

APPENDIX A - URBAN WATER MANAGEMENT PLAN
2015
CITY OF HEMET WATER DEPARTMENT

CITY OF HEMET



2015 URBAN WATER MANAGEMENT PLAN VOLUME 1 – FINAL REPORT

JUNE 2016

Prepared by



**CITY OF HEMET
2015 URBAN WATER MANAGEMENT PLAN
VOLUME 1 – FINAL REPORT**

JUNE 2016

PREPARED FOR

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- Appendix D – Notification of Intent to Prepare the Urban Water Management Plan
- Appendix E – 2014 Consumer Confidence Report
- Appendix F – SCAG Land Use Description
- Appendix G – SCAG Demographic Profile of the City of Hemet
- Appendix H – 2007 Hemet/San Jacinto Groundwater Management Plan
- Appendix I - 2014 Hemet/San Jacinto Groundwater Management Area Annual Report
- Appendix J – Stipulated Judgment
- Appendix K – Bulletin 118 [San Jacinto Groundwater Basin]
- Appendix L - Division 3, Section 82 of the Municipal Code
- Appendix M – AWWA Water Audit Worksheet
- Appendix N – Documentation on Compliance with SWRCB Resolution 2015-0032
- Appendix O – Printed Material Focusing on Public Outreach for Water Conservation
- Appendix P – EMWD 2015 UWMP Draft
- Appendix Q – Public Notification of Opportunity to Comment on the UWMP Draft
- Appendix R – Resolution of Adoption
- Appendix S – DWR UWMP Checklist for Completeness

¹ References and Appendices are under separate cover in Volume 2.

Executive Summary

Overview and Plan Preparation

This executive summary provides an overview of the content included in the City of Hemet (City) 2015 Urban Water Management Plan (UWMP). This report was prepared in compliance with the California Water Code as set forth in the *2015 Urban Water Management Plans Guidebook for Urban Water Suppliers* (referred to hereafter as Guidebook) established by the Department of Water Resources (DWR).

Preparation of an Urban Water Management Plan (UWMP) is required by the California Department of Water Resources (DWR) for all urban water suppliers within the State of California. Urban water suppliers are defined as publicly or privately owned water suppliers that provide water for municipal purposes either directly or indirectly to more than 3,000 customers or supply more than 3,000 acre-feet (AF) of water annually. UWMPs must meet requirements established in the California Water Code and the Urban Water Management Planning Act.

This UWMP is organized as directed by DWR in the Guidebook including chapter topics and content, delineation of mandatory statutes, and standardized Water Use Efficiency (WUE) tables. Description and analysis is specific to the City's Water Service Area.

System Water Use

Water use within the Water Service Area consists primarily of single family residential, multi-family residential, commercial/industrial/institutional (CII), and landscaping. In recent years, water use has been impacted by successful water conservation efforts implemented by the City and its regional partners, the economic downturn, ongoing drought conditions, and mandatory water use reduction requirements. The trend is toward stabilized water use efficiency that meets long-term water use targets and water conservation goals.

Water Conservation Baselines and Target

In accordance with the Water Conservation Act of 2009, the City has calculated its baseline water use and its target for a 20% reduction in per capita water use by 2020 in terms of gallons per capita per day (GPCD). The City baseline per capita water use is 178 GPCD. The City's 2020 target per capita water use is 142 GPCD. For purposes of demonstrating progress toward the 2020 goal, the City compared its actual 2015 per capita water use to its interim 2015 per capita water use target of 160 GPCD. The City has achieved a per capita water use of 105 GPCD, which already exceeds its 2020 goal.

System Supplies

The City relies primarily on groundwater from the Hemet South Subbasin and the San Jacinto Upper Pressure Subbasin of the San Jacinto Groundwater Basin. These sources are adjudicated and managed as the Hemet/San Jacinto Groundwater Management Area by Watermaster, a governing body made up of the City of Hemet, the City of San Jacinto, Lake Hemet Municipal Water District, Eastern Municipal Water District (EMWD) and a number of private water producers.

The City also has access to imported water from EMWD.

Water Supply Reliability

Water supply reliability was assessed for projected normal years, single dry years, and multiple dry years. This means that projected supply was compared to projected demand under normal and drought conditions to verify adequacy of supply. The City's groundwater supply is sustainably managed and is projected to exceed demand through 2040.

Water Shortage Contingency Planning

The City has enacted water conservation ordinances in order to provide guidance and authority for responding to water shortages.

Demand Management Measures

Demand management measures refer to water conservation projects and programs implemented by the City to reduce water use or water loss. Through implementation of water conservation, the City has already achieved its water use goals. The City will continue to implement its water conservation program to maintain the current level of water use reduction.

Adoption

A public hearing soliciting comments on the UWMP was held June 14, 2016. Following the public hearing, the UWMP was adopted unanimously by the City Council.

Chapter 1 – Introduction and Overview

In this introductory chapter, the importance and extent of the City's water management planning efforts are discussed.

1.1 – Purpose

CWC 10608.12

(p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

The City provides municipal water service to more than 3,000 customers and in excess of 3,000 AFY. This defines the City as an urban water supplier.

1.2 – Background

The 2015 UWMP is an update to the 2010 UWMP and was prepared in coordination with the 2007 Hemet/San Jacinto Groundwater Management Plan. These documents were used as a foundation for the current effort to promote consistency with the historical record. In addition, new regulations and updated guidance from the California Department of Water Resources (DWR) per the Guidebook helped to shape the presentation and content of this document.

In parallel with the City's ongoing efforts to comply with the Urban Water Management Planning Act and the California Water Conservation Act of 2009, the City has worked closely with the State Water Resources Control Board (SWRCB) to achieve the requirements of Resolution 2015-0032 (Emergency Regulation for Statewide Urban Water Conservation) designed to comply with Governor Brown's April 1, 2015 executive order regarding a statewide water use reduction of 25% through February 2016. Documentation of the City's efforts to meet SWRCB water conservation requirements is provided in Appendix N.

1.3 – Urban Water Management Planning and the California Water Code

Following is a summary of the legislation that makes up Urban Water Management Planning:

- AB 1420: Requires implementation of demand management measures (DMMs)/best management practices (BMPs) to qualify for water management grants or loans.
- AB 1465: Requires water suppliers to describe opportunities related to reclaimed water use and stormwater recapture to offset potable water use.
- SB 6101, and SB 2212, which became effective beginning January 1, 2002, requires counties and cities to consider information relating to the availability of water to supply new large developments by mandating the preparation of further water supply planning and Water Supply Assessments.
- SB 1087: Requires water suppliers to report single family residential (SFR) and multi-family residential (MFR) projected water use for planned lower income units separately.
- SB 3185 requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as long-term supply.
- AB 1056 requires urban water suppliers to submit their UWMP's to the California State Library.
- SB X7-7: Requires development and use of new methodologies for reporting population growth estimates, base per capita use, and water conservation, and requires meeting the developed water conservation targets in order to qualify for water management grants and loans. This water bill also extended the 2010 UWMP adoption deadline for retail agencies to July 1, 2011.
- SB 1478: This bill was signed on September 23, 2010 and extends the 2010 UWMP deadline for wholesale agencies, such as the Metropolitan Water District of Southern California, to July 1, 2011, as SBx7-7 did for retail agencies.

1.4 – Urban Water Management Plans in Relation to Other Planning Efforts

The 2015 UWMP drew upon the following related planning documents and efforts:

- 2007 Hemet/San Jacinto Groundwater Management Plan
- 2014 Hemet/San Jacinto Groundwater Management Area Annual Report
- Hemet 2010 UWMP
- EMWD 2015 UWMP Draft
- Hemet 2030 General Plan

1.4.1 – Interagency Coordination

The City coordinated directly on preparation of the UWMP with the local wholesaler, EMWD. EMWD provides imported water and wastewater services to the City, as well as recycled water and retail water services in the immediate vicinity. The City drew heavily upon EMWD's perspective and insight regarding regional water resources issues.

The following agencies were contacted directly regarding the opportunity to comment on the UWMP Draft:

- Riverside County
- Santa Ana Watershed Project Authority
- Lake Hemet Municipal Water District
- City of San Jacinto
- Eastern Municipal Water District

No comments were received from these agencies.

1.4.2 – Public Participation

A public hearing to solicit comments on the UWMP Draft from the public was held on June 14. Notification of the opportunity to comment on the UWMP Draft was provided pursuant to CWC 10642. The UWMP Draft was made available via the City's website and at City Hall. Linda Nixon, the Environmental Services Manager for the City of Hemet Public Works Department, provided a detailed summary of the UWMP Draft at the public hearing. There were no comments from the public at the public hearing, and no written comments were received from the public by the City.

1.5 – UWMP Organization

1.5.1 – Organization of Content

The report is organized as requested by DWR in the following manner:

Executive Summary

Chapter 1 – Introduction and Overview In this introductory chapter, agencies provide a discussion on the importance and extent of their water management planning efforts.

Chapter 2 – Plan Preparation This section will provide information on their process for developing the UWMP, including efforts in coordination and outreach.

Chapter 3 – System Description Suppliers may include maps of the service area, a description of the service area and climate, their Public Water System(s), and the agency’s organizational structure and history.

Chapter 4 – System Water Use Describe and quantify the current and projected water uses within the agency’s service area.

Chapter 5 – Baselines and Targets Retail agencies and Regional Alliances will describe their methods for calculating their baseline and target water consumption. They will also demonstrate whether or not they have achieved the 2015 interim water use target, and their plans for achieving their 2020 water use target.

Chapter 6 – System Supplies Describe and quantify the current and projected sources of water available to the agency. A description and quantification of potential reclaimed water uses and supply availability is also to be included in this chapter, to the extent that it pertains to each agency.

Chapter 7 – Water Supply Reliability Water agencies will describe the reliability of their water supply and project the reliability out 20 years. This description will be provided for normal, single dry years and multiple dry years.

Chapter 8 – Water Shortage Contingency Planning Provide the supplier’s staged plan for dealing with water shortages, including a catastrophic supply interruption.

Chapter 9 – Demand Management Measures Water suppliers will communicate their efforts to promote conservation and to reduce demand on their water supply and will specifically address several demand management measures.

Chapter 10 – Plan Adoption, Submittal, and Implementation Water agencies will describe the steps taken to adopt and submit the UWMP and to make it publicly available. This chapter will also include a discussion of the agency’s plan to implement the UWMP.

WUE Tables

Appendices

1.5.2 – Standardized Forms, Tables and Displays

CWC 10644

(a)(2) *The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.*

CWC 10608.52

(a) *The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.*

(b) *At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24... The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.*

Standardized tables are provided in Appendix A.

By convention, statutes related to meeting the minimum requirements of the Urban Water Management Planning Act are provided in the following format:

CWC XXXXX.XX

Pertinent language taken directly from the California Water Code or in reference thereto.

By convention, citation of public documents is provided in the following format:

Citations from ordinances, government codes, and government planning documents are provided in italics and offset one half inch from the right and left with respect to the general content of this plan.

1.6 – UWMPs and Grant or Loan Eligibility

CWC 10608.56

- (a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.*
- (c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.*
- (e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.*
- (f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).*

By submitting this Urban Water Management Plan by the specified deadline and having achieved its interim per capita water use reduction target, the City of Hemet is eligible for state water grants and loans.

CCR Section 596.1

(b)(2) *“disadvantaged community” means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.*

Per the US Census², the City’s average annual median household income for the 5-year period ending in 2014 is \$33,932.

Per the US Census³, the State’s average annual median household income for the 5-year period ending in 2014 is \$53,482.

The City’s annual median household income is 63% of the State’s. The City qualifies as a disadvantaged community.

1.7 – Resources and Tools

The following resources and tools were used in the preparation of this Urban Water Management Plan:

- DWR Workshop for the Preparation of 2015 UWMPs
- DWR Standardized Tables
- Water Use Efficiency (WUE) data portal
- DWR Checklist for UWMP Completeness
- DWR population calculating tool
- DWR Water Audit Worksheet

² <http://www.census.gov/quickfacts/table/INC110214/00>

³ <http://www.census.gov/quickfacts/table/INC110214/0633182>

Chapter 2 – Plan Preparation

2.1 – General Description

Plan Preparation deals with protocols and documentation for notifications and inter-agency coordination.

2.2 – Basis for Preparing a Plan

CWC 10617

“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems...

CWC 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.

CWC 10621

(a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).

(d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

The City provides municipal water service to more than 3,000 customers and in excess of 3,000 AFY. This defines the City as an urban water supplier. Therefore, the City has prepared this Urban Water Management Plan update in compliance with CWC 10621(d).

2.2.1 – Public Water Systems

CWC 10644

(a)(2) *The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.*

CWC 10608.52

(a) *The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.*

(b) *At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24... The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.*

California Health and Safety Code 116275

(h) *"Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.*

The City is designated as Public Water System 3310016.

Standardized Tables are provided in Appendix A.

The layout of this report corresponds to preferences provided by DWR.

2.3 – Individual Planning and Compliance

2.3.1 – Regional UWMP

CWC 10620

(d)(1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

The City is not part of a regional UWMP.

2.3.2 – Regional Alliance

CWC 10608.20

(a)(1) ...Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis as provided in subdivision (a) of Section 10608.28...

CWC 10608.28

(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

The City is not part of a regional alliance.

2.4 – Reporting Periods and Units of Measure

CWC 1608.20

(a)(1) Urban retail water suppliers...may determine the targets on a fiscal year or calendar year basis.

Water use is reported on a calendar year basis.

Annual water use is reported as acre-feet per year (AFY).

Per capita water use is reported as gallons per capita per day (GPCD).

2.5 – Coordination and Outreach

CWC 10631

(j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

2.5.1 – Wholesale and Retail Coordination

The City coordinated directly on preparation of the UWMP with the local wholesaler, EMWD. EMWD provides imported water and wastewater services to the City, as well as recycled water and retail water services in the immediate vicinity. The City drew heavily upon EMWD's perspective and insight regarding regional water resources issues.

2.5.2 – Coordination with Other Agencies and the Community

CWC 10620

(d)(2) Each urban water supplier shall 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.

CWC 10642

Each urban water supplier shall encourage the 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...

The following agencies were contacted directly regarding the opportunity to comment on the UWMP Draft:

- Riverside County
- Santa Ana Watershed Project Authority
- Lake Hemet Municipal Water District
- City of San Jacinto
- Eastern Municipal Water District
- The general public

No comments were received from these agencies or the public.

2.5.3 – Notice to Cities and Counties

CWC 10621 (b)

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

Pursuant to CWC 10621(b), Riverside County was notified of the opportunity to review the plan. See Appendix D for a copy of the notification.

