any party under the provisions of said Agreement and amendment thereto concerning the release and receipt of water in any amount in excess of its decreed right to pump or otherwise take water from the ground in the Raymond Basin Area shall constitute a taking adverse to any other party; nor shall any party have the right to plead the statute of limitations or an estoppel against any other party by reason of its said taking of water in the Raymond Basin Area pursuant to a request for the release of water; nor shall such release of water by any party constitute a forfeiture or abandonment by such party of any part of its decreed right to water; nor shall such release in any wise constitute a waiver of such right, although such water, when released under the terms of said Agreement and amendment thereto, may be devoted to the public use of others; nor shall such release of water by any such party in any wise obligate any party so releasing to continue to release or furnish water to any other party or its successor in interest, or to the public generally, or to any part thereof, otherwise than as provided in Article IV of said Agreement and amendment thereto.

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XX

In the event any party shall serve upon the parties and file with the Watermaster and with the Court a declaration of forfeiture or abandonment of its decreed right, or any part thereof, said party shall be relieved of the payment of further costs of administering the provisions of said Agreement and amendment thereto and enforcing this Judgment applicable to the right so forfeited or abandoned; provided that said relief from said further costs shall not become effective until the beginning of the next fiscal year for which a budget has not become final; and provided that said party making such forfeiture or abandonment shall pay to the Watermaster its proportion of such costs to the effective date of such relief from costs. The amount of water so abandoned or forfeited shall be available immediately for use by the parties in the proportions set forth in Paragraphs V and VI hereof, pending the time that any review shall have been made as provided for in Paragraph XXI hereof.

XXI

The Court hereby reserves jurisdiction and authority upon application of any party hereto, or upon its own motion, to review (1) its determination of the safe yield of either or both of said units of the Raymond Basin Area, or (2) the rights, in the aggregate, of all of the parties in either or both of said units as affected by the abandonment or forfeiture

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of any right, in whole or in part, decreed herein, and by the abandonment or forfeiture of any right by any other person or entity, and, in the event material change be found or any such abandonment or forfeiture be established, to adjudge that the decreed right of each party to pump or otherwise take water from the ground in the Raymond Basin Area shall be changed proportionately in the same manner as originally fixed herein; provided, however, that notice of such review shall be served on all parties at least thirty (30) days prior thereto and that the review of its determination of the safe yield of either or both of said units of the Raymond Basin Area shall be had not more frequently than at five (5) year intervals after the date hereof. Except as provided herein, and except as rights decreed herein may be abandoned or forfeited by nonuser, in whole or in part, each and every right decreed herein hereby is fixed as of the date hereof.

XXII

The Court hereby reserves jurisdiction and authority at any time, upon application of any party, the Watermaster, or upon its own motion, to make such modifications of, or such additions to, the provisions of this Judgment, or to make such further order or orders, as may be necessary or desirable for the adequate enforcement, protection or preservation of the rights of the respective parties as declared in this Judgment or as provided in said Agreement and amendment thereto. The Court further reserves jurisdiction to make any

other and/or additional orders of sufficient kind and nature to protect the waters in said Raymond Basin Area or any portion thereof from contamination of the groundwater supply from cesspool effluent or surface waters.

XXIII

The defendant California-Michigan Land and Water Company is entitled to become a party to the Raymond Basin Area Water Exchange Agreement of 1934 and thereby become entitled to receive water upon the same terms and conditions provided in said Agreement with respect to the several parties thereto.

XXIV

The defendant Bradbury Estate Company, a corporation, and Eugene E. Bean be and they hereby are dismissed without costs.

XXV

None of the parties is entitled to recover its costs as against any other party.

DATED: March 26, 1984

/s/ Robert M. Olson
JUDGE OF THE SUPERIOR COURT

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Appendix B: Water Conservation Ordinance No. 2015-0004

Lincoln Avenue Water Company 2015 Urban Water Management Plan

COUNTY OF LOS ANGELES
Public Health

CYNTHIA A. HARDING, M.P.H.
Interim Director

JEFFREY D. GUNZENHAUSER, M.D., M.P.H.
Interim Health Officer

ANGELO J. BELLOMO, REHS, QEP
Director of Environmental Health

TERRI S. WILLIAMS, REHS
Assistant Director of Environmental Health

5050 Commerce Drive
Baldwin Park, California 91706
TEL (626) 430-5100 • FAX (626) 813-3000

www.publichealth.lacounty.gov

March 19, 2015

REQUEST TO INFORM CUSTOMERS OF REVISED WATER CONSERVATION REQUIREMENTS FOR UNINCORPORATED COUNTY AREAS

Dear Water Purveyor:

On February 17, 2015, the Los Angeles County Board of Supervisors adopted the attached ordinance amending water conservation requirements to reflect the mandatory water conservation and waste prevention regulations adopted by the State Water Resources Control Board on July 15, 2014, in response to the severe drought. Specifically, the amendments increase the fine to $500 for repeat violations of outdoor urban water use and expand the list of runoff destinations for the watering of lawns and landscaping to include adjacent property, non-irrigated areas, private and public walkways, roadways and structures.

We request that you notify your customers in the unincorporated County areas of the requirements, including the recent amendments, and encourage their voluntary compliance. Attached is a sample fact sheet with conservation requirements that can be used as the notification.

Based on our experience during the last drought, we expect compliance with water conservation requirements will be achieved primarily through public education and outreach by water purveyors. However, water purveyors servicing customers in the unincorporated County areas should respond to alleged offenses. Repeat offenders may be referred to the Department of Public Health for progressive enforcement. To request enforcement action for repeat violations of the water conservation and waste prevention requirements, please contact the Environmental Health Customer Call Center at (888) 700-9995.

Very truly yours,

Angelo J. Bellomo, REHS, QEP
Director of Environmental Health

Attachment

Update on County of Los Angeles Water Conservation Regulations

The Los Angeles County Board of Supervisors recently adopted an ordinance that revised the existing water conservation regulations. This ordinance, in addition to increasing the starting fine to $500, specified the following:

- Persons who own or rent property have a duty to inspect for leaks, and to have the leaks repaired.
- Run-off from watering lawns or landscaping should not flow into adjacent property, walkways, or roadways.

To avoid fines, please comply with the new ordinance and the restrictions below.

	**Don't wash down sidewalks and driveways.** *Use a broom, instead.*
	**Don't allow water to run off your property.** *Adjust sprinkler coverage, check sprinkler system for leaks, and replace broken sprinkler heads.*
	**Don't wash motor vehicles with a hose, unless it is fitted with a shut-off nozzle.** *Consider using an auto wash facility where water is recycled.*
	**Don't operate fountains or decorative water features unless the water is recirculated.** *Consider replacing outdoor water features with drought-tolerant plants or xeriscaping.*

Please do your part to conserve water during this severe drought.

To report overwatering or runoff, or for more information about water conservation, contact us *(Insert contact information here)*

Insert company logo

ANALYSIS

This ordinance amends Part 4 of Chapter 11.38 of Title 11 — Health and Safety of the Los Angeles County Code, relating to water conservation requirements for the unincorporated area of Los Angeles County, by revising the fines for violations thereof from One Hundred Dollars ($100) to Five Hundred Dollars ($500) and clarifying that fines are assessed for each day of violation. The amendment also expands prohibited water runoff areas to include adjacent property, non-irrigated areas, private and public walkways, roadways, and structures.

MARK J. SALADINO
County Counsel

By
MICHAEL L. MOORE
Principal Deputy County Counsel
Public Works Division

MLM:gm

Requested: 09/10/14
Revised: 12/05/14

ORDINANCE NO. 2015-0004

An ordinance amending Part 4 of Chapter 11.38 of Title 11 – Health and Safety of the Los Angeles County Code, relating to water conservation requirements for the unincorporated area of Los Angeles County.

The Board of Supervisors of the County of Los Angeles ordains as follows:

SECTION 1. Section 11.38.620 is hereby amended to read as follows:

11.38.620 Hose wWatering pProhibition.

No person shall hose water or wash down any sidewalks, walkways, driveways, parking areas or other paved surfaces, except as is required for the benefit of public health and safety. Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $~~1~~500.00 for each ~~subsequent~~day thereafter on which a violation occurs.

SECTION 2. Section 11.38.630 is hereby amended to read as follows:

11.38.630 Watering of lLawns and lLandscaping.

A. No person shall water or cause to be watered any lawn or landscaping between the hours of 10:00 a.m. and 5:00 p.m.

B. No person shall water or cause to be watered any lawn or landscaping more than once a day.

C. No person shall water or cause to be watered any lawn or landscaping to such an extent that runoff into adjacent property, non-irrigated areas, private and public walkways, roadways, structures, adjoining streets, parking lots or alleys occurs due to incorrectly directed or maintained sprinklers or excessive watering.

D. It shall be the duty of all persons ~~to inspect~~who own or rent premises that have ~~all~~ hoses, faucets and sprinkling systems to inspect for leaks, and to cause all leaks to be repaired as soon as is reasonably practicable.

E. Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $~~1~~500.00 for each ~~subsequent~~day thereafter on which a violation occurs.

SECTION 3. Section 11.38.640 is hereby amended to read as follows:

11.38.640 Indoor ~~p~~Plumbing and ~~f~~Fixtures.

A. It shall be the duty of all persons ~~to inspect~~who own or rent premises that have ~~all~~ accessible indoor plumbing and faucets to inspect for leaks, and to cause all leaks to be repaired as soon as is reasonably practicable.

B. Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $~~1~~500.00 for each ~~subsequent~~day thereafter on which a violation occurs.

SECTION 4. Section 11.38.650 is hereby amended to read as follows:

11.38.650 Washing ~~v~~Vehicles.

No motor vehicle, boat, trailer, or other type of mobile equipment may be washed, except at a commercial carwash or with reclaimed water, unless such vehicle is washed by using a hand-held bucket or a water hose equipped with an automatic shutoff nozzle. No person shall leave a water hose running while washing a vehicle or at any other time. Willful violation hereof shall be subject to a written warning for the

first violation, and shall be an infraction punishable by a fine of $~~1~~500.00 for each ~~subsequent~~day thereafter on which a violation occurs.

SECTION 5. Section 11.38.660 is hereby amended to read as follows:

11.38.660 Public e~~E~~ating ~~p~~Places.

No restaurant, hotel, cafeteria, café, or other public place where food is sold or served shall serve drinking water to any customer unless specifically requested to do so by such customer. Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $~~1~~500.00 for each ~~subsequent~~day thereafter on which a violation occurs.

SECTION 6. Section 11.38.670 is hereby amended to read as follows:

11.38.670 Decorative ~~f~~Fountains.

No person shall use water to clean, fill, or maintain levels in decorative fountains, ponds, lakes, or other similar aesthetic structures unless such water flows through a recycling system. Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $~~1~~500.00 for each ~~subsequent~~day thereafter on which a violation occurs.

SECTION 7. Section 11.38.680 is hereby amended to read as follows:

11.38.680 Procedural ~~r~~Requirements.

The Director of Public Works, with input and concurrence from the Director of Public Health, shall periodically review the provisions of this Part and recommend necessary updates to the Board of Supervisors. The review of these provisions and

preparation of resulting recommendations, if any, shall be performed, at a minimum, every two years following the first review, which shall be completed by December 31, 2010.

[1138620MMCC]

SECTION 8. This ordinance shall be published in The Daily Commerce a newspaper printed and published in the County of Los Angeles.

Mike Antonovich
Mayor

ATTEST:

Patrick Ogawa
Acting Executive Officer -
Clerk of the Board of Supervisors
County of Los Angeles

I hereby certify that at its meeting of February 17, 2015 the foregoing ordinance was adopted by the Board of Supervisors of said County of Los Angeles by the following vote, to wit:

	Ayes		Noes
Supervisors	Hilda Solis	Supervisors	None
	Sheila Kuehl		
	Don Knabe		
	Michael D. Antonovich		

Effective Date: March 19, 2015

~~Operative Date:~~

Patrick Ogawa
Acting Executive Officer -
Clerk of the Board of Supervisors
County of Los Angeles

I hereby certify that pursuant to Section 25103 of the Government Code, delivery of this document has been made.

PATRICK OGAWA
Acting Executive Officer
Clerk of the Board of Supervisors

By _____
Deputy

APPROVED AS TO FORM:
MARK J. SALADINO
County Counsel

By _____
Richard D. Weiss
Chief Deputy County Counsel

S:\Ordinances\County Counsel\2015\2015-0004

Appendix C: LAWC Water Shortage Contingency Plan

Lincoln Avenue Water Company 2015 Urban Water Management Plan

COPY

LINCOLN AVENUE WATER COMPANY

WATER SHORTAGE CONTINGENCY PLAN

MARCH 11, 1992

LINCOLN AVENUE WATER COMPANY
WATER SHORTAGE CONTINGENCY PLAN

SECTION 1 COORDINATED PLANNING

Lincoln Avenue Water Company coordinated preparation of this plan with the following agencies:

1. Foothill Municipal Water District. Foothill is a member agency of the Metropolitan Water District of Southern California (MWD), and receives all of its water from MWD. Due to our reliance on Foothill for the majority of our water supply, Foothill's Draft Water Shortage Contingency Plan, dated February 19, 1992, was utilized for data and reference.

2. Metropolitan Water District of Southern California. Due to Foothill's reliance of MWD for all of its water supply, MWD's Draft Drought Contingency Plan, dated December 21, 1991, was utilized for data and reference.

3. The Raymond Basin Management Board. This agency is responsible for the management of the Raymond Groundwater Basin where Lincoln Avenue's groundwater is produced.

SECTION 2 PAST, CURRENT,AND PROJECTED WATER USE (1991-1994)

Lincoln Avenue Water Company was established in 1883 and incorporated in 1896 to supply water to the west side of Altadena, an un-incorporated territory of Los Angeles County. The service area encompasses 1,500 square miles. Lincoln Avenue services an estimated 15,000 residents through 4,120 metered connections.

Ninety-seven percent (97%) of service connections are residential, two percent (2%) are commercial, and one percent (1%) is governmental.

TABLE 1 WATER USE PROJECTIONS BY CUSTOMER TYPES INCLUDING GROWTH

CUST. TYPE	CONNECTIONS	HIGHEST USE AF	ACTUAL USE 1991 AF	PROJECTED 1992 AF	PROJECTED 1993 AF	PROJECTED 1994 AF
Residential	3,978	2,098	1,410	1,438	1,450	1,465
Commercial	126	167	158	150	155	160
Governmental	16	67	60	60	62	65
TOTAL	4,120	2,332	1,628	1,648	1,667	1,690

There is some potential for growth within our service area in the near future but in the last few years, each attempt at development has been overcome by excessive cost. As a result, we have experienced a very low growth rate.

SECTION 3 WORST CASE WATER SUPPLY AVAILABILITY FOR 12, 24, & 36 MONTHS

The water that Lincoln Avenue Water Company supplies to its customers is derived from two sources:

1. Wells: Our well production is limited by a decreed right judgement dating back to 1955. Management and control of the underground water supply from the Raymond Basin and the sub-basin known as the Monk Hill Basin from which our supplies are drawn, is vested in the Raymond Basin Management Board. Beyond representation on the Board, we have no control over the management of the underground supply. Our actual allocation from the basin remains at approximately 567 acre-feet per year but for the past years, our average allocation has been at approximately 700 acre-feet per year, due to surface spread credit.

2. Metropolitan Water District of Southern California (MWD): Imported water purchased from the MWD through the Foothill Municipal Water District is comprised of 30% - 100% of our annual supply for the period 1984 through 1991 due to the on-going problem with groundwater contamination.

In a worst case situation, the Raymond Basin Management Board would allow for the over production of the basin for 12, 24, 36 months. Each pumper in the basin would be responsible for its water quality.

TABLE 2 SUPPLY SOURCES AND WORST CASE SUPPLY PROJECTIONS

SOURCE	AVAILABLE SUPPLY UNDER NORMAL CONDITION	AVG USE 89-90	ACTUAL USE 1991	PROJECTED WORST CASE 1992	PROJECTED WORSE CASE 1993	PROJECTED WORST CASE 1994
Groundwater (including spread credit)	700	425	519	600	567	567
MWD	4,500	1,772	1,311	1,200	1,100	1,000
TOTAL	5,067	2,197	1,830	1,800	1,667	1,567

Groundwater: Lincoln Avenue is unable to pump its wells due to a high level of Trichloroethene (TCE) in our groundwater. We are in the process of negotiating to build a portable treatment plant. It is expected to be in operation by spring, 1992. If the drought continues to the year 1993, we should still be able to pump at least our 567 acre-feet allocation.

MWD: Our average purchase of imported water has been at 47% of maximum allowable amount under normal conditions Imported water is a supplemental supply to our groundwater.

Due to the extreme drought conditions that exist and the request of MWD and the Governor of State of California, Raymond Basin Management Board approved the Emergency Over-extraction Program (EOP). The purpose of EOP is to reduce demands on imported water supplies by prudently increasing production of available water in the Raymond Basin. Lincoln Avenue is permitted to over-extract our pumping right during a fiscal year by an amount not to exceed 10% of our adjudicated right.

SECTION 4 STAGES OF ACTION

Because we rely on Foothill/MWD for the majority of our water supply, we have adopted and implemented a mandatory water conservation rate based upon MWD's Incremental Interruption Conservation Plan (IICP). In general, the adopted rate requires water users to reduce water use to meet the Company's target goal that matches the Stages of MWD's IICP in effect.

SECTION 5 MANDATORY PROHIBITIONS ON WATER USE

Lincoln Avenue Water Company adopted by Resolution, a program of voluntary water conservation to reduce water consumption by ten percent (10%) during 1991. (See Appendix A)

In addition, Los Angeles County Ordinance No. 91-0046U, was adopted March 21, 1991 by the Los Angeles County Board of Supervisors prohibiting the wasting of water in the unincorporated area of Los Angeles County served by Lincoln Avenue. Violation of this Ordinance is punishable by a fine of up to $500.00. Lincoln Avenue supports the actions of the Board of Supervisors and assists in enforcing this Ordinance by notifying and educating our water users when non-compliance of this Ordinance is observed. (See Appendix B)

SECTION 6 CONSUMPTION LIMITS

Lincoln Avenue Water Company has recently increased and restructured the water rates to promote water conservation by discouraging water consumption that exceeds the company's target quantity goal. The new rates consist of three tiers. The first tier consumption reflects the company's twenty percent consumption reduction goal. The second tier is the penalty tier. Water users will pay two times the rate compared to the tier one rate. Tier three is the emergency water delivery tier. Water users whose consumption enters this tier will pay three times the amount compared to the tier one rate.

Currently water allocation for the first tier rate for residential accounts is 15 units per month or 374 gallons per day. The second tier consumption is 16 to 100 units. The third tier is 101 units or more.

Commercial and Governmental accounts receive an additional 25 units per month at the tier one rate.

The new rate is a drought contingency rate. The water allocation and/or water rates for each tier may be increased or decreased depending on the effectiveness of the Company's water conservation program and the availability of the water supply.

SECTION 7 PENALTIES AND CHARGES FOR EXCESSIVE USE

Lincoln Avenue Water Company's current water rate structure is designed to promote water conservation. A customer whose consumption exceeds the allocated usage pays two to three times the rate than a water user who is conserving.