Chapter 3 – System Description

3.1 – General Description

System Description provides for demonstrating a deep understanding of the service area including the physical boundary, the associated current and projected population, and demographic and weather-related influences.

3.2 – Service Area Description

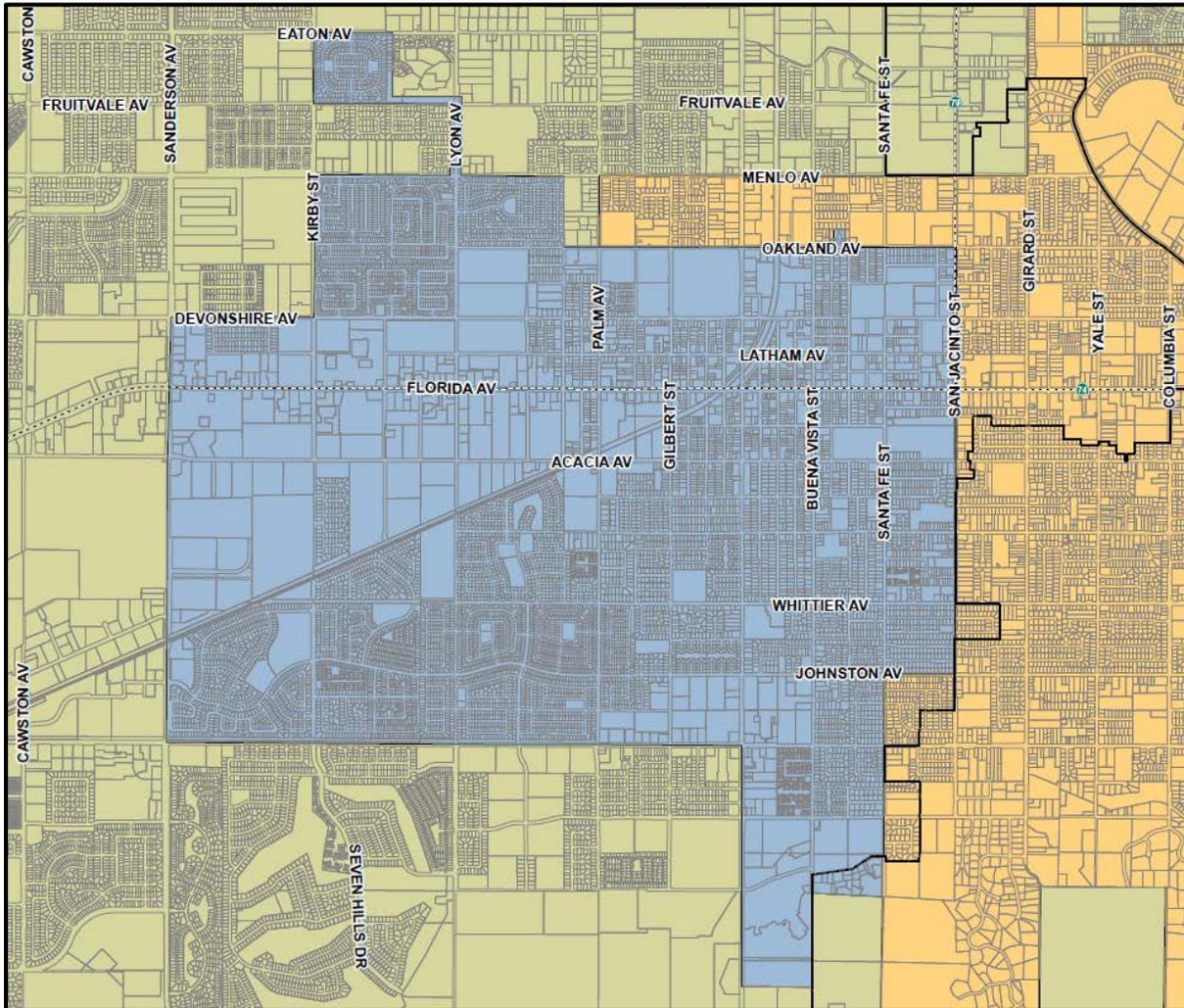
CWC Section 10631

Describe the service area of the supplier.

In 1954, the City purchased the Lake Hemet Water Company water system, which consisted of two deep wells, one 1.5 million gallon (MG) reservoir and miscellaneous distribution systems in need of a maintenance and replacement program. At that time, the boundaries of the City and the area serviced by the City's Water Department were approximately the same, 3,360 acres (5.25 square miles). Since that time, the city limits have expanded, mostly to the south and west and now encompass 17,728 acres (27.7 square miles), while the City's water service area has remained approximately the same.

Today, the City continues to provide water service to residential and commercial customers in the 5.25 square mile service area, which extends generally from Menlo Avenue on the north to Stetson Avenue on the south and from Sanderson Avenue on the west to San Jacinto Street on the east, as shown in Figure 3.1.

Figure 3.1 - City of Hemet Water Distribution System Boundary



3.3 – Climate

CWC Section 10631

Describe the service area of the supplier, including... climate...

The climate is described as moderate to warm and semiarid, as is typical of the San Jacinto Valley. Temperatures are generally mild in the winter and moderately high in the summer. Most rain is received in the winter and early spring months resulting in dry and hot summers. Table 3.1 details the monthly maximum and minimum temperatures and precipitation as averaged from 1917 to 2015. Also shown is the monthly average evapotranspiration data for the region as provided by the California Irrigation Management Information System (CIMIS).

Table 3.1 – Service Area Climate

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual Average
Standard Monthly Average ETo (Inches)	2.17	2.80	4.03	5.10	5.89	6.60	7.44	6.82	5.70	4.03	2.70	1.86	55.1
Average Total Precipitation (Inches)	2.31	2.20	1.78	0.90	0.31	0.05	0.16	0.24	0.40	0.50	1.02	1.45	11.32
Average Max. Temperature (Fahrenheit)	69.1	67.7	72.8	76.3	84.6	91.8	98.4	98.9	94.6	84.3	74.1	67.7	81.7
Average Min. Temperature (Fahrenheit)	38.3	39.3	41.9	45.0	50.5	55.4	60.9	61.2	58.1	50.2	42.2	37.3	48.4

*Precipitation and temperature data obtained from Western Regional Climate Center, 01/17/1917 to 01/19/2015 Period of Record Monthly Climate Summary (<http://www.wrcc.dri.edu/cqi-bin/cliMAIN.pl?ca3896>)
Evapotranspiration data obtained from California Irrigation Management Information System Reference Evapotranspiration Zones (<http://missionrcd.org/wp-content/uploads/2014/04/CIMIS-Reference-Evapotranspiration-Zones.pdf>)*

3.4 – Population

CWC Section 10631

Describe the service area of the supplier, including current and projected population ...The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The historical, current and projected population within the service area is provided in Table 3.2.

Table 3.2 – Historical, Current and Projected Population

Year	Population
1990	24,869
1995	26,915
2000	28,139
2005	28,125
2010	29,214
2015	31,873
2020	32,600
2025	33,300
2030	33,800
2035	34,300
2040	34,600

Although City of Hemet sphere of influence is anticipated to have significant growth, population within the Water Service Area is not expected to increase at the same rate. Therefore, population analysis was customized to the specifics of the Water Service Area, as follows:

- The DWR Population Tool was used to determine the historical and current population.
- The Southern California Association of Governments Land Use Database was used to determine the quantities and acreages of all parcels within the Water Service Area by land use designation. It was determined that vacant land makes up approximately 13% of the Water Service Area. Assuming vacant parcels will be developed at ultimate buildout and population distribution will be similar to existing conditions, the buildout population is estimated at 36,000 (or 13% above the existing population).

- A population model was developed using the historical and current population calculations and the buildout population estimate as follows:

$$P_{year} = \frac{36,000}{1 + e^{-0.048(year-1974)}}$$

Where:

year is the subject year

P_{year} is the population in the subject year

- The population model was used to generate population projection in five-year increments through 2040.

3.5 – Demographics

CWC 10631

Describe the service area of the supplier, including. . . other demographic factors affecting the supplier's water management planning.

3.5.1 – SCAG City Profile

A demographic profile for the City of Hemet was updated by SCAG in 2014 and is included in Appendix G. The profile shows that the recession beginning in 2008 had a significant impact on the City in terms of income and foreclosures. The impact of the recession on the water system was a drop in water consumption due to a temporary decline in population (i.e. foreclosures) and income elasticity of demand for water.

3.5.2 – Land Use

The distribution of land use within the Water Service Area was taken from the Southern California Association of Governments (SCAG) Land Use Database, as shown in Table 3.3.

Table 3.3 – Land Use Analysis

Land Use Category	Code	Description	Parcels	Area (ac)
Residential	1110	Single Family Residential	5,398	904.02
	1111	High-Density Single Family Residential	27	9.47
	1112	Low-Density Single Family Residential	27	14.10
	1120	Multi-Family Residential	1,924	336.06
	1123	Low-Rise Apartments, Condominiums, and Townhouses	3	1.80
	1130	Mobile Homes and Trailer Parks	1,927	616.13
Commercial Industrial Institutional (CII)	1210	General Office Use	145	84.63
	1220	Retail Stores and Commercial Services	443	331.78
	1230	Other Commercial	17	16.59
	1233	Hotels and Motels	10	14.10
	1240	Public Facilities	92	71.64
	1241	Government Offices	12	18.47
	1243	Fire Stations	5	3.96
	1244	Major Medical Health Care Facilities	3	11.30
	1245	Religious Facilities	30	47.91
	1246	Other Public Facilities	12	8.25
	1260	Educational Institutions	16	103.37
	1300	Industrial	1	8.61
	1310	Light Industrial	2	1.36
	1311	Manufacturing, Assembly, and Industrial Services	50	68.89
	1320	Heavy Industrial	14	21.06
	1321	Manufacturing	1	0.15
	1340	Wholesaling and Warehousing	2	0.85
	1411	Airports	1	0.11
	1420	Communication Facilities	2	3.97
	1431	Electrical Power Facilities	4	4.36
1434	Water Storage Facilities	6	1.00	
1437	Improved Flood Waterways and Structures	1	37.13	
Open Space	1800	Open Space and Recreation	1	5.14
	1810	Golf Courses	8	38.89
	1820	Local Parks and Recreation	8	40.03
	1840	Cemeteries	1	2.86
Agriculture	2000	Agriculture	14	210.79
Vacant	3000	Vacant	127	331.01
	3100	Vacant Undifferentiated	8	127.15
	9999	Unknown	1	0.10
Construction	1700	Under Construction	5	5.72
Totals			10,348	3,502.76

The SCAG database categorized land use based on aerial survey of actual usage in 2012. Additional detail is provided in Appendix F.

Chapter 4 – System Water Use

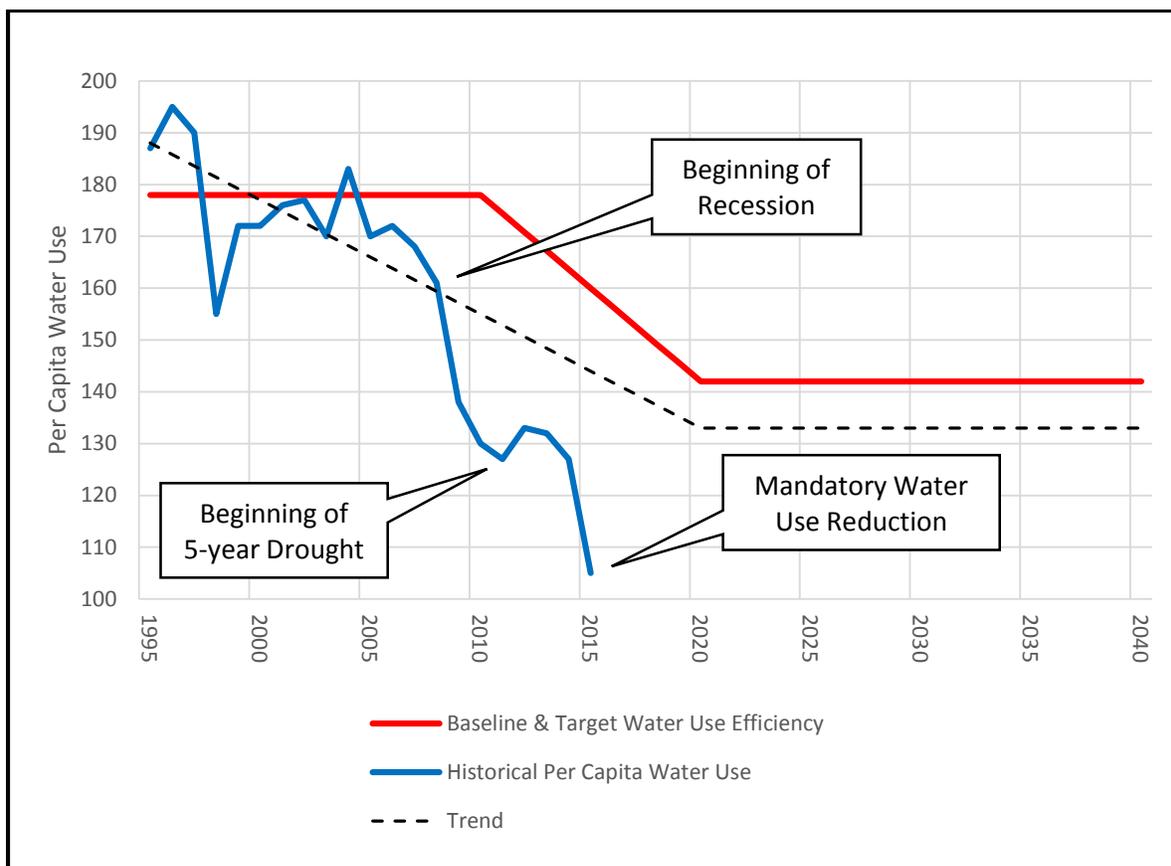
4.1 – General Description

System Demands involve organizing and reducing historical water demand data into pre-determined categories and timeframes. Standardized methodologies are employed to calculate a historical baseline for purposes of demonstrating achievement of water use reduction goals.

4.2 – Water Use Trends

Historical water use trends were analyzed and compared to baseline and water use efficiency targets related to compliance with the Water Conservation Act, as shown in Figure 4.1 (water use baselines and targets are discussed in detail in Chapter 5).

Figure 4.1 – Water Use Trends



Observations:

- The response to historical water conservation efforts (pre-2010) resulted in a downward trend for per capita water use.
- The recession of 2008 caused a decline in per capita water use as a result of foreclosures and lower incomes.
- In 2010, a water use reduction plan was initiated in response to the requirements of the Water Conservation Act.
- The 4-year drought (2012-2015) initially caused a rise in per capita water use due to a spike in irrigation demand. In 2015, the drought led to mandatory water use reduction in response to a state-wide drop in supply.