TABLE 3 CURRENT WATER RATE STRUCTURE

TIER		RATE	RESIDENTIAL SINGLE FAMILY	RESIDENTIAL 2 DWELLINGS	GOVERNMENTAL/ COMMERCIAL
1	Company's target quant.	1.14	1 - 15	1 - 20	1 - 40
2	Penalty	2.28	16 - 100	21 - 100	41 - 100
3	Emergency	3.42	101 or more	101 or more	101 or more

SECTION 8 REVENUE AND EXPENDITURE ANALYSIS

The expenditures are projected to increase dramatically due to the anticipated rate increase imposed by MWD of approximately 30% per year for the next two years. MWD has also scheduled annual rate increases through the year 2000.

In anticipation of reduced sales and rate increases, Lincoln Avenue has determined that a rate increase of 17% will be necessary to fund our fixed operational expense and to continue our capital improvement programs. Since Lincoln Avenue depends upon MWD for 30% - 100% of our annual water supply - any rate increases imposed by MWD will ultimately be passed on to our water users.

SECTION 9 WATER USE MONITORING PROCEDURES

Lincoln Avenue Water Company's production is currently monitored on a daily basis. This production is compared to reduced allocations on a weekly basis to determine level of compliance with the required cutback in deliveries to customers.

SECTION 10 PLAN ADOPTION STANDARDS

Lincoln Avenue Water Company prepared the Water Shortage Contingency Plan. A public meeting was properly noticed in the Pasadena/Altadena Weekly. Copies of the draft plan were available for public review at our office. The plan was formally adopted by the Board of Directors on March 9, 1992 and submitted to the Department of Water Resources on March 11, 1992. (See Appendix C)

RESOLUTION

RESOLUTION OF THE BOARD OF DIRECTORS OF THE LINCOLN AVENUE WATER COMPANY ADOPTING A PROGRAM OF VOLUNTARY WATER CONSERVATION TO REDUCE WATER CONSUMPTION BY TEN PERCENT.

WHEREAS, the water required to supply water user needs must be imported from the State Water Project and the Colorado River; and

WHEREAS, the State Department of Water Resources and the Metropolitan Water District of Southern California have determined that, because of inadequate precipitation, supplies of the above mentioned imported water may be inadequate to meet normal water use needs in the ensuing months; and

WHEREAS, the critical nature of the water supply available to Lincoln Avenue Water Company makes it necessary to reduce water consumption by at least ten percent in order to protect and conserve the public water supply and to lessen the demand on the remaining water in storage; and

NOW, THEREFORE, the Board of Directors of the Lincoln Avenue Water Company resolves as follows:

1. Due to a serious statewide water shortage that exists as a result of four years of inadequate precipitation, it is necessary and in the best interests of the water users within Lincoln Avenue Water Company's service area to conserve and protect existing water supplies against waste and unreasonable uses by implementing water conservation measures to reduce consumption by at least ten percent.

2. A phased program beginning with voluntary measures to reduce consumption will best achieve the goal of conserving the water supply without causing unnecessary adverse economic consequences.

3. If voluntary measures do not achieve the goal of a ten percent reduction in water use, or if a severe drought condition is declared by the Metropolitan Water District of Southern California, the Board will consider such further actions as it then deems necessary and/or advisable.

4. The following measures are requested to be taken by all water users within Lincoln Avenue Water Company's service area to reduce individual water use by at least ten percent. We can achieve this goal by initiating the following actions:

   A. Do not hose down driveways, patios, sidewalks or other paved areas. Use a broom or blower instead.

   B. Install water saving devices on plumbing fixtures.

   C. Where possible, install and use spa and swimming pool covers to reduce evaporation.

D. Check faucets, toilets, and pipes, both indoors and outdoors for leaks and repair them immediately.

E. Irrigate lawns and landscaping before 10:00 a.m. or after 5:00 p.m. Do not overwater.

F. Adjust sprinklers and irrigation systems to avoid overspray, run-off, and waste. Avoid watering in rainy or windy weather.

G. Parks and school grounds should not be watered between the hours of 10:00 a.m. and 5:00 p.m.

H. Do not allow the hose to run while washing the car. Use a bucket or an automatic cutoff on the hose.

I. When installing new residential landscaping, plant low water demand trees and plants. Avoid large turf areas, which consume large quantities of water.

J. Developers of commercial and industrial properties are requested to use low water use landscaping plants and designs to provide for permanent water conservation.

5. The Board hereby directs staff to increase its public information and education measures by the following action:

Take steps to inform our customers that water conservation devices and informational materials are available at our office.

Robert W. Horner
President

MAY 18, 1990
Date

RESOLUTION

RESOLUTION OF THE BOARD OF DIRECTORS OF THE LINCOLN AVENUE WATER COMPANY SUPPORTING THE ACTION OF THE LOS ANGELES COUNTY BOARD OF SUPERVISORS IN ADOPTING ORDINANCE NO. 91-0046U RELATING TO WATER CONSERVATION REQUIREMENTS FOR THE UNINCORPORATED AREA OF LOS ANGELES COUNTY SERVED BY THE LINCOLN AVENUE WATER COMPANY.

The Board of Directors of the Lincoln Avenue Water Company resolves as follows:

1. **Hose Watering Prohibition.**

   No person shall hose water or wash down any sidewalks, walkways, driveways, parking areas of other paved surfaces, except as is required for the benefit of public health and safety. Willful violation hereof shall be an infraction punishable by a fine of $100.00 for the first infraction and $500.00 each for subsequent infractions.

2. **Watering of Lawns and Landscaping.**

   a. No person shall water or cause to be watered any lawn or landscaping between the hours of 10:00 a.m. and 5:00 p.m.

   b. No person shall water or cause to be watered any lawn or landscaping more than once a day.

   c. No person shall water or cause to be watered any lawn or landscaping to such an extent that runoff into adjoining streets, parking lots or alleys occurs due to incorrectly directed or maintained sprinklers or excessive watering.

   d. It shall be the duty of all persons to inspect all hoses, faucets and sprinkling systems for leaks and to cause all leaks to be repaired as soon as is reasonably practicable.

   e. Willful violation hereof shall be an infraction punishable by a fine of $100.00 for the first infraction and $500.00 each for subsequent infractions.

3. **Indoor Plumbing and Fixtures.**

   a. It shall be the duty of all persons to inspect all accessible indoor plumbing and faucets for leaks and to cause all leaks to be repaired as soon as is reasonably practicable.

b. Willful violation hereof shall be an infraction punishable by a fine of $500.00.

4. **Washing Vehicles.**

No motor vehicle, boat, trailer or other type of mobile equipment may be washed, except at a commercial car wash or with reclaimed water, unless such vehicle is washed by using a hand-held bucket or a water-hose equipped with an automatic shutoff nozzle. No person shall leave a water hose running while washing a vehicle or at any other time. Willful violation hereof shall be an infraction punishable by a fine of $100.00 for the first infraction and $500.00 each for subsequent infractions.

5. **Public Eating Places.**

No restaurant, hotel, cafeteria, cafe or other public place where food is sold or served shall serve drinking water to any customer unless specifically requested to do so by such customer. Willful violation hereof shall be an infraction punishable by a fine of $100.00 for the first infraction and $500.00 each for subsequent infractions.

6. **Decorative Fountains.**

No person shall use water to clean, fill or maintain levels in decorative fountains, ponds, lakes, or other similar aesthetic structures unless such water flows through a recycling system. Willful violation hereof shall be an infraction punishable by a fine of $100.00 for the first infraction and $500.00 each for subsequent infractions.

This Resolution shall remain in effect until such time Ordinance No. 91-0046U is amended or terminated.

Due to the severity of the drought in the State of California, there is an immediate need to prohibit the wasting of water in the Los Angeles County unincorporated area served by the Lincoln Avenue Water Company to better utilize the available water supplies. This Resolution is urgently needed for the preservation of the public health, safety and general welfare and shall take effect immediately.

Robert W. Harner
President

April 22, 1991
Date

RESOLUTION

A RESOLUTION ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the California Legislature enacted Assembly Bill 11X during 1991. Extraordinary Session of the California Legislature (an act to amend California Water Code Sections 10620, 10621, 10631, and 10652 and to add Section 10656 to the California Water Code, relating to water; and

WHEREAS, AB11X mandates that every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to develop a Water Shortage Contingency Plan; and

WHEREAS, AB11X mandates that said Plan be filed with the California Department of Water Resources by January 31, 1992; and

WHEREAS, Lincoln Avenue Water Company is an urban water supplier providing water for municipal purposes to more than 3,000 customers, and therefore, prepared and made a Draft Water Shortage Contingency Plan available for public review, in compliance with the requirements of AB11X, and a properly noticed public hearing regarding said Draft Plan was held by the Board of Directors on March 9, 1992, and a Final Water Shortage Contingency Plan prepared;

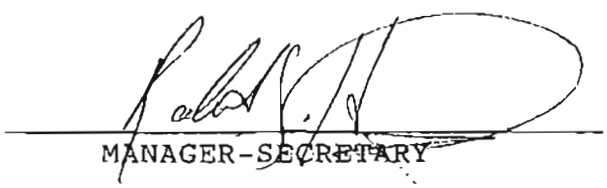
NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Lincoln Avenue Water Company as follows:

1. The Water Shortage Contingency Plan is hereby adopted and filed in the office of Lincoln Avenue Water Company;

2. The Manager is hereby authorized and directed to file this Plan with the California Department of Water Resources;

3. The Manager is hereby authorized to declare a Water Shortage Emergency and implement this Water Shortage Contingency Plan when deemed necessary;

4. The Manager shall recommend to the Board of Directors regarding additional procedures, rules, and regulations to carry out effective and equitable allocation of water resources during a water shortage.



MANAGER-SECRETARY

March 9, 1992
DATE

LINCOLN AVENUE WATER COMPANY

ESTABLISHED 1883

March 11, 1992

Mr. Jonas Minton, Chief
Water Conservation Office
Department of Water Resources
1416 Ninth Street, Room 804
Sacramento, CA 95814

Dear Mr. Minton:

Enclosed are three copies of the Lincoln Avenue Water Company's Water Shortage Contingency Plan, prepared pursuant to the requirements of Assembly 11X. This plan was approved by the Board of Directors of the Company at a regular meeting held on March 9, 1992.