Projection

- Normal water use (i.e. water use not impacted by economics or drought) will decline through 2020 similar to the historical trend and as a result of continued water conservation efforts.
- In 2020, water conservation efforts will reach saturation and per capita water use will stabilize at 133 GPCD (similar to per capita demand in 2012).

4.3 – Recycled versus Potable and Raw Water Demand

The City delivers only potable water to its customers.

4.4 – Water Uses by Sector

CWC 10631

(e)(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

- (A) Single-family residential.*
- (B) Multifamily.*
- (C) Commercial.*
- (D) Industrial.*
- (E) Institutional and governmental.*
- (F) Landscape.*
- (G) Sales to other agencies.*
- (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
- (I) Agricultural...*

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

Table 4.1 provide historical and projected demand by water use sector.

Table 4.1 – Water Uses by Sector

Sector	2010	2015	2020	2025	2030	2035	2040
Single Family	1,512	1,467	1,834	1,872	1,902	1,929	1,943
Multi-Family	985	980	1,388	1,417	1,440	1,459	1,471
CII	783	797	907	925	940	953	961
Landscape	177	272	383	391	397	403	406
Losses	783	234	348	355	361	366	369
Total	4,240	3,750	4,860	4,960	5,040	5,110	5,150

The demand projection is based on the following assumptions:

- Population will increase per Table 3.2.
- Water use will stabilize at a rate of 133 GPCD (similar to 2012) per Figure 4.1
- Water use by sector will be proportional to a 7-year average (2009-2015), as shown in Table 4.2.

Table 4.2 – 7-year Average Demand Distribution by Sector

Sector	Percentage of Total Demand
SFR	37.7%
MFR	28.6%
CII	18.7%
Landscape	7.9%
Losses	7.2%

4.5 – Distribution System Water Losses

CWC 10631

(e)(1) *Quantify, to the extent records are available, past and current water use over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:...*

(J) *Distribution system water loss*

(3)(A) *For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.*

(B) *The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.*

The completed AWWA Water Audit Worksheet is provided in Appendix M.

4.6 – Estimating Future Water Savings

CWC 10631

(e)(4)(A) *If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.*

(B) *To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.*

The City has achieved significant water savings in recent decades through codes, standards, ordinances and plans. No additional water savings are anticipated.

4.7 – Water Use for Lower Income Households

CWC 10631.1

(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

California Health and Safety Code 50079.5

(a) “Lower income households” means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

Per Table H-29 of Appendix C of the City’s Housing Element, 75.3% of households are lower income households. Assuming a similar distribution within the Water Service Area, the existing and projected water use by lower income households is estimated as shown in Table 4.3.

Table 4.3 – Lower Income Water Use

Year	2015	2020	2025	2030	2035	2040
Single Family	1,105	1,381	1,410	1,432	1,453	1,463
Multi-Family	738	1,045	1,067	1,084	1,099	1,108

4.8 – Climate Change

4.8.1 – Local Perspective

The City recognizes that climate change impacts to the California environment may affect our local water supply and water system operations.

The City of Hemet General Plan addresses climate change in the Open Space and Conservation Element. The “Sustainability” section outlines the City’s approach to reducing GHG emissions in response to the Global Warming Solutions Act of 2006, the Greenhouse Gas Emissions Act of 2007, the Sustainable Communities and Climate Protection Act of 2008, and other federal and state legislation. The City has threaded its sustainability goals and policies throughout the General Plan with a focus on energy and water conservation and reducing GHG emissions. These goals and policies generally fall into the following categories:

- Smart Growth: Land Use and Community Design,
- Transportation and Connectivity,
- Water Conservation,
- Air Quality,
- Energy and Resource Conservation,
- Waste Reduction, and
- Economic Sustainability.

The City anticipates future consideration will be given to how the following impacts of climate change will affect water system operations:

Water Demand – Hotter days and nights, as well as longer irrigation season, will increase landscaping water needs, and power plants and industrial processes will have increased cooling water needs.

Water Supply and Quality – Reduced snowpack, shifting spring runoff to earlier in the year, increased potential for algal bloom, and increased potential for seawater intrusion—each has the potential to impact water supply and water quality.

Sea Level Rise – It is expected that sea level will continue to rise, resulting in near shore ocean changes such as stronger storm surges, more forceful wave energy, and more extreme tides. This will also affect levee stability in low-lying areas and increase flooding.

Disaster – Disasters are expected to become more frequent as climate change brings increased climate variability, resulting in more extreme droughts and floods. This will challenge water supplier operations in several ways as wildfires are expected to become larger and hotter, droughts will become deeper and longer, and floods can become larger and more frequent.

4.8.2 – Regional Perspective

A regional perspective on the impacts of climate change on water supply is provided in the subsections that follow, per the Metropolitan Water District of Southern California 2015 Urban Water Management Plan Draft (March 2016).

Supply Reliability Risks Due to Climate Change

Climate change adds its own uncertainties to the challenges of planning. Metropolitan’s water supply planning has been fortunate in having almost one-hundred years of hydrological data regarding weather and water supply. This history of rainfall data has provided a sound foundation for forecasting both the frequency and the severity of future drought conditions, as well as the frequency and abundance of above-normal rainfall. But, weather patterns can be expected to shift dramatically and unpredictably in a climate driven by increased concentrations of carbon dioxide in the atmosphere. These changes in weather significantly affect water supply planning, irrespective of the debate associated with the sources and cause of increasing concentrations of greenhouse gasses. As a major steward of the region’s water supply resources, Metropolitan is committed to performing its due diligence with respect to climate change.

While uncertainties remain regarding the exact timing, magnitude, and regional impacts of these temperature and precipitation changes, researchers have identified several areas of concern for California water planners. These include:

- *Reduction in Sierra Nevada snowpack;*
- *Increased intensity and frequency of extreme weather events; and*
- *Rising sea levels resulting in*
 - *Impacts to coastal groundwater basins due to seawater intrusion;*
 - *Increased risk of damage from storms, high-tide events, and the erosion of levees; and*
 - *Potential pumping cutbacks on the SWP and Central Valley Project (CVP).*

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

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

Resource Planning

Under the 2015 IRP Update, Metropolitan recognizes additional risks and uncertainties from a variety of sources:

- *Water quality*
- *Climate change*
- *Regulatory and operational changes*
- *Project construction and implementation issues*
- *Infrastructure reliability and maintenance*
- *Demographic and growth uncertainty*

Any of these risks and uncertainties, should they occur individually or collectively, may result in a negative impact to water supply reliability. While it is impossible to know how much risk and uncertainty to guard against, the region's reliability will be more secure with a long-term plan that recognizes risk and provides resource development to offset that risk. Some risk and uncertainty will be addressed by following the findings of the 2015 IRP Update. But there are other risks that may take longer to manifest, like climate change or shifts in demographic growth patterns that increase or move the demands for water.

Metropolitan has established an intensive, comprehensive technical process to identify key vulnerabilities. This Robust Decision Making (RDM) approach was used with the 2010 IRP Update. The RDM approach can show how vulnerable the region's reliability is to longer-term risks and can also establish "signposts" that can be monitored to see when critical changes may be happening. Signposts include monitoring the direction of ever-changing impacts from improved Global Climate Models, and housing and population growth patterns. The RDM approach will be revisited with the new resource reliability targets identified in the 2015 IRP Update. Initial 2015 IRP analysis indicated an additional 200,000 AF of water conservation and local supplies may be needed to address these risks. This additional supply goal will be considered when examining implementation policies and approaches as the IRP process continues.

Knowledge Sharing and Research Support

Metropolitan is an active and founding member of the Water Utility Climate Alliance (WUCA). WUCA consists of ten nationwide water providers collaborating on climate change adaptation and greenhouse gas mitigation issues. As a part of this effort, WUCA pursues a variety of activities on multiple fronts.

Member agencies of WUCA annually share individual agency actions to mitigate greenhouse gas emissions to facilitate further implementation of these programs. WUCA also monitors development of climate change-related research, technology, programs, and federal legislation.

In addition to supporting federal and regional efforts, WUCA released a white paper entitled “Options for Improving Climate Modeling to Assist Water Utility Planning for Climate Change” in January 2010. The purpose of this paper was to assess Global Circulation Models, identify key aspects for water utility planning, and make seven initial recommendations for how climate modeling and downscaling techniques can be improved so that these tools and techniques can be more useful for the water sector. Another recent WUCA publication related to water planning is: “Embracing Uncertainty: A Case Study Examination of How Climate Change is Shifting Water Utility Planning” (2015). A fundamental goal of this recent white paper is to provide water professionals with practical and relevant examples, with insights from their peers, on how and why to modify planning and decision-making processes to better prepare for a changing climate.

In addition to these efforts, the member agencies of WUCA annually share individual agency actions to mitigate greenhouse gas emissions to facilitate further implementation of these programs. At a September 2009 summit at the Aspen Global Change Institute, WUCA members met with global climate modelers, along with federal agencies, academic scientists, and climate researchers, to establish collaborative directions to progress climate science and modeling efforts. WUCA continues to pursue these opportunities and partnerships with water providers, climate scientists, federal agencies, research centers, academia and key stakeholders.

Metropolitan also continues to pursue knowledge sharing and research support activities outside of WUCA. Metropolitan regularly provides input and direction on California legislation related to climate change issues. Metropolitan is active in collaborating with other state and federal agencies, as well as non-governmental organizations, on climate change related planning issues. The following list provides a sampling of entities that Metropolitan has recently worked with on a collaborative basis:

- USBR
- U.S. Army Corps of Engineers
- AWWA Research Foundation
- National Center for Atmospheric Research
- California Energy Commission
- California Department of Water Resources

Quantification of Current Research

Metropolitan continues to incorporate current climate change science into its planning efforts. A major component of the current IRP update effort is to explicitly reflect uncertainty in Metropolitan's future water management environment. This involves evaluating a wider range of water management strategies, and seeking robust and adaptive plans that respond to uncertain conditions as they evolve over time, and that ultimately will perform adequately under a wide range of future conditions. The potential impacts and risks associated with climate change, as well as other major uncertainties and vulnerabilities, will be incorporated into the update. Overall, Metropolitan's planning activities strive to support the Board adopted policy principles on climate change by:

- *Supporting reasonable, economically viable, and technologically feasible management strategies for reducing impacts on water supply,*
- *Supporting flexible "no regret" solutions that provide water supply and quality benefits while increasing the ability to manage future climate change impacts, and*
- *Evaluating staff recommendations regarding climate change and water resources under the California Environmental Quality Act (CEQA) to avoid adverse effects on the environment.*

Implementation of Programs and Policies

Metropolitan has made great efforts to implement greenhouse gas mitigation programs and policies for its facilities and operations. To date, these programs and policies have focused on:

- *Exploring water supply/energy relationships and opportunities to increase efficiencies;*
- *Participating in The Climate Registry, a nonprofit greenhouse gas emissions registry for North America that provides organizations with the tools and resources to help them calculate, verify, report, and manage their greenhouse gas emissions in a publicly transparent and credible way;*
- *Acquiring "green" fleet vehicles, and supporting an employee Rideshare program;*
- *Developing solar power at both the Skinner water treatment plant (completed) and the Weymouth water treatment plant (in progress); and*
- *Identifying and pursuing development of "green" renewable water and energy programs that support the efficient and sustainable use of water.*

Metropolitan also continues to be a leader in efforts to increase regional water use efficiency. Metropolitan has worked to increase the availability of incentives for local conservation and recycling projects, as well as supporting conservation Best Management Practices for industry and commercial businesses.

Chapter 5 – SB X7-7 Baselines and Targets

5.1 – General Description

Baseline and Targets involves implementation of the California Water Conservation Act of 2009. Documentation on historical water usage to define a purveyor’s obligation to achieve future water use reduction is required.

5.2 – Updating Calculations from 2010 UWMP

CWC 10608.20

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

Methodologies DWR 2011, Methodology 2 Service Area Population

Page 27 - Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual population estimate and DOF’s projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.

The City has updated its water use efficiency calculations from the 2010 UWMP using the DWR Population Tool to more accurately determine historical population.

5.3 – Baseline Periods

CWC 10608.20

(e) An urban retail water supplier shall include in its urban water management plan due in 2010. . . the baseline daily per capita water use...along with the bases for determining those estimates, including references to supporting data.

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

Data used in the calculation of baseline and compliance water use were taken from Public Water System Statistics as provided by the City to DWR, previous Urban Water Management Plans, and the City of Hemet Water Distribution System Rehabilitation Feasibility Study (2009).

5.3.1 – Determining Baseline GPCD

CWC 10608.12

(b) “Base daily per capita water use” means any of the following:

- (1) The urban retail water supplier’s estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
- (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*

Per CWC 10608.12(b)(2), the City may not extend the baseline per capita water use calculation to a 15-year period because records indicate that the 10% recycled water use threshold was not achieved in 2008.

As a result, the baseline per capita water use calculation must be the average of a continuous 10-year period drawn from the data set shown in Table 5.1.

Table 5.1 – Calculation of Baseline Per Capita Water Use

Year	Gross Water Use (AFY)	Population	Days	Annual Per Capita Water Use (GPCD)	10-year Average Per Capita Water Use (GPCD)
1995	5,643	26,915	365	187	
1996	5,958	27,215	366	195	
1997	5,863	27,485	365	190	
1998	4,800	27,729	365	155	
1999	5,398	27,948	365	172	
2000	5,446	28,139	366	172	
2001	5,482	27,881	365	176	
2002	5,598	28,259	365	177	
2003	5,459	28,594	365	170	
2004	5,710	27,763	366	183	178
2005	5,365	28,125	365	170	176
2006	5,493	28,480	365	172	174
2007	5,314	28,268	365	168	172
2008	5,120	28,244	366	161	172
2009	4,431	28,576	365	138	169
2010	4,240	29,214	365	130	165

5.3.2 – Determining Target Confirmation

CWC 10608.12 (b)

(3) For the purposes of Section 10608.22, the urban retail water supplier’s estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

The 5-year average per capita water use for determining target confirmation is calculated at 173 GPCD, as shown in Table 5.2.

Table 5.2 – Calculation of 5-year Target

Year	Gross Water Use (AFY)	Population	Days	Per Capita Water Use (GPCD)
2003	5,459	28,594	365	173
2004	5,710	27,763	366	176
2005	5,365	28,125	365	175
2006	5,493	28,480	365	174
2007	5,314	28,268	365	173
5-Year Period Average GPCD				173

The maximum allowable 2020 water use target is 95% of the 5-year average, or 164 GPCD.

5.4 – Service Area Population

CWC 10608.20

(e) An urban retail water supplier shall include in its urban water management plan due in 2010...the baseline per capita water use,...along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

CWC10644

(a)(2) The plan...shall include any standardized forms, tables or displays specified by the department.

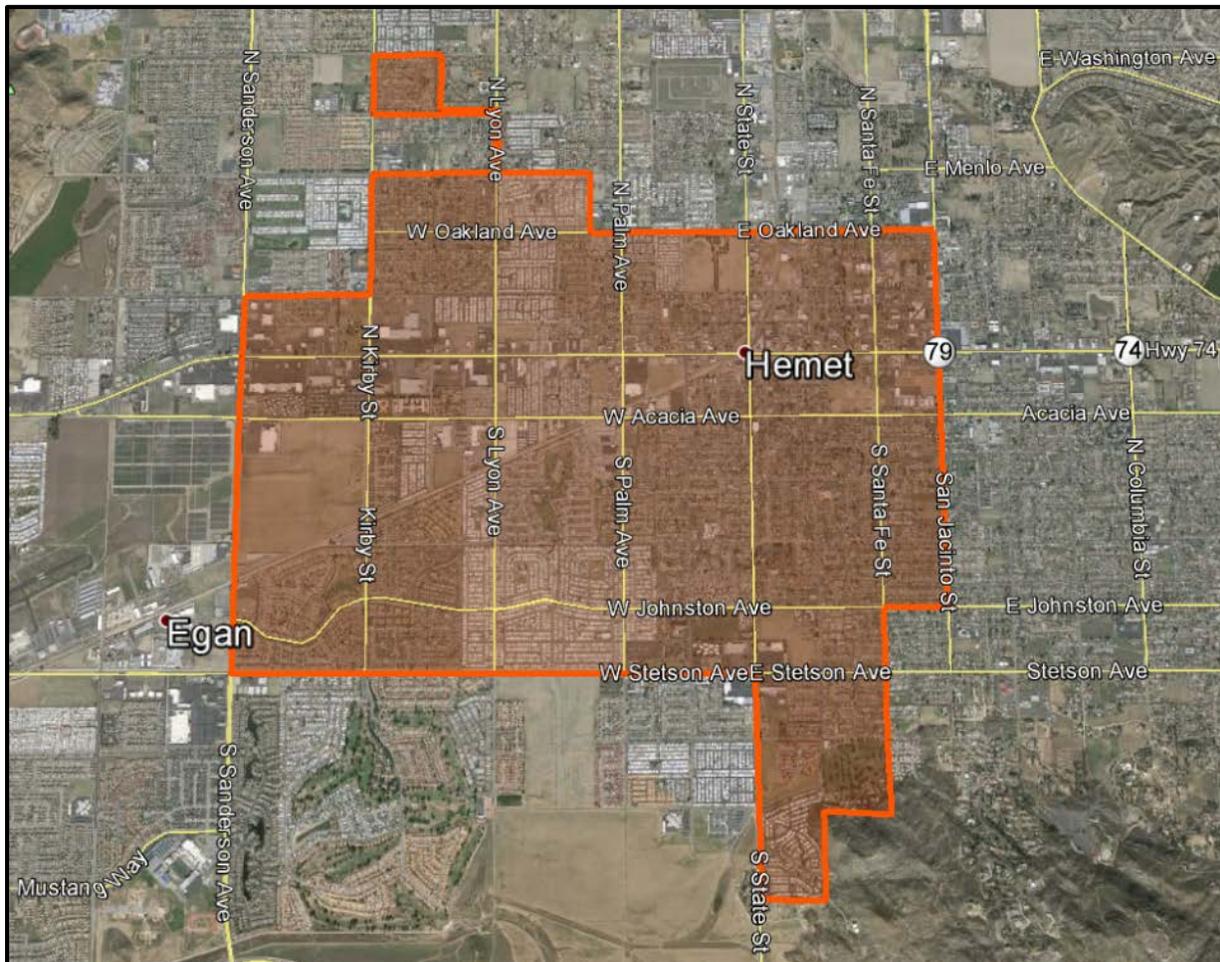
For purposes of calculating baseline per capita water use, the DWR Population Tool was utilized. Input for the population tool includes the historical service area boundary in 1990, 2000 and 2010, and the

total number of residential accounts from 1990 to 2010. Output is the population for each year within the service area boundary.

5.4.1 – Historical Service Area Boundary

The service area was identical in Census year’s 1990, 2000 and 2010, as shown in Figure 5.1.

Figure 5.1 – Historical Service Area Boundary



The KMZ file shown in Figure 5.1 was created by Anthony Herda, PE MBA of KWC Engineers based on data provided by the City.

5.4.2 – DWR Population Tool Results

Based on the preceding information, the DWR Population Tool produced the results shown in Table 5.3.