The Company's plan was prepared by Anne S. Asavavimol. She is available to answer any questions you may have about the Plan. The fax number is (818)798-9446.

Very truly yours,

ROBERT J. HAYWARD
MANAGER

Encl.

564 West Harriet Street • Altadena, California 91001-4537 • Telephone: (818) 798-9101

WATER USER'S MEETING
LINCOLN AVENUE WATER COMPANY

Notice is hereby given that the water user's meeting of the LINCOLN AVENUE WATER COMPANY, a corporation will be held at the office, 564 WEST HARRIET STREET, ALTADENA, CALIFORNIA on MONDAY, March 9, 1992, at 6:30 p.m. for the purpose of adopting the Water Shortage Contingency Plan.

ROBERT J. HAYWARD, MANAGER-SECRETARY
Published in the Pasadena/Altadena Weekly on March 6, 1992

Appendix D: LAWC Board Resolution Adopting 2015 UWMP

Lincoln Avenue Water Company 2015 Urban Water Management Plan

RESOLUTION NO. LAWC061716

RESOLUTION OF THE BOARD OF DIRECTORS OF LINCOLN AVENUE WATER COMPANY ADOPTING THE URBAN WATER MANAGEMENT PLAN

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS Lincoln Avenue Water Company (LAWC) is an urban supplier of water providing water to a population over 16,000; and

WHEREAS the Plan shall be periodically reviewed at least once every five years, and that LAWC shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by July 1, 2016, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS LAWC has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by Board of Directors on June 17, 2016; and

WHEREAS LAWC did prepare and shall file said Plan with the California Department of Water Resources by July 1, 2016;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of LAWC that the 2015 Urban Water Management Plan is hereby adopted on June 17, 2016 and the General Manager is hereby authorized and directed to file the 2015 Urban Water Management Plan with the California Department of Water Resources within 30 days of this date.

John Clairday, President

ATTEST:

Robert J. Hayward, Secretary

Appendix E: Two-Week & One-Week Notification of Public Hearing

Lincoln Avenue Water Company 2015 Urban Water Management Plan

PASADENA Weekly **classifieds**

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ADDRESS: 50 S. De Lacey Avenue, Suite 200, Pasadena, CA 91105

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Legals

PUBLIC NOTICES

COUNTY OF LOS ANGELES TREASURER AND TAX COLLECTOR

NOTICE OF DIVIDED PUBLICATION

Made pursuant to Revenue and Taxation Code Section 3381

Pursuant to Revenue and Taxation Code Sections 3381 through 3385, the Notice of Power to Sell Tax-Defaulted Property in and for the County of Los Angeles, State of California, has been divided and distributed to various newspapers of general circulation published in the County. A portion of the list appears in each of such newspapers.

NOTICE OF IMPENDING POWER TO SELL TAX-DEFAULTED PROPERTY
Made pursuant to Revenue and Taxation Code Section 3361

Notice is hereby given that real property taxes and assessments on the parcels described below will have been defaulted five or more years, or, in the case of nonresidential commercial property, property on which a nuisance abatement lien has been recorded, or that can serve the public benefit by providing hous-ing or services directly related to low-income persons when three or more years have elapsed, and a re-quest has been made by a city, county, city and county, or nonprofit organization that property, will become subject to the Tax Collector's power to sell.

The parcels listed will become subject to the Tax Collector's power to sell on July 1, 2016, at 12:01 a.m., by operation of law. The Tax Collector will record a Notice of Power to Sell unless the property taxes are paid in full or an installment plan of redemption is initiated, as provided by law prior to 5:00 p.m., on June 30, 2016. The right to initiate an in-stallment plan terminates on June 30, 2016. Thereafter, the only option to prevent the sale of the property at public auction is by paying the taxes in full.

The right of redemption survives the property becoming subject to the Tax Collector's power to sell, but it terminates at 5:00 p.m. on the last business day before the scheduled auction of the property by the Tax Collector.

The Treasurer and Tax Collector's Office will furnish, upon request, information concerning payment in full or initiating an installment plan of redemption. Requests must be made to Joseph Kelly, Treasurer and Tax Collector, County of Los Angeles, 225 North Hill Street, First Floor Lobby, Los Angeles, California 90012. For more information, please visit our website at ttc.lacounty.gov.

The amount to redeem, in dollars and cents, is set forth opposite its parcel number. This amount includes all defaulted taxes, penalties, and fees that have accrued from the date of tax-default to the date of June 30, 2016.

I certify, under penalty of perjury, that the foregoing is true and correct. Dated this 5th day of May, 2016.

Kathleen Glorioso

for JOSEPH KELLY
TREASURER AND TAX COLLECTOR
COUNTY OF LOS ANGELES
STATE OF CALIFORNIA

PARCEL NUMBERING SYSTEM EXPLANATION

The Assessor's Identification Num-ber, when used to describe property in this list, refers to the Assessor's map book, the map page, the block on the map, if applicable, and the individual parcel on the map page or in the block. The Assessor's maps and further explanation of the parcel numbering system are available in the Assessor's Office, 500 West Temple Street, Room 225, Los Angeles, California 90012.

The real property that is the subject of this notice is situated in the County of Los Angeles, State of California, and is described as follows:

PROPERTY TAX DEFAULTED IN YEAR 2013 FOR TAXES, AS-SESSMENT, AND OTHER CHARGES FOR FISCAL YEAR 2012-2013

2237 $1,425.02 DAVIS,LOUISE AIN: 5308-017-028

2340 $217.17 BUSHMAN,LIZA Z AIN: 5482-007-006

2341 $6,280.19 BACA,SYLVIA V AIN: 5482-013-009

2462 $220.75 MARTINEZ,RAMON ET AL MARTINEZ,LELIA AIN: 5702-013-014

2463 $4,252.53 HERMAN,STUART AIN: 5707-006-025

2464 $4,251.95 HERMAN,STUART AIN: 5707-006-026

2465 $7,497.03 HELLER,ADELE C TR ET AL ADELE C HELLER TRUST AND HELLER,KENNETH B TR HELLER TRUST AIN: 5707-019-009

2466 $45,179.09 HELLER,ADELE C TR ET AL ADELE C HELLER TRUST AND HELLER,KENNETH B TR HELLER TRUST AIN: 5707-020-007

2468 $9,256.42 NEW ERA CLEANERS LLC SITUS:400 E ORANGE GROVE BLVD PASA-DENA CA 91104-4347 AIN: 5725-029-007

2470 $6,025.67 HAMMAD,KALED TR F M HAMMAD TRUST SI-TUS:662 LINCOLN AVE PASA-DENA CA 91103-2954 AIN: 5726-018-024

2471 $3,027.69 HAMMAD,KALED TR F M HAMMAD TRUST AIN: 5726-018-033

2472 $336.14 SABAIQ AND AS-SOCIATES LLC AIN: 5728-013-052

2475 $30.91 NORTH PAS-ADENA CHURCH OF CHRIST SITUS:920 N EL MOLINO AVE PASADENA CA 91104-3644 AIN: 5730-023-019

2476 $33,138.54 1596 E WAL-NUT STREET CORP SI-TUS:1596 E WALNUT ST PASADENA CA 91106-1527 AIN: 5737-006-007

2477 $10,359.28 YAZIJI-AN,BEDROS SITUS:1774 LOCUST ST PASADENA CA 91106-1610 AIN: 5737-016-035

2478 $20,605.88 DYM-MEL,KENNETH L AND RUTH E TRS WALNUT STREET TRUST AIN: 5737-016-054

2483 $45,125.51 PARK GREEN LLC C/O C/O STEVEN C SCHULTZ SI-TUS:1890 E WAL-NUT ST PASADENA CA 91107-3540 AIN: 5746-016-047

2485 $6,822.30 GARABEDI-AN,MIKAEL AND MARY SI-TUS:500 N ALTADENA DR PAS-ADENA CA 91107-2540 AIN: 5750-016-018

2491 $2,355.93 HOU-STON,DOROTHY D AND SMITH,LINDA D SITUS:1907 PASADENA GLEN RD PASADENA CA 91107-1220 AIN: 5760-016-005

2511 $4,706.75 DAVIS,JOSHUA A AIN: 5829-032-029

2514 $3,460.80 LOS ANGE-LES DISTRICT ADVISORY BOARD CHURCH OF THE NAZARENE SITUS:2681 FAIR OAKS AVE ALTADE-NA CA 91001-5070 AIN: 5835-006-023

2515 $346.43 ALTADENA CHURCH OF THE NAZA-RENE AIN: 5835-007-007

2519 $5,925.15 GAR-RETT,ELEANOR M DECD EST OF ET AL BAHLER,DEBBIE AIN: 5843-006-037

2520 $7,392.84 GIBSON,JOY AND BARBARA J GIBSON AIN: 5843-015-023

2521 $4,323.34 BIRDI,MONINDER S AND RUCHI AIN: 5843-030-021

2523 $466.82 MAY,ALVIE G DECD EST OF AIN: 5857-004-007

2524 $466.82 MAY,ALVIE G DECD EST OF AIN: 5857-004-014

2525 $598.23 JONES,DANA AIN: 5857-020-011

PROPERTY TAX DEFAULTED IN YEAR 2011 FOR TAXES, AS-SESSMENT, AND OTHER CHARGES FOR FISCAL YEAR 2010-2011

2242 $7,471.77 MCCLURG,YVETTE L TR YVETTE L MCCLURG TRUST SITUS:710 CHAR-TER OAK ST SOUTH PASADENA CA 91030-2306 AIN: 5313-005-024