Table 5.3 – Population for Determining Baseline Per Capita Water Use

Year	Census Population	Number of Residential Connections	Persons Per Residential Connection	Service Area Population
1990	24,869	7,954	3.13	24,869
1991		8,108	3.13	25,378
1992		8,248	3.13	25,816
1993		8,376	3.13	26,217
1994		8,493	3.13	26,583
1995		8,599	3.13	26,915
1996		8,695	3.13	27,215
1997		8,781	3.13	27,485
1998		8,859	3.13	27,729
1999		8,929	3.13	27,948
2000	28,139	8,991	3.13	28,139
2001		8,787	3.14	27,881
2002		8,787	3.15	28,259
2003		8,774	3.16	28,594
2004		8,408	3.17	27,763
2005		8,408	3.17	28,125
2006		8,406	3.18	28,480
2007		8,239	3.19	28,268
2008		8,130	3.2	28,244
2009		8,125	3.21	28,576
2010	29,214	8,203	3.22	29,214
~~~	~~~	~~~	~~~	~~~
2015		8,437	3.26	31,873

## 5.5 – Gross Water Use

**CWC 10608.12**

(g) “Gross Water Use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier
- (2) The net volume of water that the urban retail water supplier places into long term storage
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

**California Code of Regulations Title 23 Division 2 Chapter 5.1 Article**

Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Per CWC 106808.12, gross water use was calculated for 1995 through 2010, as shown in Table 5.4.

**Table 5.4 – Gross Water Use**

Year	Gross Water Use (AFY)
1995	5,643
1996	5,958
1997	5,863
1998	4,800
1999	5,398
2000	5,446
2001	5,482
2002	5,598
2003	5,459
2004	5,710
2005	5,365
2006	5,493
2007	5,314
2008	5,120
2009	4,431
2010	4,240

## 5.6 – Baseline Daily Per Capita Water Use

The baseline per capita water use varies depending on the method used for calculating the 2020 water use target. The methods and the associated baselines are provided in the following subsections.

### 5.6.1 – Target Method 1: 80% of 10-year Average

Per Table 5.1, the highest 10-year average per capita water use occurred in 2004 at 178 GPCD. Applying the Target Method 1, the associated water use target would be 80% of the 2004 average, or 142 GPCD. Standardized tables demonstrating the calculation of Method 1 are provided in Appendix A.

### 5.6.2 – Target Method 2: Performance Standards

Target Method 2 is intended for use in highly industrialized water service areas. In addition, significant historical data are required at the parcel level to perform the required calculations. The City is not industrialized, and the required data are not archived. For these reasons, the calculation of Target Method 2 was not performed.

### 5.6.3 – Target Method 3: 95% of Hydrologic Regional Target

The service area is located in the South Coast Hydrologic Region. The regional target is 149 GPCD. Applying the Target Method 3, the associated target water use efficiency would be 95% of the Hydrologic Regional Target, or 142 GPCD.

### 5.6.4 – Target Method 4: Savings by Water Sector

Target Method 4 involves three calculations based on a 10-year average per capita water use taken from Table 5.1, and water deliveries for the fifth year of the 10-year average. The following application is based on data associated with the 10-year period ending in 2010.

#### ***Step 1. Baseline Water Use and Midpoint Year***

Baseline Per Capita Water Use for 10-year period ending in 2010 (see Table 5.1 - Calculation of Baseline Per Capita Water Use): 165 GPCD

Commercial, Industrial, Institutional water use sectors (CII) Water use for midpoint year (2004): 24 GPCD

Average CII Water Use for 10-year period ending in 2010: 24 GPCD

#### ***Step 2. Metering Savings***

All City accounts are metered. There are no savings associated with metering.

#### ***Step 3. Indoor Residential Savings***

Alternative 2 (Default): Indoor Residential Savings is 15 GPCD.

**Step 4. CII Savings (Equation 5)**

$$\boxed{\begin{array}{c} \text{CII Savings,} \\ \text{GPCD} \end{array}} = \boxed{\begin{array}{c} \text{Average} \\ \text{Baseline CII} \\ \text{Water Use,} \\ \text{GPCD} \end{array}} \times \boxed{0.10}$$

$$\text{CII Savings} = (0.10)(24 \text{ GPCD}) \cong 2 \text{ GPCD}$$

**Step 5. Landscape Irrigation and Water Loss Savings (Equations 2 and 6)**

$$\boxed{\begin{array}{c} \text{Landscape} \\ \text{Irrigation and} \\ \text{Water Loss} \\ \text{Sector Use} \end{array}} = \boxed{\begin{array}{c} \text{Baseline Per} \\ \text{Capita Water} \\ \text{Use} \end{array}} - \boxed{\begin{array}{c} \text{Standard} \\ \text{Indoor} \\ \text{Residential} \\ \text{Use} \end{array}} - \boxed{\begin{array}{c} \text{CII Water} \\ \text{Use in 2004} \end{array}}$$

$$\text{Landscape Irrigation and Water Loss Sector Use} = 165 - 70 - 24 = 71 \text{ GPCD}$$

$$\boxed{\begin{array}{c} \text{Landscape} \\ \text{Irrigation and} \\ \text{Water Loss} \\ \text{Savings} \end{array}} = \boxed{\begin{array}{c} \text{Landscape} \\ \text{Irrigation and} \\ \text{Water Loss} \\ \text{Sector Use} \end{array}} \times \boxed{0.216}$$

$$\text{Landscape Irrigation and Water Loss Savings} = (71)(0.216) \cong 15 \text{ GPCD}$$

**Step 6. Total Savings (Equation 3)**

$$\boxed{\begin{array}{c} \text{Total Savings} \end{array}} = \boxed{\begin{array}{c} \text{Metering} \\ \text{Savings} \end{array}} + \boxed{\begin{array}{c} \text{Standard} \\ \text{Indoor} \\ \text{Residential} \\ \text{Savings} \end{array}} + \boxed{\begin{array}{c} \text{CII Savings} \end{array}} + \boxed{\begin{array}{c} \text{Landscape} \\ \text{Irrigation and} \\ \text{Water Loss} \\ \text{Savings} \end{array}}$$

$$\text{Total Savings} = 0 + 15 + 2 + 15 = 32 \text{ GPCD}$$

**Step 7. 2020 Water Use Target (Equation 1)**

$$\begin{array}{|c|} \hline 2020 \text{ Water} \\ \text{Use Target} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Baseline Per} \\ \text{Capita Water} \\ \text{Use} \\ \hline \end{array} - \begin{array}{|c|} \hline \text{Total Savings} \\ \hline \end{array}$$

$$2020 \text{ Water Use Target} = 165 - 32 = 133 \text{ GPCD}$$

**5.6.5 – Summary of Target Methodologies**

Table 5.5 provides a summary of the methodologies for calculating the 2020 water use target.

**Table 5.5 – Summary of Target Methodologies**

Target Method	GPCD
Method 1	142
Method 2	n/a
Method 3	142
Method 4	133

Method 1 and Method 3 provide the greatest advantage to the City. Method 1 has been adopted as the preferred method.

## 5.7 – 2015 and 2020 Targets

**CWC 10608.20**

*(e) An urban retail water supplier shall include in its urban water management plan due in 2010. . . urban water use target, interim urban water use target,...along with the bases for determining those estimates, including references to supporting data (10608.20(e)).*

**CWC 10608.20**

*(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan...*

Per CWC 10608.20(g), the City has updated the 2020 water use target using Method 1 as outlined in Section 5.6.1. The updated baseline water use, 2015 interim water use target and 2020 water use target are summarized in Table 5.6.

**Table 5.6 – Baseline, Interim and Target Water Use**

Water Use	GPCD
Baseline	178
2015 Interim Target	160
2020 Target	142

### 5.7.1 – 2020 Target Confirmation

**CWC 10608.22**

*Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*

Referring to Section 5.3.2, the 2020 water use target cannot be higher than 164 GPCD. The 2020 water use target is 142 GPCD. The 2020 water use target of 142 GPCD is confirmed.

## 5.8 – 2015 Compliance Daily per Capita Water Use (GPCD)

**CWC 10608.12**

*(e) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period...*

**CWC 10608.24**

*(a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.*

**CWC 10608.20**

*(e) An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.*

As shown in Table 5.6, the updated 2015 interim water use target is 160 GPCD.

The City's actual per capita water use in 2015 was 105 GPCD. The City has achieved its interim water use target.

### 5.8.1 – Adjustments to 2015 Gross Water Use

#### **CWC 10608.24**

**(d)(1)** *When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:*

- (A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.*
- (B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.*
- (C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.*

**(2)** *If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.*

#### **Methodology Document, Methodology 4**

*This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.*

No adjustments were made to the 2015 gross water use.

### 5.9 – Regional Alliance

The City is not part of a regional alliance.

## Chapter 6 – System Supplies

### 6.1 – General Description

**System Supplies** involve organizing and reducing historical water supply source data into pre-determined categories and discussing the availability and sustainability of each source. Documentation on rights, adjudications, agreements and opportunities for current and projected sources are required.

The City intends to meet all projected demand with groundwater.

### 6.2 – Purchased or Imported Water

The City maintains a connection with EMWD and has historically imported small quantities of potable water.

### 6.3 – Groundwater

The City extracts groundwater from the Hemet South Subbasin and the San Jacinto Upper Pressure Subbasin of the San Jacinto Groundwater Basin. Per the Stipulated Judgment, these subbasins are adjudicated and managed as the Hemet/San Jacinto Groundwater Management Area by Watermaster, a governing body made up of the City of Hemet, the City of San Jacinto, Lake Hemet Municipal Water District, Eastern Municipal Water District (EMWD) and several private water producers.

The 2007 Hemet/San Jacinto Groundwater Management Plan (GWMP) is provided in Appendix H.

The 2014 Hemet/San Jacinto Groundwater Management Area Annual Report (2014 Report) is provided in Appendix I.

The Stipulated Judgment (Judgment) is provided in Appendix J.

#### 6.3.1 – Basin Description

**CWC 10631**

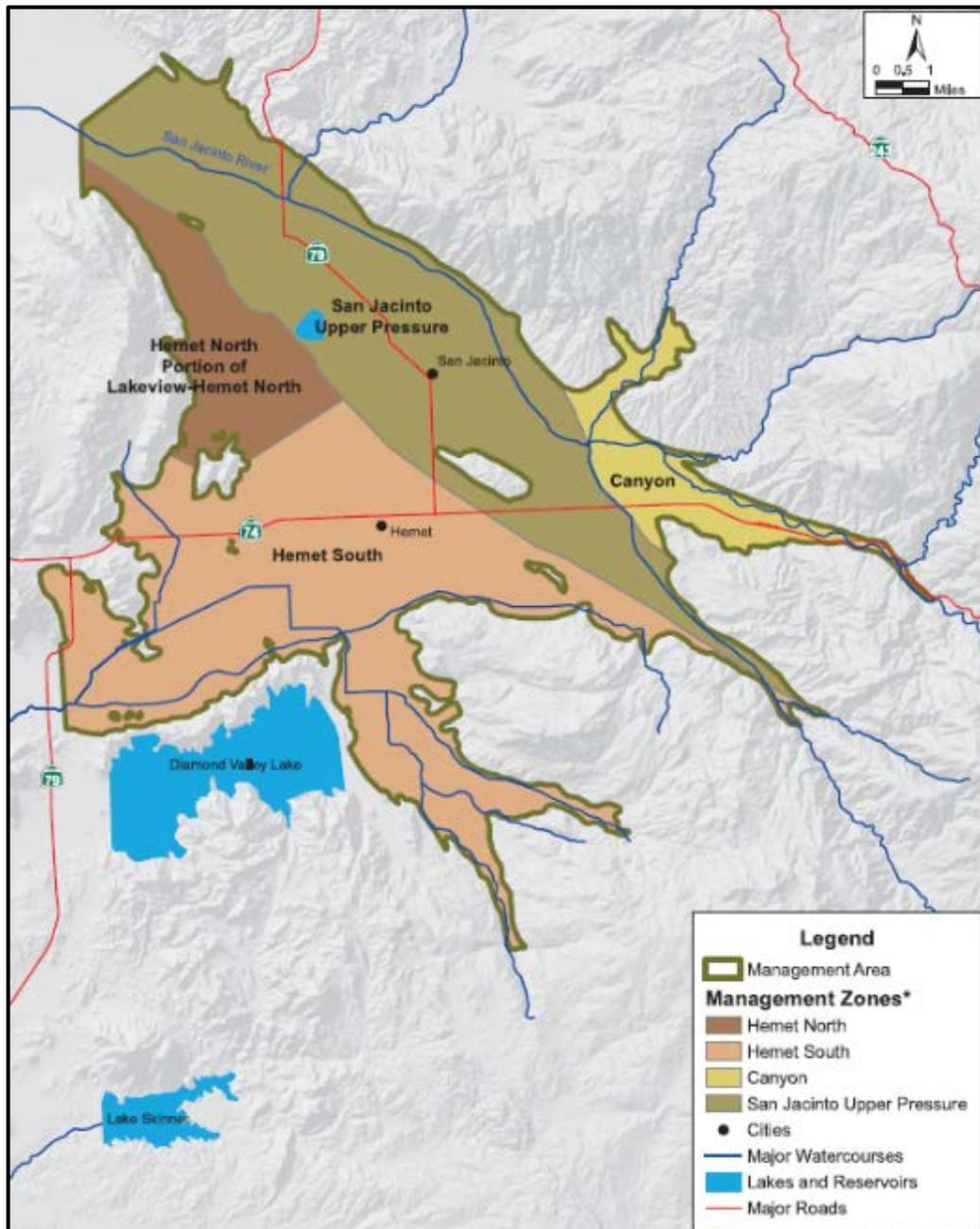
*(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

*(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

DWR's Groundwater Bulletin 118 for the San Jacinto Groundwater Basin (Groundwater Basin Number: 8-05) is provided in Appendix K. Bulletin 118 provides a broad historical overview of the San Jacinto Groundwater Basin.

A detailed description of the subbasins within the Hemet/San Jacinto Groundwater Management Area is provided in Section 4 of the GWMP (see Appendix H). Figure 6.1 shows the Groundwater Management Area.

Figure 6.1 – Groundwater Management Area



Highlights of the basin description from the GWMP are provided below:

*This section discusses the local geologic and hydrologic conditions that provide the foundation for the development of the Plan. The ability to manage available water supplies is to a large degree governed by naturally occurring conditions and the physical environment. This section further describes water supply conditions and sources; historical and current water demands; status of the groundwater basin; and summarizes water quality conditions.*

#### **GEOGRAPHY**

*The Management Area is located in western Riverside County, approximately 70 miles southeast of the City of Los Angeles. The area encompasses the Cities of Hemet and San Jacinto; unincorporated residential/commercial areas, including Valle Vista; and agricultural lands. State Highway 74 (Florida Avenue) crosses the valley in an east-west direction and State Highway 79 provides a north-south corridor for the region. The San Jacinto mountain range, to the east of the valley, is the dominant geographic feature of the region, rising to a height of 10,805 feet at Mount San Jacinto. Elevations on the valley floor range from approximately 1,400 to 1,800 feet. There are various bedrock outcrops in the area, none of which exceed 2,700 feet.*

*The San Jacinto Watershed includes the Management Area and surrounding mountains and covers an area of approximately 728 square miles, measured above a point just downstream from Railroad Canyon Dam. All of the streams and rivers in the watershed are ephemeral, flowing only when precipitation occurs and losing much of this flow to groundwater infiltration. The San Jacinto River arises in and drains the western slopes of the San Jacinto Mountains. Waterways tributary to the river include the North and South Forks and Strawberry, Indian, Poppet, and Bautista Creeks. Lake Hemet, located in the mountains on the South Fork of the San Jacinto River, is a 12,775 AF capacity LHMWD-operated reservoir completed in 1895. The San Jacinto River recharges the groundwater basin, primarily in the area southeast of the City of San Jacinto. It then occasionally flows northwest past the Lakeview Mountains, filling Mystic Lake, before turning southwest to flow across the Perris Valley floor. The San Jacinto River ultimately flows into Lake Elsinore via Railroad Canyon and Canyon Lake. Lake Elsinore, when full, overflows into Temescal Wash, which joins the Santa Ana River near Prado Dam.*

#### **SURFACE WATER CONDITIONS**

*The San Jacinto River and its tributaries are the primary surface water elements in the Management Area. This river and its tributaries provide water for direct use, artificial recharge, as well as for significant natural recharge to the groundwater system through the riverbeds.*

*The San Jacinto River contains high quality water that flows from the mountain watershed and recharges groundwater. The river is a losing stream throughout the Management Area.*

*Artificial and natural recharge of San Jacinto River water improves the overall quality and quantity of groundwater. Groundwater levels have been lowered over the years to the point where additional changes in groundwater levels has little or no impact on surface flows or vice versa, although in predevelopment conditions groundwater*

*contributed to surface flows in swampy areas of the basin floor, particularly upgradient of faults.*

*In 1996, EMWD entered into a Cooperative Water Program Joint Funding Agreement with the USGS for a long-term water budget study in the San Jacinto area. As part of this project, the USGS installed two stream flow gages and three stage gages in the San Jacinto Watershed.*

*The USGS applied a rainfall-runoff model to estimate the water budgets for groundwater and surface water flows and to determine the hydrological effects of urbanization. The study used historical precipitation data with the model to produce a simulated long-term record of groundwater recharge and surface water runoff for a variety of potential urbanized conditions. The major objectives of the study were to:*

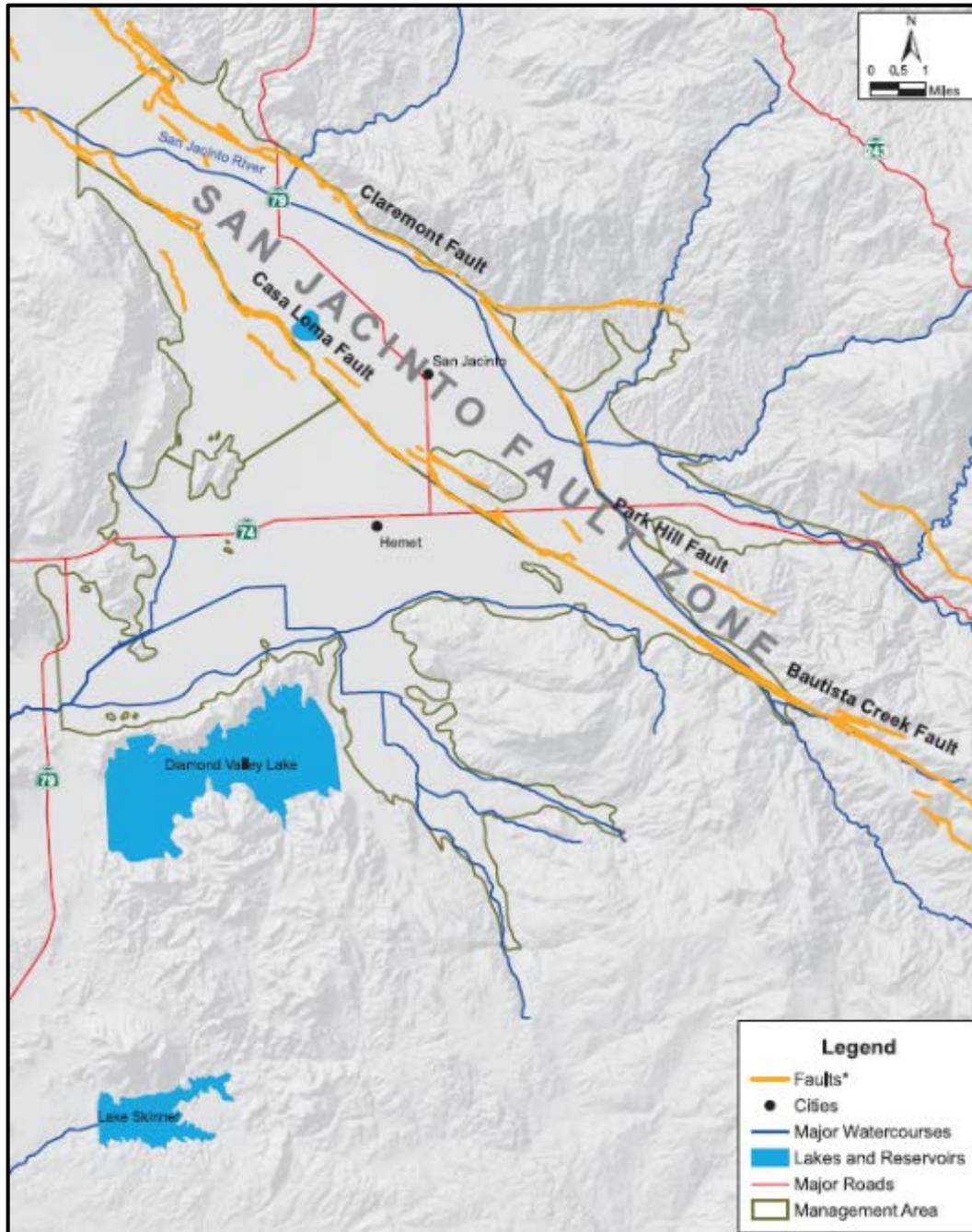
- Estimate groundwater recharge and surface water flows in the Canyon and Upper Pressure Management Zones;*
- Summarize the long-term water budget of the study area upstream of Mystic Lake; and*
- Determine the effects of urbanization in the study area.*

## **GEOLOGY**

*The geology of the Hemet/San Jacinto area, relevant to groundwater supplies, has two primary features: a sediment filled graben, and the San Jacinto fault zone. The sediments in the graben provide for the majority of storage and movement of groundwater in the area and the movement of water is altered by the presence of the faults, which provide most of the internal boundaries for the area's Management Zones.*

*The Management Area partially contains a geomorphic feature known as a graben or fault- graben, along with additional permeable materials in alluvium-filled valleys. A graben is a depressed, trough-like structure in the Earth's crust, filled or partially filled with sediments, and usually formed by faulting and the relative downward movement of block-like geologic structures. The San Jacinto graben is a deep, sediment-filled structure approximately 2.5 miles wide and more than 20 miles long and forms the Upper Pressure Management Zone's boundaries in the Management Area. The Management Area, including the graben, is nearly surrounded by impermeable bedrock mountains and hills. Internally, island-like masses of granite and metamorphic bedrock or older alluvium rise above the valley floor. Surface and near-surface sediments in the graben and alluvium filled valleys are primarily sand and sandy silt with some silt and silty clay. The San Jacinto graben consists of a forebay area in the southeast where surface water recharge primarily occurs and a pressure area in the northwest where deep aquifers exist under confined conditions. The northwest-southeast oriented graben is formed by the right-slipping San Jacinto fault zone, believed to be the most seismically active in southern California. Between 1899 and the present, seven earthquakes of Richter magnitude 6.0 or greater have occurred along the San Jacinto fault between the San Gabriel Mountains and Mexico. This complex zone of faulting and cross faulting has two main branches, the Claremont and the Casa Loma, which form the northeast and southwest borders of the graben, respectively as shown in Figure 6.2.*