2243 $9,043.98 SUGAR,THOMAS J AND KATHERINE A SITUS:1204 ORANGE GROVE AVE SOUTH PASADENA CA 91030-3602 AIN: 5314-012-018

2244 $16,114.35 IVSIC,MATHIEU AND IVSIC,EDITH C/O C/O HODGKISS INS BROKERS 401SITUS:2465 HUNTING-TON DR SAN MARINO CA 91108-2644 AIN: 5331-027-027

2260 $25,657.64 GULTOM,IVAN AND SUGIONO,HERMAN AND MARIA M SITUS:203 N MISSION DR SAN GA-BRIEL CA 91775-2727 AIN: 5364-005-002

2261 $10,766.56 TSANG,LUCY SITUS:8857 DUARTE RD SAN GA-BRIEL CA 91775-1507 AIN: 5379-017-003

2460 $1,611.82 CASKEY,DWAIN DECD EST OF SITUS:1670 CA-SITAS AVE PASADENA CA 91103-1223 AIN: 5702-008-050

2461 $21,976.64 COLE,ROBERT E SI-TUS:1585 CASITAS AVE PAS-ADENA CA 91103-1219 AIN: 5702-011-010

2473 $4,387.41 NAJAR,HENRIETTA TR NAJAR TRUST SITUS:949 N GARFIELD AVE PASA-DENA CA 91104-3530 AIN: 5729-019-019

2479 $159.12 RUSSOM,CHARLES A AND DIANE K SITUS:130 N CHESTER AVE PASA-DENA CA 91106-1805 AIN: 5738-022-018

2480 $42,425.23 BAGHIKIAN,SARKIS SI-TUS:529 N HILL AVE PAS-ADENA CA 91106-1222 AIN: 5739-020-011

2481 $8,436.03 MAR-TINEZ,SALUD B SI-TUS:1893 QUEENSBERRY RD PASADENA CA 91104-3230 AIN: 5742-013-028

2482 $12,156.36 GARCIA,ESTHER O TR GARCIA TRUST B SI-TUS:59 N BERKELEY AVE PASADENA CA 91107-3549 AIN: 5746-015-053

2484 $21,247.72 ANDRO,DAVID R TR DA-VID R ANDRO TRUST SI-TUS:1845 E COLORADO BLVD PASADENA CA 91107-3554 AIN: 5746-017-031

2486 $32,640.74 PIAT-KOWSKI JR,MAREK W SI-TUS:2794 WOODLYN RD PASADENA CA 91107-1879 AIN: 5751-006-052

2487 $7,423.05 CHEATHAM,MICHELE L SI-TUS:345 SANTA PAULA AVE PASADENA CA 91107-3138 AIN: 5752-016-014

2488 $5,420.90 GARCIA,ESTHER O TR GARCIA TRUST A SI-TUS:3160 BRANDON ST PASA-DENA CA 91107-3854 AIN: 5754-012-003

2489 $105,294.64 PATEL,PURVI AND NIMESH SITUS:830 CAM-BRIDGE CT PASADENA CA 91107-1977 AIN: 5757-005-029

2490 $12,694.05 ARDEN MAN-AGEMENT LLC C/O C/O SBS LIEN SERVICES SITUS:1015 N MICHILLIN-DA AVE NO 306 PASA-DENA CA 91107-1902 AIN: 5758-017-046

2512 $40.28 GHAN-TOUS,CHRISTIAN AND VALERIE S SITUS:3485 MARENGO AVE ALTADE-NA CA 91001-4041 AIN: 5833-001-042

2516 $17,609.04 FARSA-NY,SHEKOFE H SI-TUS:1864 GLEN AVE PAS-ADENA CA 91103-1518 AIN: 5836-005-006

2517 $9,600.66 HALL,DARRYL AND HALL,GARY SITUS:2009 N SUMMIT AVE PASADENA CA 91103-1749 AIN: 5837-003-021

2518 $10,400.76 OL-MOS,FRANCISCO AND AURELIA SITUS:530 WICKLIFFE DR PASA-DENA CA 91104-1256 AIN: 5838-027-005

2522 $7,576.33 SANTOYO,JUAN AND JU-LIA SITUS:1812 N HILL AVE PASADENA CA 91104-1430 AIN: 5850-005-008

PROPERTY TAX DE-FAULTED IN YEAR 2010 FOR TAXES, AS-SES-SMENT, AND OTHER CHARGES FOR FISCAL YEAR 2009-2010

2467 $25,366.21 SO-TOMAYOR,IVAN J AND EUGEN-IA TRS SOTOMAYOR FAM-ILY TRUST AND SO-TOMAYOR,CARMEN SI-TUS:540 S MARENGO AVE PASADENA CA 91101-3130 AIN: 5722-017-001

2469 $3,643.54 SMITH,GLORIA U SI-TUS:716 CYPRESS AVE PASA-DENA CA 91103-2932 AIN: 5726-005-029

2513 $13,978.83 PAR-KER,VIVIANNE M SI-TUS:2924 EMERSON WAY ALTADENA CA 91001-4806 AIN: 5833-022-011

PROPERTY TAX DE-FAULTED IN YEAR 2009 FOR TAXES, AS-SES-SMENT, AND OTHER CHARGES FOR FISCAL YEAR 2008-2009

2474 $5,594.55 CONNER,JUDITH SI-TUS:930 N EL MOLINO AVE PASADENA CA 91104-3644 AIN: 5730-023-018

2510 $25,832.39 BROWN,LOIS L SITUS:646 W MENDOCINO ST ALTADENA CA 91001-4524 AIN: 5829-032-017

PUBLIC NOTICES

ORDER TO SHOW CAUSE FOR CHANGE OF NAME
Case No. NS032110

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES. Petition of QUESNA THACH, for Change of Name. TO ALL INTERESTED PERSONS: 1.) Petitioner: Quesna Thach filed a petition with this court for a decree changing names as follows: a.) Quesna Thach to Arthur Quesna Thach 2.) THE COURT ORDERS that all persons interested in this matter appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should not be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two court days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing. NOTICE OF HEARING: Date: 06/16/2016. Time: 8:30 AM. Dept.: 26. The address of the court is 275 Magnolia Ave., Long Beach, CA 90802. A copy of this Order to Show Cause shall be published at least once each week for four successive weeks prior to the date set for hearing on the petition in the following newspaper of general circulation, printed in this county: Pasadena Weekly. Original filed: May 05, 2016. Michael P. Vicencia, Judge of the Superior Court. PUBLISH: Pasadena Weekly 5/12/16, 5/19/16, 5/26/16, 6/2/16

ORDER TO SHOW CAUSE FOR CHANGE OF NAME
Case No. ES019899

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES. Petition of GE GUO, YUCHUAN GUO for Change of Name. TO ALL INTERESTED PERSONS: 1.) Petitioner: Catherine Wang filed a petition with this court for a decree changing names as follows: a.) Ge Guo to Alice Guo b.) YuChuan Guo to Steven Guo 2.) THE COURT ORDERS that all persons interested in this matter appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should not be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two court days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing. NOTICE OF HEARING: Date: 06/16/2016. Time: 8:30 AM. Dept.: 26. The address of the court is 275 Magnolia Ave., Long Beach, CA 90802. A copy of this Order to Show Cause shall be published at least once each week for four successive weeks prior to the date set for hearing on the petition in the following newspaper of general circulation, printed in this county: Pasadena Weekly. Original filed: May 11, 2016. Mary Thornton House, Judge of the Superior Court. PUBLISH: Pasadena Weekly 5/26/16, 6/2/16, 6/9/16, 6/16/16

ORDER TO SHOW CAUSE FOR CHANGE OF NAME
Case No. ES019950

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES. Petition of JI YEN SHIN, for Change of Name. TO ALL INTERESTED PERSONS: 1.) Petitioner: Ji Yen Shin filed a petition with this court for a decree changing names as follows: a.) Ji Yen Shin to Angela Jiyeon Shin 2.) THE COURT ORDERS that all persons interested in this matter appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should not be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two court days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing. NOTICE OF HEARING: Date: July 13, 2016. Time: 8:30 AM. Dept.: D. The address of the court is Pasadena Courthouse, 300 East Walnut Ave. Pasadena, CA 91101. A copy of this Order to Show Cause shall be published at least once each week for four successive weeks prior to the date set for hearing on the petition in the following newspaper of general circulation, printed in this county: Pasadena Weekly. Original filed: May 31, 2016. Mary Thornton House, Judge of the Superior Court. PUBLISH: Pasadena Weekly 6/2/16, 6/9/16, 6/16/16, 6/23/16

NOTICE OF PUBLIC HEARING

Draft Urban Water Management Plan

The Lincoln Avenue Water Company (Lincoln Avenue) hereby releases its draft Urban Water Management Plan (Plan) for public review. Accordingly, Lincoln Avenue's Board of Directors will conduct a public hearing at 10 a.m. on Friday, June 17, 2016 and consider adoption of the Plan at the close of the hearing. The Public Hearing will be held at Lincoln Avenue Water Company 564 W. Harriet St., Altadena, California. Copies of the Plan are available for public inspection at the Lincoln Avenue office. Comments and/or questions regarding the Plan should be directed to Robert J. Hayward, General Manager at (626)798-9101, extension 213.

PASADENA Weekly

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Date	Pub	Type	Description	Price	Discount	Ad Charge
6/2/16	PW	ad	Lincoln Avenue Water Company			
6/9/16	PW	ad	Lincoln Avenue Water Company			

Payments

Date	Type	Check / Card ID	Description	Applied
5/27/16	Pmt Applied	AX #2018		
5/27/16	Pmt Applied	AX #2018		

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Remit Payment to:
Pasadena Weekly
50 S. De Lacey Ave, Suite 200
Pasadena, CA 91105-3806
Fax: 626-795-0149

Lincoln Avenue Water Company
564 W. Harriet Street
Altadena, CA 91001~4537

Advertising Receipt

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Amount Enclosed _____

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Prebill Date: 6/2/2016
Ad # 196925
Account # 10655

LINCOLN AVENUE WATER COMPANY
serving Altadena since 1896

564 WEST HARRIET STREET
ALTADENA, CALIFORNIA 91001-4571
(626) 798-9101
FAX (626) 798-9446

The mission of the Lincoln Avenue Water Company is to reliably provide to its customers and shareholders high quality water, service, and maintenance of the Company's resources in an environmentally and fiscally responsible manner.

May 24, 2016

Nina Jazmadarian
Foothill Municipal Water District
4524 Hampton Rd
La Canada Flintridge, CA 91011

RE: 2015 Urban Water Management Plan (Plan)

Dear Ms. Jazmadarian:

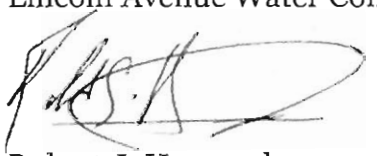
This letter serves as notice that Lincoln Avenue Water Company (Lincoln Avenue) will be holding a public hearing to review the updated Plan as required by the Urban Water Management Planning Act.

A public hearing will be held at 10:00 a.m. on June 17, 2016 at our main office located at 564 West Harriet Street, Altadena. A copy of the draft Plan will be available upon request 30 days prior to the meeting.

Please submit questions, comments or request for a copy of the draft plan in writing to:

Lincoln Avenue Water Company
Attn: Jennifer Betancourt
564 W Harriet St.
Altadena CA 91001

Sincerely,
Lincoln Avenue Water Company



Robert J. Hayward
General Manager

LINCOLN AVENUE WATER COMPANY
serving Altadena since 1896

564 WEST HARRIET STREET
ALTADENA, CALIFORNIA 91001-4571
(626) 798-9101
FAX (626) 798-9446

The mission of the Lincoln Avenue Water Company is to reliably provide to its customers and shareholders high quality water, service, and maintenance of the Company's resources in an environmentally and fiscally responsible manner.

May 24, 2016

Tony Zampiello
Raymond Basin Management Board
725 N Azusa Ave
Azusa CA 91702

RE: 2015 Urban Water Management Plan (Plan)

Dear Mr. Zampiello:

This letter serves as notice that Lincoln Avenue Water Company (Lincoln Avenue) will be holding a public hearing to review the updated Plan as required by the Urban Water Management Planning Act.

A public hearing will be held at 10:00 a.m. on June 17, 2016 at our main office located at 564 West Harriet Street, Altadena. A copy of the draft Plan will be available upon request 30 days prior to the meeting.

Please submit questions, comments or request for a copy of the draft plan in writing to:

Lincoln Avenue Water Company
Attn: Jennifer Betancourt
564 W Harriet St.
Altadena CA 91001

Sincerely,
Lincoln Avenue Water Company

Robert J. Hayward
General Manager

Appendix F: 60-Day Notification of Public Hearing

Lincoln Avenue Water Company 2015 Urban Water Management Plan

LINCOLN AVENUE WATER COMPANY
serving Altadena since 1896

564 WEST HARRIET STREET
ALTADENA, CALIFORNIA 91001-4571
(626) 798-9101
FAX (626) 798-9446

The mission of the Lincoln Avenue Water Company is to reliably provide to its customers and shareholders high quality water, service, and maintenance of the Company's resources in an environmentally and fiscally responsible manner.

March 29, 2016

Michael D. Antonovich
Supervisor, Fifth District
County of Los Angeles
869 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles CA 90012

RE: 2015 Urban Water Management Plan (Plan)

Dear Supervisor Antonovich:

This letter serves as a formal 60-day notice that Lincoln Avenue Water Company (Lincoln Avenue) will be holding a public hearing to review the updated Plan as required by the Urban Water Management Planning Act (Act). The Act requires urban water suppliers such as Lincoln Avenue to notify the city or county within its service area that we will be reviewing the Plan and considering amendments or changes to the Plan.

A public hearing will be held at 10:00 a.m. on June 17, 2016 at our main office located at 564 West Harriet Street, Altadena. A copy of the draft Plan will be available upon request 30 days prior to the meeting.

Please submit questions, comments or request for a copy of the draft plan in writing to:

Lincoln Avenue Water Company
Attn: Jennifer Betancourt
564 W Harriet St.
Altadena CA 91001

Sincerely,
Lincoln Avenue Water Company

Robert J. Hayward
General Manager

Appendix G: WUE Tool 2015 Population

Lincoln Avenue Water Company 2015 Urban Water Management Plan

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information

Generated By	Water Supplier Name	Confirmation #	Generated On
Phong Tran	Lincoln Avenue Water Company	3023511588	5/26/2016 1:10:55 PM

Boundary Information

Census Year	Boundary Filename	Internal Boundary ID
1990	No Boundary Selected	N/A
2000	No Boundary Selected	N/A
2010	LAWC Service Boundaries 05-24-2016.kml	1148
1990	No Boundary Selected	N/A
2000	No Boundary Selected	N/A
2010	LAWC Service Boundaries 05-24-2016.kml	1148

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period: 10

Year beginning baseline period range: 2000

Year ending baseline period range[1]: 2009

5-year baseline period

Year beginning baseline period range: 2003

Year ending baseline period range[2]: 2007

[1] The ending year must be between December 31, 2004 and December 31, 2010.

[2] The ending year must be between December 31, 2007 and December 31, 2010.

Persons per Connection

Year	Census Block Level Total Population	Number of Connections *	Persons per Connection
1990	0		3.15
1991	-	-	3.15
1992	-	-	3.15
1993	-	-	3.15
1994	-	-	3.15
1995	-	-	3.15
1996	-	-	3.15
1997	-	-	3.15
1998	-	-	3.15
1999	-	-	3.15
2000	0		3.15
2001	-	-	3.15
2002	-	-	3.15
2003	-	-	3.15
2004	-	-	3.15
2005	-	-	3.15
2006	-	-	3.15
2007	-	-	3.15
2008	-	-	3.15
2009	-	-	3.15
2010	13,527	4289	3.15
2015	-	-	3.15 **

Population Using Persons-Per-Connection

Year		Number of Connections *	Persons per Connection	Total Population
10 to 15 Year Baseline Population Calculations				
Year 1	2000		3.15	
Year 2	2001		3.15	
Year 3	2002		3.15	
Year 4	2003		3.15	
Year 5	2004		3.15	
Year 6	2005		3.15	
Year 7	2006		3.15	
Year 8	2007		3.15	
Year 9	2008		3.15	
Year 10	2009		3.15	
5 Year Baseline Population Calculations				
Year 1	2003		3.15	
Year 2	2004		3.15	
Year 3	2005		3.15	
Year 4	2006		3.15	
Year 5	2007		3.15	
2015 Compliance Year Population Calculations				
2015		4322	3.15 **	**13,631**

Hide Print Confirmation

Appendix H: DWR Data Tables & UWMP Checklist

Lincoln Avenue Water Company 2015 Urban Water Management Plan

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA1910063	Lincoln Avenue Water Company	4,440	1,864
TOTAL		4,440	1,864
NOTES:			

Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* *drop down list*
☑	**Individual UWMP**		
☐	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
☐	Agency is a wholesaler
☑	Agency is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name *(Add additional rows as needed)*
Foothill Municipal Water District
NOTES:

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	13,631	13,801	13,972	14,146	14,322	14,500
NOTES:						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 Actual		
Drop down list *May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool*	Additional Description *(as needed)*	Level of Treatment When Delivered *Drop down list*	Volume
Single Family	w/ Multi Family, Commercial, & Institutional	Drinking Water	1,685
Losses		Drinking Water	179
		TOTAL	1,864
NOTES:			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type *(Add additional rows as needed)*	Additional Description *(as needed)*	Projected Water Use *Report To the Extent that Records are Available*				
Drop down list *May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool*		2020	2025	2030	2035	2040-opt
Single Family	w/ Multi Family, Commercial, & Institutional	1,704	1,725	1,746	1,768	1,790
TOTAL		1,704	1,725	1,746	1,768	1,790
NOTES:						

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	1,864	1,704	1,725	1,746	1,768	1,790
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	1,864	1,704	1,725	1,746	1,768	1,790
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES:						

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	178.787
** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*	
NOTES:	

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found.	PG 2-20
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Table 5-1 Baselines and Targets Summary *Retail Agency or Regional Alliance Only*					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*2000*	*2009*	*182*	*163*	*145*
5 Year	*2003*	*2007*	*191*		
*All values are in Gallons per Capita per Day (GPCD)					
NOTES:					

Table 5-2: 2015 Compliance

Retail Agency or Regional Alliance Only

Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD Enter "0" if no adjustment is made *From Methodology 8*					2015 GPCD* *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
122	163	0	0	0	0	122	122	Yes

**All values are in Gallons per Capita per Day (GPCD)*

NOTES:

Table 6-1 Retail: Groundwater Volume Pumped

☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2011	2012	2013	2014	2015
Add additional rows as needed						
Alluvial Basin	Raymond Groundwater Basin	1074	2151	2261	2095	1597
	TOTAL	1,074	2,151	2,261	2,095	1,597

NOTES:

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015							
☐	There is no wastewater collection system. The supplier will not complete the table below.						
	Percentage of 2015 service area covered by wastewater collection system *(optional)*						
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*						
Wastewater Collection			**Recipient of Collected Wastewater**				
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*	
Add additional rows as needed							
Los Angeles County Sanitation District	Estimated	1,685	Los Angeles County Sanitation District	La Canada Wastewater Treatment Plant	No		
Total Wastewater Collected from Service Area in 2015:		1,685					
NOTES:							

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015										
☑	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.									
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)*	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level *Drop down list*	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
						Total	0	0	0	0
NOTES:										

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

☑ Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.

Name of Agency Producing (Treating) the Recycled Water:	
Name of Agency Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2015	
Source of 2015 Supplemental Water	

Beneficial Use Type	General Description of 2015 Uses	Level of Treatment *Drop down list*	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)								
Golf course irrigation								
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other *(Provide General Description)*								
		Total:	0	0	0	0	0	0

**IPR - Indirect Potable Reuse*

NOTES:

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

☑ Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.