Figure 6.2 – Water Management Area Fault Locations



The Claremont fault separates the graben from the Badlands and the San Jacinto Mountains on the northeast. This fault follows Gilman Springs Road from State Highway 60 to the City of San Jacinto, hugging the foothills. It then follows the San Jacinto River before shifting to Bautista Creek south of Valle Vista. To the west, the Casa Loma fault generally parallels the Claremont Fault. The Casa Loma portion of the San Jacinto fault zone forms the southwesterly border of the graben. It runs from Park Hill (also known as

*Casa Loma) to the northwest toward Reche Canyon. The Bautista Creek fault is an extension of the Casa Loma fault, but is separately named due to differences in fault movement. The Bautista Creek fault runs from Bautista Canyon through the intersection of Menlo and San Jacinto Streets, joining the Casa Loma fault on the western side of Park Hill.*

*The portions of the Management Area outside the graben, to the east of the Claremont Fault and to the west of the Casa Loma and Bautista Creek faults, are sediment filled basins. These sediments are similar in nature to those in the graben, but are much thinner.*

*The faulting in the Management Area plays an important role in the movement of groundwater and is therefore a key factor in the delineation of Management Zones.*

#### **DELINEATION OF MANAGEMENT ZONES**

*Groundwater Management Zones (Figure 6.1) were delineated by the RWQCB based on major impermeable boundaries (such as bedrock or faults), flow systems that prevent widespread mixing even without a physical barrier, and water quality. Groundwater flow, whether or not determined by a physical barrier, was the primary characteristic used to define the Management Zones. Water quality data were used to support understanding of the flow regime and to assure that unusually high quality or poor quality waters were distinguished for regulatory purposes.*

*The four Management Zones within the Hemet/San Jacinto Management Area are:*

- *Canyon;*
- *San Jacinto Upper Pressure (Upper Pressure);*
- *The Hemet North portion of Lakeview/Hemet North (Hemet North); and*
- *Hemet South.*

*The Canyon Management Zone lies along a northwest to southeast axis in the eastern part of the Management Area. The boundaries of the Canyon Management Zone include the virtually impermeable San Jacinto Mountains to the east and Claremont Fault to the west. The Claremont Fault inhibits flow between Canyon and Upper Pressure Management Zones.*

*Like the Canyon Management Zone, the Upper Pressure Management Zone lies along a northwest to southeast axis in the eastern part of the Management Area. The Upper Pressure Management Zone is bounded by the Claremont Fault to the northeast, the Casa Loma and Bautista Creek Faults to the southwest, and the flow system boundary with the San Jacinto Lower Pressure Management Zone to the northwest.*

*Boundaries of the Hemet North Management Zone include the Casa Loma Fault to the east; the groundwater divide near Esplanade Avenue to the south; the impermeable bedrock of the Lakeview Mountains to the west; and a constricted area of permeable materials between the Lakeview Mountains and the Casa Loma Fault to the northwest. The Casa Loma fault zone is a known barrier to groundwater flow.*

*The Hemet South Management Zone boundaries include the Casa Loma and Bautista Creek faults to the east; the groundwater divide near Esplanade Avenue to the north; the groundwater divide in the Winchester area and various crystalline bedrock outcrops to the west. Diamond Valley Lake, a water supply reservoir for the MWD completed in 1999 and filled by 2002, is located southwest of the Hemet South Management Zone. MWD states that seepage through the permeable materials in the upper 200 feet may take place. The Casa Loma and Bautista Creek faults are known barriers to groundwater.*

*For the Management Area as a whole, the mountains form a nearly impermeable boundary such that there are only three pathways for groundwater to migrate to or from other Management Zones outside the Management Area. These locations are:*

- Between the Hemet South and Perris South Management Zones, in the southwest;*
- Between the Hemet North portion and Lakeview portion of Lakeview/Hemet North Management Zones, in the northwest; and*
- Between the Upper Pressure and Lower Pressure Management Zones, in the northwest.*
- Groundwater flow in and out of the Management Area is important, as water quality is typically better in the Management Area than in the surrounding areas.*

#### **GROUNDWATER CONDITIONS**

*As previously stated, groundwater flow between Management Zones is inhibited by geologic faults, notably the Casa Loma Fault, Bautista Creek Fault and Claremont Fault, all strands of the San Jacinto fault zone. The Claremont Fault acts as a barrier to flow between Canyon and Upper Pressure Management Zones, while the Casa Loma Fault is a barrier to flow between the Upper Pressure Management Zone and both the Hemet North and Hemet South Management Zones.*

*The San Jacinto River enters the basin in the southeast part of the Management Area and flows north and west across the Upper Pressure Management Zone. In most years, all river flow is lost to percolation and limited evapotranspiration in the Canyon and Upper Pressure Management Zones. Recharge from the San Jacinto River and its tributaries forms a large portion of total inflow for the Canyon and Upper Pressure Management Zones.*

*Groundwater pumping for irrigation and domestic purposes is the principal source of groundwater outflow. Major pumping depressions occur in the Hemet South and Upper Pressure Management Zones.*

*Historically, extraction in excess of recharge has resulted in lowered groundwater levels and altered directions of groundwater flow.*

### **ARTIFICIAL RECHARGE OPERATIONS**

*In addition to natural inflows and return flows from agricultural and municipal uses, there has been and continues to be artificial recharge operations in the Management Area. These operations use imported water, when available, typically at lower winter rates, to artificially recharge groundwater through spreading basins. Recharge operations did not begin until 1990. More recently, the Public Agencies have signed memoranda of understanding in 2004 and 2005 to plan for the recharge at two existing recharge facilities in the San Jacinto riverbed.*

*The artificial recharge operations help address the impact of overdraft caused by past groundwater production.*

### **GROUNDWATER LEVELS AND FLOW**

*Historical groundwater extraction from the Management Area has resulted in a significant drop in groundwater levels. The lowered groundwater levels also changed the direction of flow in parts of the Management Area. Notable changes over time include the development of a groundwater divide between the Hemet South and Perris South Management Zones (previously flow was out of the Hemet South Management Zone into the Perris South Management Zone and flow from the Hemet North portion to the Lakeview portion of the Lakeview/Hemet North Management Zone due to lower water levels in the Lakeview portion.*

*Historical groundwater levels are affected by both climatic conditions, which impact the amount of recharge, and pumping. Historical conditions in the four Management Zones can be studied in relation to their unique setting by analyzing observed water levels at representative wells with long periods of record. Hydrographs for four selected wells are presented in the following sections.*

#### **Upper Pressure Management Zone**

*The Upper Pressure Management Zone benefits from surface water recharge from the San Jacinto River and its tributaries and supplies most of the groundwater for the Management Area. However, even with significant recharge from surface water as well as other inflows, wells in the Upper Pressure Management Zone have shown a decline in water levels over time. The hydrologically wet and normal periods during 1978 to 1986 resulted in a recovery of about half the decline from the previous three decades. Since 1986, groundwater levels have dropped approximately 200 feet. The changes seen in the well [sic] are likely due to a combination of reduced precipitation, reduced recharge from streamflow, and effects of pumping.*

#### **Hemet South Management Zone**

*Groundwater levels in the Hemet South Management Zone have shown a steady decline, although the recent rate of decline has slowed. While data is limited for the 1952 to 1990 period, groundwater levels declined through the 1952-1990 period, and the increased data available from 1990 to 2005 shows little variability. Groundwater level declines have slowed but have still dropped approximately 20 feet in the past 10 years.*

### 6.3.2 – Groundwater Management

#### **CWC 10631**

*(b) ...If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

- (1) A copy of any groundwater management plan adopted by the urban water supplier...or any other specific authorization for groundwater management.*
- (2) ...For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.*

The GWMP is provided in Appendix H.

The Hemet South Basin and the San Jacinto Upper Pressure Basin are adjudicated. The Judgment is provided in Appendix J.

Below is a summary of the intent of the GWMP:

#### **BACKGROUND AND GOALS**

*The stakeholders in the Hemet/San Jacinto Groundwater Management Area (Figure 6.1) have developed the Hemet/San Jacinto Water Management Plan (Plan) to provide a foundation that guides and supports responsible water management into the future. The Participants in the Plan are Eastern Municipal Water District (EMWD), Lake Hemet Municipal Water District (LHMWD), Cities of Hemet and San Jacinto (Public Agencies), and Private Water Producers.*

*Private Water Producers are those property owners who are pumping groundwater pursuant to overlying water rights, typically for agricultural or domestic uses. Private Water Producers may elect two levels of participation in the Plan, with varying levels of benefits and responsibilities, or may elect not to participate. The details on this matter are described in Section 2 of the Plan document.*

*The Plan, adopted by the governing bodies of the Plan Participants, has eight primary goals:*

- *Address pumping overdraft and declining groundwater levels,*
- *Provide for Soboba Tribe prior and paramount water rights,*
- *Ensure reliable water supply,*
- *Provide for planned urban growth,*
- *Protect and enhance water quality,*
- *Develop cost-effective water supply,*
- *Provide adequate monitoring for water supply and water quality, and*
- *Supersede the Fruitvale judgment and agreement.*

#### **GROUNDWATER AS A CORNERSTONE FOR WATER MANAGEMENT**

*The goals of the Plan are interrelated and begin with maintaining groundwater as a high quality, low-cost, flexible source of water. Efforts are needed to make this happen, as historical groundwater pumping in excess of the Safe Yield of the groundwater basin has resulted in decreasing trends in water levels. In addition, historical land and water use practices for agricultural irrigation and dairy industry waste have raised the levels of nitrates and total dissolved solids in groundwater. Safe Yield, the long-term average quantity of water that can be pumped without causing undesirable results, has been estimated at 40,000 to 45,000 AFY, while average annual production exceeds this amount by approximately 10,000 to 15,000 AFY. The 10,000 to 15,000 AFY difference between the long-term average annual groundwater production and Safe Yield is known as overdraft, which can be responsible for creating undesirable conditions in the basin, including degradation of groundwater quality. The Plan assumes a pragmatic and economic approach in setting the target to reduce overdraft, and assumes an overdraft of 10,000 AFY. This will allow the Plan Participants and the Watermaster to initiate and adopt plans and policies to eliminate overdraft with implementation of economically feasible and cost-effective projects. The Plan intends to stabilize or reverse the decreasing trend in water levels through reducing groundwater production to a level that brings the basin production within the Safe Yield of the Management Area. Higher water levels will increase water in storage, decrease energy costs for pumping, and inhibit the migration of poor quality groundwater from surrounding basins, helping to protect groundwater quality in the Management Area.*

**INTEGRATION OF GROUNDWATER WITH OTHER WATER SOURCES AND DEMAND MANAGEMENT TO MEET FUTURE WATER NEEDS**

*The Plan Participants have several options available to increase water supply and reliability in the Management Area. Water used in the Management Area for agricultural and domestic use comes from groundwater, surface water, imports, and recycled water. Most of this water has historically been from groundwater, based on 2004 data. This allows significant opportunities for underutilized sources, particularly recycled water and winter-time imported water, to replace or augment groundwater production. The regional cooperation developed over the years is also of importance as the supply mix varies between the different water users in the Management Area; by cooperating, the water users can fully utilize their available water resources.*

*The high-quality groundwater basin also plays an important role in future water availability. Historical declines in groundwater levels are a concern and a major impetus for the development of this Plan. However, even the dewatered portion of the groundwater basin is a significant asset and allows for the full utilization of the available water supplies mentioned above. The new water supplies can be introduced into the system filling the empty portions of the groundwater basin by either substitution for pumping groundwater (in-lieu recharge) or by placing the water in the groundwater system through seepage from specially designed ponds or through injection from wells (direct recharge). Both these methods benefit the Management Area groundwater basin, which is composed of materials that can store large quantities of water and holds high quality groundwater that can be pumped for usage at a later time. A complex system of faults and other geologic features separate the groundwater system into four Management Zones, which require some degree of individual attention in planning and designing recharge and extraction projects, based on each Management Zone's unique attributes.*

*The numerous water supply opportunities along with water conservation by both the Public Agencies and Private Water Producers will be utilized to meet the current and future water needs of the Management Area. Based on the latest data and information on land and water practices, general plans, urban water management plans, and other specific plans, water demand in the Management Area is projected to increase over the course of next 15-20 years. Based on these projections, there will also be a shift from agricultural water use to urban water use, resulting in more stringent water quality requirements to meet drinking water standards.*

**PHYSICAL SOLUTION IS THE BASIS OF WATER SUPPLY PROJECT IN THE MANAGEMENT AREA**

*As described in the Stipulated Judgment, the Physical Solution is the court decreed method of managing the water supply in the Management Area to maximize the reasonable and beneficial use of the waters, eliminate overdraft, protect the prior rights of the Soboba Tribe, and provide for the substantial enjoyment of all water rights by recognizing their priorities. The Physical Solution consists of numerous water supply and conjunctive use projects, including direct and in-lieu recharge, increased use of recycled water, increased conservation, and improved monitoring. The core project in the Physical Solution is the Hemet/San Jacinto Integrated Recharge and Recovery Program (IRRP). Phase I of the IRRP has been designed, funded, the necessary environmental permits have been acquired, and construction is currently underway. Phase II is in planning stages. The IRRP is a regional recharge and recovery program to meet the following goals:*

- *Satisfy Prior and Paramount Soboba Tribe water rights;*
- *Offset the estimated 10,000 AFY overdraft in the Management Area; and*
- *Provide an additional 15,000 AFY to help meet the projected demand increases*

*In addition to IRRP, the Plan identifies other projects that can potentially meet the above goals. These include direct recharge, in-lieu recharge, and recycled water projects.*