Use Type		2010 Projection for 2015	2015 Actual Use
Agricultural irrigation			
Landscape irrigation (excludes golf courses)			
Golf course irrigation			
Commercial use			
Industrial use			
Geothermal and other energy production			
Seawater intrusion barrier			
Recreational impoundment			
Wetlands or wildlife habitat			
Groundwater recharge (IPR)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other	*Type of Use*		
Total		0	0

NOTES:

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
PG 6-4	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Add additional rows as needed			
		Total	0
NOTES:			

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☑	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
PG 7-3	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Agency *This may be a range*
	Drop Down List (y/n)	*If Yes, Agency Name*				
Add additional rows as needed						
NOTES:						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
Drop down list *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool*		Actual Volume	Water Quality *Drop Down List*	Total Right or Safe Yield *(optional)*
Add additional rows as needed				
Purchased or Imported Water		267	Drinking Water	
Groundwater		1,597	Drinking Water	
	Total	1,864		0
NOTES:				

Table 6-9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply *Report To the Extent Practicable*									
Drop down list *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool*		**2020**		**2025**		**2030**		**2035**		**2040** *(opt)*	
		Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*
Add additional rows as needed											
Purchased or Imported Water		920		978		1,037		1,098		1,161	
Groundwater		1,000		1,000		1,000		1,000		1,000	
	Total	1,920	0	1,978	0	2,037	0	2,098	0	2,161	0

NOTES:

Table 7-1 Retail: Basis of Water Year Data			
Year Type	**Base Year** *If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000*	**Available Supplies if Year Type Repeats**	
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	**% of Average Supply**
Average Year	2011-2015		100%
Single-Dry Year	2013		
Multiple-Dry Years 1st Year	2012		
Multiple-Dry Years 2nd Year	2013		
Multiple-Dry Years 3rd Year	2014		
Multiple-Dry Years 4th Year *Optional*			
Multiple-Dry Years 5th Year *Optional*			
Multiple-Dry Years 6th Year *Optional*			
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			
NOTES: See Section 3.8.4, PG 3-25			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals (*autofill from Table 6-9)*	1,920	1,978	2,037	2,098	2,161
Demand totals *(autofill from Table 4-3)*	1,704	1,725	1,746	1,768	1,790
Difference	216	253	291	330	371
NOTES:					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	2,547	2,547	2,547	2,547	2,547
Demand totals	2,120	2146	2,173	2,000	2,227
Difference	427	401	374	547	320
NOTES:					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	2,547	2,547	2,547	2,547	2,547
	Demand totals	2,068	2,093	2,119	2,146	2,172
	Difference	479	454	428	401	375
Second year	Supply totals	2,547	2,547	2,547	2,547	2,547
	Demand totals	2,222	2,250	2,278	2,306	2,335
	Difference	325	297	269	241	212
Third year	Supply totals	2,547	2,547	2,547	2,547	2,547
	Demand totals	2,068	2,093	2,119	2,146	2,172
	Difference	479	454	428	401	375
Fourth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
NOTES:						

Table 8-1 Retail **Stages of Water Shortage Contingency Plan**		
Stage	Complete Both	
	Percent Supply Reduction[1] *Numerical value as a percent*	Water Supply Condition (*Narrative description)*
Add additional rows as needed		
1	0%	Normal Water Conservation
2	0%	Increased Voluntary Conservation
3	0%	Extraordinary Conservation
4	<50%	Allocation
5	>50%	Critical
[1] One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES:		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
All	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Leaks from any facility both inside and outside of a customer's premises must be repaired within seventy-two hours after the customer is notified of, or discovers the leak.	Yes
All	Other	New Plumbing Fixture Requirements	Yes
All	Landscape - Other landscape restriction or prohibition	Where recycled water is available and appropriate, the use of potable water for irrigation purposes shall be considered a waste of potable water.	Yes
All	Other - Prohibit use of potable water for construction and dust control		Yes
All	Landscape - Prohibit certain types of landscape irrigation	No irrigation of new or existing parks, median strips, landscaped public areas or landscaped areas, lawns, or gardens surrounding single-family homes, condominiums, townhouses, apartments, and industrial parks shall occur in such a way as to waste water.	Yes
All	Landscape - Limit landscape irrigation to specific times	Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. and limited to no longer than 10 minutes.	Yes
All	Other - Prohibit use of potable water for washing hard surfaces	Except when necessary to alleviate safety or sanitary hazards	Yes
All	Water Features - Restrict water use for decorative water features, such as fountains		Yes
All	Other	Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut- off nozzle or device.	Yes
All	CII - Restaurants may only serve water upon request		Yes
All	CII - Other CII restriction or prohibition	Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.	Yes
All	Landscape - Other landscape restriction or prohibition	No watering, sprinkling or irrigating shall take place in any landscaped or vegetated areas on days when the wind is blowing causing overspray, and on days when it is raining.	Yes
All	Other	The use of potable water from fire hydrants shall be limited to firefighting related activities or other activities immediately necessary to maintain the health, safety, and welfare of the residents of the FMWD.	Yes

Stage 2	Other	Installation of single pass cooling systems is prohibited in buildings requesting new water service.	Yes
Stage 2	CII - Other CII restriction or prohibition	Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.	Yes
Stage 2	CII - Other CII restriction or prohibition	All commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from LAWC.	Yes
Stage 2	Landscape - Limit landscape irrigation to specific days	Outdoor water use is limited to odd or even days, based on ending number of customer address.	Yes
Stage 3	Landscape - Limit landscape irrigation to specific days	Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week on Tuesdays, Thursdays and Saturdays. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two days per week on Tuesdays and Saturdays.	Yes
Stage 4	Landscape - Limit landscape irrigation to specific days	Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on Tuesdays and Saturdays.	Yes
Stage 4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the local water purveyor unless other arrangements are made with LAWC.	Yes
Stage 4	Water Features - Restrict water use for decorative water features, such as fountains	Filling or re-filling ornamental lakes or ponds is prohibited	Yes
Stage 4	Other	Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut- off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.	Yes
Stage 5	Other	No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability) will be issued.	Yes
Stage 5	Other	The FMWD will suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any increased use of water.	Yes
Stage 5	Landscape - Prohibit all landscape irrigation	Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. Any waivers to this restriction must be obtained from the LAWC.	Yes
Stage 5	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the local water purveyor unless other arrangements are made with the LAWC.	Yes
NOTES:			

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*
Add additional rows as needed		
1	Provide Rebates for Landscape Irrigation Efficiency	Section 4.2.7 - Rebates on Landscape Devices
1	Provide Rebates for Turf Replacement	Section 4.2.7
1	Other	Section 4
NOTES:		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	2,547	2,547	2,547
NOTES:			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Altadena (Unincorporated)	☑	☑
	☐	☐
	☐	☐
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Los Angeles County	☑	☑
	☐	☐

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	2,723	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	2000	
	Year ending baseline period range[3]	2009	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[1] *If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.*

[2] *The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

[3] *The ending year must be between December 31, 2004 and December 31, 2010.*

[4] *The ending year must be between December 31, 2007 and December 31, 2010.*

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	2000	13,186
Year 2	2001	13,229
Year 3	2002	13,279
Year 4	2003	13,288
Year 5	2004	13,293
Year 6	2005	13,302
Year 7	2006	13,319
Year 8	2007	13,325
Year 9	2008	13,327
Year 10	2009	13,328
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	13,288
Year 2	2004	13,293
Year 3	2005	13,302
Year 4	2006	13,319
Year 5	2007	13,325
2015 Compliance Year Population		
2015		13,631
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year *Fm SB X7-7 Table 3*		**Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**Deductions**					**Annual Gross Water Use**
			Exported Water	**Change in Dist. System Storage (+/-)**	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use**	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	2000	2,452			-		-	2,452
Year 2	2001	2,444			-		-	2,444
Year 3	2002	2,704			-		-	2,704
Year 4	2003	2,712			-		-	2,712
Year 5	2004	2,806			-		-	2,806
Year 6	2005	2,747			-		-	2,747
Year 7	2006	2,930			-		-	2,930
Year 8	2007	3,028			-		-	3,028
Year 9	2008	2,723			-		-	2,723
Year 10	2009	2,493			-		-	2,493
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**2,704**
5 Year Baseline - Gross Water Use								
Year 1	2003	2,712			-		-	2,712
Year 2	2004	2,806			-		-	2,806
Year 3	2005	2,747			-		-	2,747
Year 4	2006	2,930			-		-	2,930
Year 5	2007	3,028			-		-	3,028
5 year baseline average gross water use								**2,845**
2015 Compliance Year - Gross Water Use								
2015		1,864	-		-		-	**1,864**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Groundwater + Imported Water
This water source is:	
☑	The supplier's own water source
☑	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment * *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2000	2,452		2,452
Year 2	2001	2,444		2,444
Year 3	2002	2,704		2,704
Year 4	2003	2,712		2,712
Year 5	2004	2,806		2,806
Year 6	2005	2,747		2,747
Year 7	2006	2,930		2,930
Year 8	2007	3,028		3,028
Year 9	2008	2,723		2,723
Year 10	2009	2,493		2,493
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	2,712		2,712
Year 2	2004	2,806		2,806
Year 3	2005	2,747		2,747
Year 4	2006	2,930		2,930
Year 5	2007	3,028		3,028
2015 Compliance Year - Water into Distribution System				
2015		1,864		1,864

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2000	13,186	2,452	166
Year 2	2001	13,229	2,444	165
Year 3	2002	13,279	2,704	182
Year 4	2003	13,288	2,712	182
Year 5	2004	13,293	2,806	188
Year 6	2005	13,302	2,747	184
Year 7	2006	13,319	2,930	196
Year 8	2007	13,325	3,028	203
Year 9	2008	13,327	2,723	182
Year 10	2009	13,328	2,493	167
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**182**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	13,288	2,712	182
Year 2	2004	13,293	2,806	188
Year 3	2005	13,302	2,747	184
Year 4	2006	13,319	2,930	196
Year 5	2007	13,325	3,028	203
5 Year Average Baseline GPCD				**191**
2015 Compliance Year GPCD				
2015		13,631	1,864	**122**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	182
5 Year Baseline GPCD	191
2015 Compliance Year GPCD	122
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
NOTES:		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
182	**145**
NOTES:	

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
Target *(If more than one region is selected, this value is calculated.)*				**0**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
191	181	145	**145**
[1]Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD. *[2]2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.*			
NOTES:			

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
145	182	**163**
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
122	163	-	-	-	-	122	122	**YES**
NOTES:								

UWMP Checklist

This checklist is developed directly from the Urban Water Management Planning Act and SB X7-7. It is provided to support water suppliers during preparation of their UWMPs. Two versions of the UWMP Checklist are provided – the first one is organized according to the California Water Code and the second checklist according to subject matter. The two checklists contain duplicate information and the water supplier should use whichever checklist is more convenient. In the event that information or recommendations in these tables are inconsistent with, conflict with, or omit the requirements of the Act or applicable laws, the Act or other laws shall prevail.

Each water supplier submitting an UWMP can also provide DWR with the UWMP location of the required element by completing the last column of either checklist. This will support DWR in its review of these UWMPs. The completed form can be included with the UWMP.

If an item does not pertain to a water supplier, then state the UWMP requirement and note that it does not apply to the agency. For example, if a water supplier does not use groundwater as a water supply source, then there should be a statement in the UWMP that groundwater is not a water supply source.

Checklist Arranged by Water Code Section

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location *(Optional Column for Agency Use)*
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	

10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of	System Supplies	Section 6.2.4	

	groundwater pumped by the urban water supplier for the past five years			
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use	System Supplies	Section 2.5.1	

	projections from that source.			
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of	System Supplies (Recycled Water)	Section 6.5.2	

	wastewater collected and treated and the methods of wastewater disposal.			
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	

	about the plan.			
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	

Checklist Arranged by Subject

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location *(Optional Column for Agency Use)*
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	**N/A**
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	**Section 8.1, Section 8.2.2, and Appendix F**

10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	**Section 8.2.1 and Appendix E**
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	**Section 1.6**
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	**Section 2.2.1**
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	**Section 2.2.2, Table 2-2**
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	**Section 2.2.2**
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	**Section 2.2.2, Table 2-2**
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	**Past & Current: Section 2.3.1, Table 2-4** **Projected: Section 2.6.1, Table 2-9**
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	**Section 2.3.1, Table 2-4, and Appendix H (Table 4-4)**
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	**Section 2.6.2**
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	**Section 2.4.5**
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	**Section 2.4.4 and Section 2.4.5**
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	**Section 2.4.4**

10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	**Section 2.4.5**
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	**N/A (no adjustment)**
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	**N/A**
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	**Section 2.4.4 and Section 2.4.5**
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	**Section 2.6.1, Table 2-8**
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	**Section 3.3**
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	**N/A**
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	**Section 3.3**
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	**Section 3.3 Appendix A**
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	**N/A**
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.4	**Section 3.3, and Section 3.6.1, Table 3-3**

10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	**Section 2.6.1, Table 2-8, and Section 3.6.2, Table 3-5**
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	**Section 7.4**
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	**Section 7.5**
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	**Section 7.6**
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	**Section 2.6.1, Section 3.6.2**
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	**N/A**
N/A	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	**Section 6.1 and Section 8.2.2**
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	**Section 6.2**
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	**Section 6.2.1**
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	**Section 6.3**
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	**Section 6.4**

10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	**Section 6.4**
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	**Section 6.4**
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	**Section 6.5**
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	**Section 5.2.3 and Section 7.3**
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	**Section 3.7 and Section 3.8**
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	**Section 3.8.2 and Section 3.8.4**
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	**Section 5.2.3 and Section 5.4**
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	**Section 3.5**
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	**Section 3.8.4, Tables 3-11 to 3-17**
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	**Section 5.2.3, Table 5-2**
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	**Section 5.3, Table 5-3**

10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	**Section 5.4**
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	**Section 5.5**
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	**Section 5.5.2**
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	**Section 5.5.3**
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	**Section 5.6**
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	**Appendix I**
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	**Section 5.7**
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	**Section 4.2**
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	**N/A**
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	**Not CUWCC member. Section 4.1.1**
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	**Section 8.1.1, Table 8-1**

10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	**Section 8.1.1, Table 8-1, and Appendix F**
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	**Section 8.1.1, Table 8-2**
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	**Appendix C**
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	**Appendix D Appendix E**
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	**Section 8.1.1, Table 8-1, and Appendix E**
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	**Appendix D**
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	**Section 8.1.1, Table 8-2, and Section 8.3**
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	**Section 8.1.1, Table 8-2, and Section 8.3**
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	**Section 8.1.1, Table 8-2, and Section 8.3**
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	**Section 8.1.1, Table 8-2, and Section 8.3**

Appendix I: LAWC Board Resolution No. LAWC032015

Lincoln Avenue Water Company 2015 Urban Water Management Plan

RESOLUTION NO. LAWC032015

RESOLUTION OF THE BOARD OF DIRECTORS OF LINCOLN AVENUE WATER COMPANY AMENDING ITS MORATORIUM ON NEW WATER CONNECTIONS

WHEREAS, Lincoln Avenue Water Company (the "Company") is a mutual water company empowered to provide water service within its boundaries; and

WHEREAS, the prolonged drought condition currently affecting California has continued over the past year, resulting in record lows for the state's snowpack and reservoirs; and

WHEREAS, on January 17, 2014, California Gov. Edmund G. Brown Jr. formally proclaimed a State of Emergency for California in light of the drought conditions, calling on local water agencies and "all Californians to conserve water in every way possible;" and

WHEREAS, on April 25, 2014, California Gov. Edmund Brown Jr. issued an executive order to strengthen the state's ability to manage water habitat effectively in drought conditions and called on all Californians to redouble conservation efforts; and

WHEREAS, on July 15, 2014, California State Water Resources Control Board adopted Resolution No. 2014-0038 to adopt an Emergency Regulation for Statewide Urban Water Conservation; and

WHEREAS, the Company's sole source of imported water, the Foothill Municipal Water district, has raised its Water Supply Alert to Stage 2 status, calling on all consumers to conserve water; and

WHEREAS, by Resolution No. LAWC071208, dated July 14, 2008, amended October 12, 2009, the Company issued a water supply alert and established a temporary moratorium on new connections to the Company's distribution system; and

WHEREAS, by Resolution No. LAWC 022814, the Company re-established a moratorium on new connections to the Company's distribution system; and

WHEREAS, it has come to the attention of the Company that in some instances the existing moratorium adversely affects existing properties seeking redevelopment, such that the property owners and/or developers are unable to secure fire flow testing despite the fact that the redevelopment of an existing property will result in no increase in water demand for the affected property; and

WHEREAS, it is in the best interest of the Company and its shareholders to encourage redevelopment of existing properties in a manner that reduces water demand for such properties.

NOW, THEREFORE, BE IT RESOLVED that the Company hereby maintains the existing water supply alert and reaffirms the drought condition in its service area; and

BE IT FURTHER RESOLVED, that the Company finds that although a program of voluntary measures to reduce consumption has resulted in some reduction in water usage by its customers, further measures are necessary to avoid additional demands being placed on its system during the drought; and

BE IT FURTHER RESOLVED, that the Company finds it to be most beneficial to the Company and its shareholders to encourage redevelopment of existing properties in a manner that reduces water demand for such properties; and

BE IT FURTHER RESOLVED, that the Company hereby continues the existing temporary moratorium on new connections and applications that will lead to added demand on the Company's water distribution system. No Will-Serve Letters and/or Fire Flow Availability Information forms will be issued to Shareholders seeking new meter connections or building permits for new construction unless the Shareholder presents verifiable engineering or other credible evidence to the satisfaction of the Company that the development or construction will result in no additional water demand to the distribution system or that the Shareholder has secured and provided to the Company sufficient additional water supplies or rights to meet any additional water system demand. Offsite improvements or projects that result in reducing overall water demand within the Lincoln Avenue service area may be included in such analysis. Existing Will-Serve Letters will be honored according to their terms. The Board will review the continued necessity for this moratorium at the April 2016 Board meeting, and thereafter as deemed appropriate by the Board until such time as drought conditions no longer exist and the statewide water supply has improved.

BE IT FURTHER RESOLVED, that the Company continues to urge its customers to:

a. Adjust sprinklers and irrigation systems to avoid overspray, runoff and waste;

b. Avoid watering lawns in the hot part of the day (i.e., between 10:00 a.m. and 5:00 p.m.) and on windy days;

c. Install new drought tolerant landscaping, low-water-using trees and plants and efficient irrigation systems;

d. Shut off decorative fountains, unless a water recycling system is used;

e. Not hose down driveways, sidewalks and other paved surfaces, except when necessary for health or sanitary reasons;

f. Install pool and spa covers to minimize water loss due to evaporation;

g. Not allow the hose to run while washing any vehicle and to use a bucket or a hose with an automatic cutoff valve;

h. Retrofit indoor plumbing fixtures with low-flow devices; and

i. Check faucets, toilets and pipes, both indoor and outdoor, including house service laterals and sprinkler piping, for leaks and repair them immediately, or upon demand of the Company.

BE IT FURTHER RESOLVED, that if critical water shortages occur and supplies of imported water are reduced, the Company will consider further action to curtail water use, including mandatory conservation measures to prevent water waste.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Lincoln Avenue Water Company held on March 20, 2015. AMENDED October 23, 2015

President

ATTEST:

Secretary