**A FIRM LEGAL AND INSTITUTIONAL ARRANGEMENT**

*Development of a comprehensive system of water management begins with the legal and institutional framework. To meet the goal of reducing groundwater production to eliminate overdraft, the Public Agencies agreed upon some basic principles as a basis for allocating Base Production rights. Base Production rights establish the initial amount that each Public Agency would be able to pump without the need to replenish the basin.*

*The Base Production rights are calculated on the basis of actual production by Public Agencies during 1995-99 calendar years, and adjusted for specific historical operational activities, such as:*

- *Recharge Activities;*
- *MWD San Jacinto Tunnel Seepage;*
- *Fruitvale Entitlement Water Sold by EMWD to LHMWD, Hemet, and San Jacinto;*
- *Stream Diversions;*
- *Conveyance Water Deliveries; and*
- *Other Considerations.*

The Public Agencies have, therefore, agreed to the Base Production Rights shown in Table 6.1.

**Table 6.1 – Public Agency Base Production Rights**

Public Agency	Base Production Rights (AFY)	Base Production Rights (Percent)
EMWD	10,869	33.7
LHMWD	11,063	34.2
City of Hemet	6,320	19.6
City of San Jacinto	4,031	12.5
<b>Total</b>	<b>32,283</b>	<b>100.0</b>

Surface water rights are not impacted and/or changed by the Plan or any other recent agreements. LHMWD diverts water from the San Jacinto River and its tributaries through its pre-1914 water rights to meet their irrigation and municipal water demands, and EMWD has a license to divert water from the San Jacinto River for recharge purposes.

Soboba Tribal water rights are recognized throughout the Plan, including details of the monetary, water quantity, water quality, and property requirements to meet the obligations set forth in the settlement agreement with the Soboba Tribe.

The Institutional Plan assigns the administration, implementation, and monitoring of the Plan to a Watermaster. The Watermaster will consist of one elected official representing each of the Public Agencies and one representative selected by the participating Private Water Producers. The Watermaster will utilize the counsel of legal advisor, as well as provide technical oversight through an Advisor and Technical Advisory Committee. The Watermaster will utilize services of EMWD for recharge operations and administration and monitoring of the projects and the Plan. The Watermaster will also review, approve, and adopt the annual budget, which will be funded by administrative assessments and replenishment assessments.

**6.3.3 – Overdraft Conditions**

**CWC 10631**

*(b)(2) For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

The Hemet South Basin and the San Jacinto Upper Pressure Basin are adjudicated and managed as part of the Hemet-san Jacinto Groundwater Management Area.

The San Jacinto Groundwater Basin is not identified by DWR as a critically overdrafted basin.

**6.3.4 – Historical Pumping**

**CWC 10631**

- (b) ...If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
- (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

Over the past five years, the City pumped the volumes shown in Table 6.2 from the Hemet/San Jacinto Groundwater Management Area.

**Table 6.2 – Historical Pumping**

Year	2011	2012	2013	2014	2015
Volume (AF)	4,240	4,503	4,542	4,457	3,750

**6.4 – Surface Water**

Management of surface water is a provision of the GWMP (see Appendix H).

**6.5 – Stormwater**

Management of stormwater diversion is a provision of the GWMP (see Appendix H).

## 6.6 – Wastewater and Recycled Water

### 6.6.1 – Recycled Water Coordination

#### **CWC 10633**

*The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

As a participant in the Hemet/San Jacinto Groundwater Management Area, the City coordinates with the other participants in all areas of water resources management including recycled water.

EMWD provides recycled water service within the wholesale service area. Per the EMWD 2015 UWMP Draft:

*As a full-spectrum provider of water, wastewater collection, and treatment and recycled water services, EMWD has been active in developing local and regional plans for expanded water recycling in its service area. EMWD's first Recycled Water Facilities Master Plan was developed in 1990 and was formally updated in 2010. In 2009, EMWD completed a Recycled Water System Strategic Plan that provides guidelines for moving forward with recycled water projects. Information from the strategic plan was incorporated into the EMWD Integrated Resource Plan (IRP) to evaluate potential recycled water projects. EMWD is in the process of updating all three planning efforts with the development of its 2015 Recycled Water Strategic and Master Plan and its 2015 IRP. EMWD's local water recycling plan is also incorporated into the 2014 IRWM Plan developed by SAWPA for the San Jacinto and Santa Ana Watersheds.*

*EMWD has worked closely with the Santa Ana Regional Water Quality Control Board in updating local basin plans and developing a long-term salinity management plan to support and ensure compliance with local basin objectives for salinity and nitrogen. EMWD is also participating in the development of a Total Maximum Daily Load analysis for impacted surface waters in the Santa Ana Watershed.*

*EMWD is involved with a variety of local agencies and public interest groups in recycled water planning efforts and has coordinated these agencies as part of the development of this UWMP. Table 6.3 lists agencies participating in recycled water planning.*

**Table 6.3 – Recycled Water Coordinating Agencies**

<b>Group/Agency</b>	<b>Role</b>
1) Santa Ana Watershed Project Authority	Regional Cooperative Planning
2) Santa Ana Regional Water Quality Control Board	Basin Planning / Salinity Management.
3) Rancho California Water District	Facility Planning / Market Development
4) West San Jacinto Groundwater Management Plan Advisory Board	Plan Review / Public Oversight
5) Hemet/San Jacinto Groundwater Management Plan Policy Committee (Cities of Hemet and San Jacinto, and Lake Hemet Municipal Water District)	Plan Review / Public Oversight
6) Elsinore Valley Municipal Water District	Facility Planning / Market Development
7) EMWD Recycled Water Advisory Committee	Plan Review / Public Oversight
8) San Jacinto Watershed Council	Plan Review / Public Oversight
9) Lake Elsinore/San Jacinto Watershed Authority	Plan Review / Water Quality
10) Metropolitan Water District of Southern California	Regional Urban Water Mgmt. Planning / Funding

## 6.6.2 – Wastewater Collection, Treatment and Disposal

### **CWC 10633**

(a) *(Describe) the wastewater collection and treatment systems in the supplier’s service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*

### **CWC 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.*

The City of Hemet provides wastewater collection within the Water Service Area. Collected wastewater flows to EMWD’s San Jacinto Valley Regional Water Reclamation Facility where it receives tertiary treatment. The treatment capacity of the facility is 15,700 AFY. EMWD estimates wastewater generation within the City’s Water Service Area at 1,770 AFY.

Per the Hemet/San Jacinto Groundwater Management Area 2014 Annual Report:

### ***Recycled Water***

*Recycled water in the Management Area is generally supplied by the San Jacinto Valley Regional Water Reclamation Facility (SJV RWRf) but can also be supplied from the Winchester Ponds, Moreno Valley Regional Water Reclamation Facility (MV RWRf), or the Perris Valley Regional Water Reclamation Facility (PV RWRf).*

*The 256-acre SJV RWRf serves the population living within its 167-square-mile service area. The plant has a current capacity of 11 MGD with ultimate expansion at the plant envisioned to be 27 MGD, and is currently being upgraded to 14 MGD. The water is recycled for use by agricultural and landscape customers within the Management Area as well as other areas such as the 10,000-acre San Jacinto Wildlife Area adjacent to Lake Perris. Recycled water from this plant also sustains the Hemet/San Jacinto Multipurpose Constructed Wetlands, an approximately 50-acre site adjacent to the plant constructed to provide additional treatment, multi-species habitat, environmental enhancement, education, and other public benefits.*

*The Winchester Ponds are located on an approximately 80-acre site on Simpson Road in the unincorporated community of Winchester. They are used for storage of recycled water from the Perris and Temecula Valley RWRfs. The water is sold and transported to various users within EMWD’s service area including customers within the Management Area.*

*The PV RWRf and the MV RWRf can, based on operational necessity, supply recycled water to users in the Management Area via a pipeline through Lakeview.*

*During 2014, recycled water usage in the Management Area totaled 12,196 acre feet.*

### ***Recycled Water In-Lieu Project***

*This project supplies recycled water from the SJV RWRf for agricultural irrigation in-lieu of pumping native groundwater. The project can deliver up to 8,540 AFY of recycled water to Rancho Casa Loma and the Scott Brothers Dairy (known as In-lieu Project Participants). The project construction cost was jointly funded by EMWD, LHMWD, and the Cities of Hemet and San Jacinto. Agreements were executed with Rancho Casa Loma and Scott Brothers Dairy in 2008 that set limits on groundwater production in return for a low rate for recycled water purchases. The EMWD recycled water rate due by the In-lieu Participants is subsidized by the Watermaster.*

*During 2014, 4,237 AF and 2,440 AF of recycled water was delivered to Rancho Casa Loma and Scott Brothers Dairy respectively, for a total of 6,677 AF of recycled water in-lieu of groundwater production.*

Per the EMWD 2015 UWMP Draft:

*EMWD is responsible for all wastewater collection and treatment in its service area. It has four operational RWRfs located throughout EMWD as shown in Figure 6 5. Inter-connections between the local collections systems serving each treatment plant allow for operational flexibility, improved reliability, and expanded deliveries of recycled water. All of EMWD's RWRfs produce tertiary effluent, suitable for all Department of Health Services permitted uses, including irrigation of food crops and full-body contact. The four RWRfs have a combined capacity of 81,800 AFY.*

*In addition to treatment facilities, EMWD has several recycled water storage ponds throughout the District. Using existing storage ponds, EMWD is able to sell more than the recycled water produced by its treatment plants during the peak demand months (June – September). During the cooler, wetter parts of the year, surplus recycled water is stored in unlined surface impoundments, resulting in some degree of groundwater recharge. If storage capacity is full, surplus recycled water is disposed of through a regional outfall pipeline to Temescal Creek and the Santa Ana River.*

*EMWD treats all of the wastewater collected in its service area to tertiary standards and disposes of its recycled water in one of three ways;*

- 1) customer sales*
- 2) discharge to Temescal Creek, or,*
- 3) through percolation and evaporation while stored in ponds throughout EMWD.*

*In 2015, EMWD collected and treated a total of 48,665 AF of wastewater at its four RWRfs. While EMWD sells recycled water to wholesale customers RCWD and EVMWD, the recycled water originates from wastewater collected and treated within EMWD's retail service area.*

### 6.6.3 – Recycled Water System

**CWC 10633**

*(c) (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

The City has no recycled water system.

Recycled water is available at EMWD's San Jacinto Valley Regional Water Reclamation Facility.

Per the GWMP:

*Recycled water is treated at EMWD's San Jacinto Valley Regional Water Reclamation Facility and is currently used primarily for irrigation in the public municipal areas, industrial uses, and agricultural irrigation purposes in the Management Area and for habitat creation at the California Fish and Game San Jacinto Wildlife Area outside the Management Area. Recycled water is a highly reliable source of supply and will increase in availability as the population of the Management Area increases. Most of the recycled water is sold by EMWD to private land owners for agricultural irrigation. Recycled water usage in the Management Area has been fairly stable over the past decades, with approximately 5,000 AF supplied in 2004.*

Per the EMWD 2015 UWMP Draft:

*In 2015, EMWD produced 45,385 AF of recycled water for distribution to retail and wholesale customers throughout its service area. The majority of recycled water sold is used for agricultural irrigation. A portion of the water sold for agriculture is used in lieu of groundwater, preserving the groundwater basin and improving water supply reliability. In addition to meeting agricultural demand, recycled sales to municipal customers are increasing rapidly as residential and urban development replaces irrigated farmland. Landscape irrigation is an emerging market and in 2008, EMWD started selling recycled water to a large industrial customer for cooling towers in a power generation plant. EMWD also sells recycled water to the California Department of Fish and Wildlife for environmental use within the San Jacinto Wildlife Area and to recreational customers that are comprised of private duck clubs and bird sanctuaries that use recycled water for ponds. EMWD uses existing storage facilities to store water during off peak periods for delivery in peak months and maximize the amount of recycled water sold.*

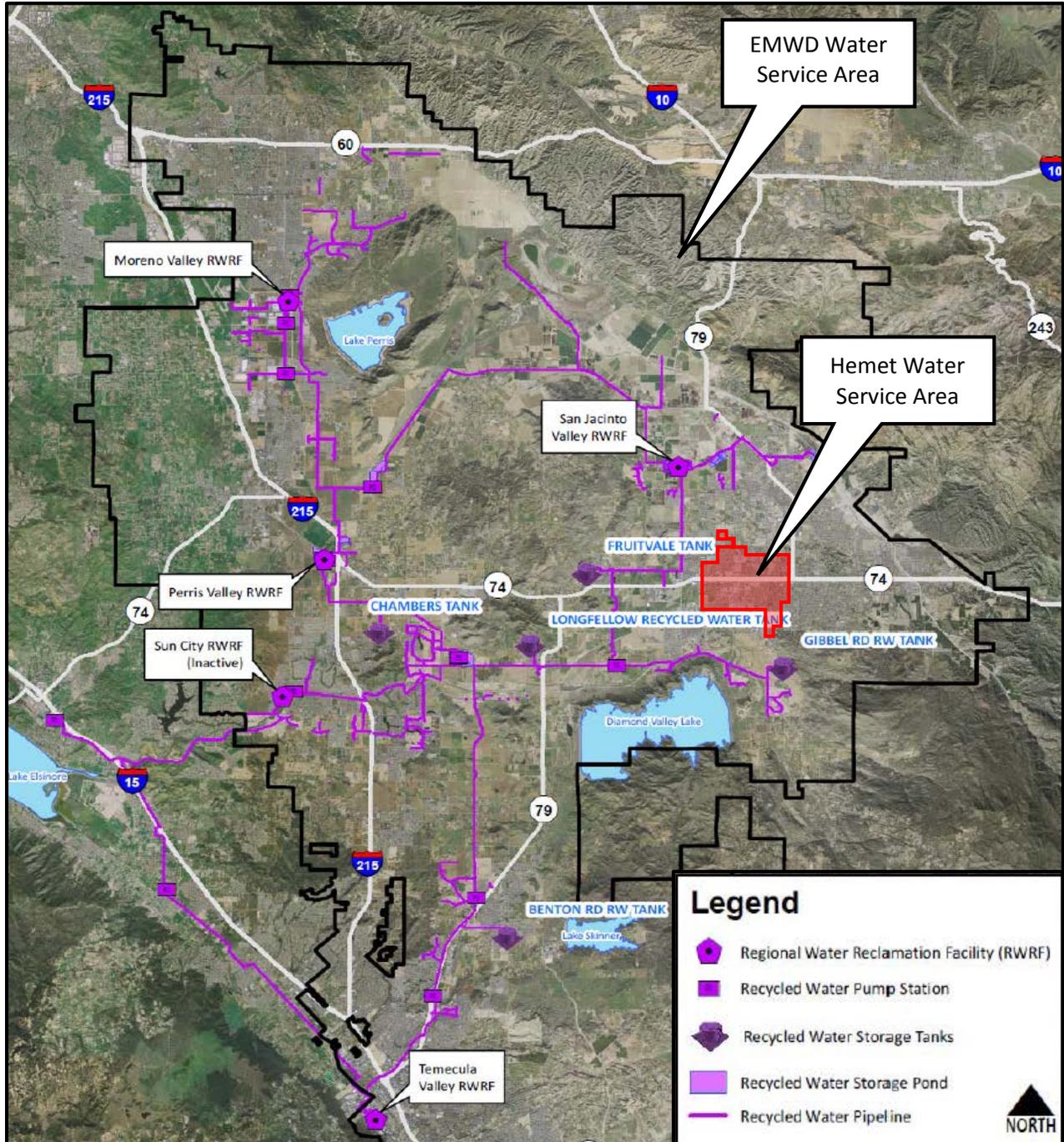
*Much of EMWD's increase in recycled water use will come from customers that will use recycled water for landscape irrigation or industrial processing. Agricultural use is projected to decrease as more agricultural land use is converted to residential. Currently, agricultural customers use recycled water to grow short-term row crops. Using potable water would not be cost-effective and their profitability is based on the availability of low-cost recycled water and low-cost land available for lease. The location of these agricultural accounts frequently changes each year depending on land availability. As more residential development takes place and the population grows, land is becoming*

*less accessible for agricultural use. In the future, EMWD expects to have fewer and fewer agricultural accounts. Other agricultural accounts use recycled water to irrigate crops that require a long-term investment such as citrus trees. These accounts would use potable water, if needed, to protect their investment. Recycled water is also being used by some agricultural accounts in lieu of potable ground water.*

*EMWD's wholesale customer category consists of recycled water delivered to other agencies for use in their service areas. EMWD delivers recycled water to EVMWD and RCWD.*

Figure 6.3 is an excerpt from the EMWD 2015 UWMP Draft showing the extent of the recycled water system and the location of the City's Water Service Area.

Figure 6.3 – EMWD Recycled Water System



**6.6.4 – Recycled Water Beneficial Uses**

**CWC 10633**

*(d) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*

**CWC 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 pursuant to this subdivision.*

Approximately 7.9% of the City’s historical water use is delivered via dedicated irrigation meters. Looking forward, 7.9% of projected demand may be considered available for conversion of dedicated irrigation demand from potable to recycled water. The potential for irrigation meter conversion to recycled water is shown in Table 6.4.

**Table 6.4 – Potential Recycled Water Beneficial Use**

Year	2020	2025	2030	2035	2040
Landscape Irrigation	362	368	373	378	381

**6.6.5 – Planned vs. Actual Recycled Water Use**

**CWC 10633**

*(e) (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

The City had no previously projected use of recycled water.

### 6.6.6 – Optimization of Future Recycled Water Use

**CWC 10633**

*(f) (Describe the) actions, including financial incentives, 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.*

**CWC 10633**

*(g) (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.*

The City has no recycled water system, and defers to EMWD regarding financial incentives for recycled water use. As a participant in the Hemet/San Jacinto Groundwater Management Area, the City will continue to work EMWD and other participants to promote the benefits of recycled water.

Per the EMWD 2015 UWMP Draft:

*EMWD is in the process of completing its 2015 Recycled Water Strategic and Master Plan. The plan examines several options for the expansion of recycled water use in EMWD's service area and considers the current and potential constraints and opportunities for reducing discharge and increasing use of recycled water. Demand opportunities exceed projected supply through 2045, so an optimized profile of demands will be recommended as part of the strategic plan evaluation.*

*Historically, EMWD has used recycled water to meet the needs of agricultural development with increasing landscape demand, as land use changes from agricultural to urban. Water has also been used for environmental purposes at the California Department of Fish and Wildlife San Jacinto Wildlife Area. Recently, new demands have emerged for manufacturing and industrial processes and for use in lieu of groundwater. Other proposed special projects include Indirect Potable Recharge (IPR) using recycled water from the San Jacinto Valley RWRf for groundwater recharge.*

*IPR is included in EMWD's IRP and modeled under several hydraulic and supply conditions. EMWD's Recycled Water Strategic and Master Plan also evaluates the storage and system improvements needed to offset peak demand. Additional storage is not required to fully utilize EMWD's recycled water supply.*

To ensure that recycled water continues to be used to the fullest extent possible, EMWD uses five methods to expand the use of recycled water within its service area. These methods are:

- **Mandatory Recycled Water Use Ordinance** – EMWD has adopted an ordinance requiring new and existing customers to use recycled water for appropriate permitted uses when it is available. This ordinance provides a basis for denying potable water service and providing recycled water for permitted uses.
- **Rate Incentives** – Recycled water is currently priced below the cost of potable water for both municipal and agricultural use.
- **Water Supply Assessments** – EMWD’s Water Supply Assessments require all major new developments to use recycled water as a condition of service where it is available and permitted.
- **Public Education** – EMWD actively promotes the use of recycled water with its water education program. EMWD also places prominent signage at public recycled water use sites promoting the benefits of water recycling.
- **Facilities Financing** – EMWD will work with private parties to arrange or provide financing for construction of facilities needed to convert potable demands to recycled water.

EMWD does not have any data to support a projection of how much increased recycled water sales will result from each of the listed methods of encouraging recycled water use. Historically, the low cost of recycled water was the primary inducement for agricultural customers to use recycled water in-lieu of groundwater. However, as municipal customers continue to replace agriculture, it is reasonable to assume that the mandatory provisions of EMWD’s Recycled Water Use Ordinance will play a major role in program expansion.

## 6.7 – Desalinated Water Opportunities

### **CWC 10631**

**(h)** Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Due to its inland location, the City has no opportunity to develop ocean water desalination.

The City’s primary supply is groundwater produced in the Hemet/San Jacinto Groundwater Management Area. There is no brackish water in the Management Area at this time.

Portions of the Management Area have TDS concentrations above the state secondary MCL of 750 mg/L. To improve long-term sustainability, groundwater desalination to reduce TDS may be considered.

Desalination activities undertaken by EMWD are provided below, per the EMWD 2015 UWMP Draft:

*EMWD currently uses groundwater desalination to remove salts from basins in the West San Jacinto area. This 250 square mile area experiences increasing water levels due to the inward migration of high total dissolved solids (TDS) groundwater and decreased production. The high TDS groundwater is migrating into the Lakeview portion of the Lakeview/Hemet North Management Zone, which is an area of good quality groundwater. Lowering groundwater levels and removal of saline groundwater is an integral element of the WSJ Management Plan. To address these concerns, EMWD implemented a Groundwater Salinity Management Program. This program currently consists of two desalination facilities owned and operated by EMWD. These facilities recover high TDS groundwater from the Menifee and Perris South Management Zones, and the Lakeview portion of the Lakeview/Hemet North Management Zone, for potable use. In addition to being a source of potable water, the main role of the desalters is to play a part in managing the groundwater management zones by addressing the migration of brackish groundwater into areas of good quality groundwater.*

*Desalter wells pump water to an integrated raw water system that delivers water to the desalination plants where it is treated prior to entering the distribution system. The Menifee Desalter was the first desalter to be built. This facility began producing potable water in 2003. The second desalter, the Perris I Desalter, is located next to the Menifee Desalter in Sun City. This plant began production in 2006 and has a production capacity of 10.5 CFS. Groundwater extraction for use in the desalter program has not caused a decline in water levels to date; groundwater levels continue to show a stable or upward trend.*

*High iron and manganese concentrations irreversibly impact the desalter membranes and have resulted in several brackish groundwater extraction wells being offline. In 2004, an effort was initiated to evaluate alternative technologies for removal of iron and manganese prior to desalination. In late 2013, iron and manganese removal facilities were placed online and allowed EMWD to begin producing from four previously inactive wells. Around 9,000 AF of brackish groundwater was pumped in 2014 and 2015, which fed roughly 7,000 AF of potable water into the retail system, a significant increase over the 4,800 AF of potable water generated from the desalters in 2013.*

*EMWD has designed a third desalter, the Perris II Desalter, which will be located across the street from the existing desalters. The Perris II Desalter is designed to have a capacity of 3.5 or 5.4 million gallons per day and is scheduled to be online sometime in the 2020 to 2025 timeframe.*

## 6.8 – Exchanges or Transfers

**CWC 10631**

*(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

As a participant in the Hemet/San Jacinto Groundwater Management Area, the City has opportunities to exchange or transfer water with the other participants. Such exchanges and transfers are managed by Watermaster.

Per the Judgment:

*§1.40 Transfer - a temporary or permanent conveyance, assignment, sale, contract or lease of part or all of a Party's Adjusted Production Right, Carry-over Credit, Storage Right or Recharge Right to any other Party, or a temporary assignment, contract, lease or sale of part of the Soboba Tribe's quantified water right.*

*§6.9.2.2 The Carry-Over Credit may be applied to reduce the amount of acre feet upon which a Party must pay a Replenishment Assessment. Carry-Over Credits are transferable among the Parties, and may be retained for more than one calendar year. The Parties shall notify the Watermaster if a Carry-Over Credit is being retained.*

## 6.9 – Future Water Projects

**CWC 10631**

*(g) ...The urban water supplier shall include a detailed description of expected future projects and programs... that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

The City has no specific projects to increase water supply.

## 6.10 – Summary of Existing and Planned Sources of Water

### **CWC 10631**

- (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).*
- (4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

The GWMP provide four primary mechanisms for establishing the future availability of groundwater production: (1) Adjusted Base Production Right (ABPR), (2) Share of Imported Water, (3) Carry-over Credit (CoC), and (4) the purchase of replenishment water for volumes that exceed the sum of ABPR and CoC.

### **6.10.1 – Adjusted Base Production Right**

Per the GWMP, the City has a Base Production Right to 6,320 AFY, or 19.6% of the Safe Yield within the Hemet/San Jacinto Groundwater Management Area. The Safe Yield is determined by Watermaster on an annual basis. Per the 2014 Report, the City had an estimated 2015 Adjusted Base Production Right (ABPR) to 5,590 AFY and a projected 2020 ABPR to 4,542 AFY.

Watermaster continues to refine the Safe Yield according the goals and provisions of the GWMP. The 2020 ABPR represents projections for natural and artificial recharge as well as a correction to address historical overdraft conditions. For planning purposes, the 2020 ABPR is assumed to be available through 2040.

### **6.10.2 – Share of Imported Water**

The Judgment includes a provision for sharing excess water imported by the Soboba Band of Luiseno Indians (Tribe). The maximum excess imported water available is 7,500 AFY, and the City's share is 19.6% or 1,470 AFY. The actual excess imported water available is dependent on production by the Tribe in excess of its 1,500 AFY allocation. In 2014, the Tribe produced 1,165 AF (i.e. less the 1,500 AFY allocation); therefore, the City's maximum share was available and credited to the CoC. For planning purposes, an average of 1,000 AFY of excess imported water is assumed to be available through 2040.

### **6.10.3 – Carry-over Credit**

CoC represents the accumulation of unused production rights and share of excess imported water. Per the 2014 Report, the City began 2014 with a CoC of 4,395 AF and ended 2014 with a CoC of 6,582 AF. For planning purposes, CoC is assumed to be available to account for demand variation due to weather, economics and other unforeseen temporary impacts on demand.

#### 6.10.4 – Purchase of Replenishment Water

Per §3.3.2 of the Judgment:

*Pumping by a Public Agency in excess of the sum of its Adjusted Production Right, its share of Imported Water, and applicable Carry-Over Credits in order to meet increasing demands is permissible, provided that such excess extractions shall be subject to Replenishment Assessments.*

For planning purposes, replenishment water is assumed to be available for purchase as needed to meet projected demand through 2040.

#### 6.10.5 – Summary of Supply

Existing and projected groundwater supplies are provided in Table 6.5.

**Table 6.5 – Summary of Supply**

Year	2015	2020	2025	2030	2035	2040
Adjusted Base Production Rights	5,590	4,542	4,542	4,542	4,542	4,542
Estimated Excess Imported Water	1,470	1,000	1,000	1,000	1,000	1,000
Total	7,060	5,542	5,542	5,542	5,542	5,542

#### 6.11 – Climate Change Impacts to Supply

Climate change is not identified as a factor impacting supply according to the 2014 Hemet/San Jacinto Groundwater Management Area Annual Report.

Per the EMWD 2015 UWMP Draft:

*EMWD has considered the impact of climate change on water supplies as part of its long-term Strategic planning. Climate change has the potential to affect not only local demand and supplies, but to reduce the amount of water available for import. Warmer temperatures will lead to higher demand for water within EMWD’s service area and throughout California. An increase in intensity and frequency of extreme weather events can impact both local and imported supplies. EMWD gets the majority of its supply from MWD which imports water from the Bay-Delta system through the SWP. Rising sea levels can increase the risk of damage to the Bay-Delta from storms and erosion of levees which decreases imported water reliability.*

*In its climate change vulnerability assessment for the Santa Ana River Watershed (2014), the SAWPA Region identified key supply vulnerabilities to climate change. The vulnerabilities identified in the assessment related to EMWD’s supplies include:*

- *Reduction in the Sierra Nevada snowpack;*
- *Increased strain on imported supplies*
- *Inability to meet water demands during drought*
- *Shortage of long-term water storage*

*One of the outcomes of climate change could be more frequent limitations on imported supplies. To limit the impact of climate change, EMWD's long-term planning focuses on the development of reliable local resources and the implementation of water use efficiency. This includes the full utilization of recycled water and the recharge of local groundwater basins to increase supply reliability during periods of water shortage. EMWD is also focused on reducing demand for water supplies, especially outdoors. Increasing the use of local resources and reducing the need for imported water has the dual benefit of not only improving water supply reliability, but reducing the energy required to import water to EMWD's service area.*

## Chapter 7 – Water Supply Reliability Assessment

### 7.1 – General Description

**Water Shortage Reliability** deals with establishing local authority to impose water use constraints on end users in order to assure sustainability under stressful emergency and long-term water shortage conditions.

### 7.2 – Constraints on Water Sources

#### **CWC 10631**

*(c)(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.*

#### **CWC 10634**

*The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.*

#### 7.2.1 – Constraints on Availability

##### 7.2.1.1 – Groundwater

The City intends to supply all demands with groundwater from the Hemet/San Jacinto Groundwater Management Area. This source is subject to the following constraints on availability:

- Watermaster will adjust the Safe Yield to account for refinements in calculating natural recharge and overdraft conditions.
- Excess imported water per GWMP provisions related to Soboba Tribe Water Rights may not be available every year for delivery from MWD and replaced with credit for future deliveries.
- Soboba Tribe water use may increase more rapidly than expected, thus reducing the volume of excess imported water.
- Storage of excess groundwater is limited by the capacity of the basin. Conversely, storage may be depleted during an extended drought.

### 7.2.1.2 – Imported Water

The reliability of deliveries of imported water is provided in the EMWD 2015 UWMP Draft:

#### ***Imported Water Supply Reliability***

*The majority of EMWD’s current and projected water supplies are imported through MWD. MWD’s resource management strategy depends on improving the reliability and availability of imported water supplies, increasing local storage and developing local resources. In MWD’s 2015 UWMP, MWD evaluated challenges to supply reliability, including drought conditions, environmental regulations, water quality concerns, infrastructure vulnerabilities to natural disaster, and responses to variations in water supply availability from year to year.*

*MWD is facing significant challenges in providing adequate, reliable and high quality supplemental water for Southern California. Dry conditions have impacted water supply reliability on both the SWP and the CRA requiring MWD to make significant withdrawals from its storage reserves. MWD has progressively taken action to address these challenges including; increasing incentives for conservation and recycled water conversion, augmenting supplies through transfers and exchanges, and modifying its distribution system to increase CRA delivery capabilities. In 2015, MWD also implemented Level 3 (15 percent regional reduction) of its Water Supply Allocation Plan (WSAP) allocating water to its member agencies to preserve limited storage. MWD’s forecast shows that under multiple-dry year hydrology, MWD could face reduced supply capabilities during the next three years. EMWD will respond to any potential shortages by reducing demand through its WSCP.*

*Moving forward, flexible and adaptive regional planning strategies are required. MWD’s continued progress in developing a diverse resource will allow it to meet the region’s water supply needs. MWD’s 2015 UWMP detailed its planning initiatives and based on these efforts concluded that with the storage and transfer programs developed, MWD has sufficient supply capabilities to meet the expected demands of its member agencies from 2020 through 2040 under normal, historic single-dry and historic multiple- dry year conditions. EMWD is relying on MWD’s 2015 UWMP to evaluate the reliability of imported supplies and the amount of imported water which will be available in EMWD’s service area during normal, single dry, and multiple dry water year periods.*

#### ***MWD Reliability Planning***

*MWD delivers water from two sources, the CRA and the SWP, and it takes a comprehensive and proactive approach to planning for future water supply needs. Through coordination with member agencies, MWD has developed regional targets for imported water, local resources and conservation to accommodate growth and face the challenges to future supply reliability. Through the past decade, MWD has undertaken several planning initiatives including the MWD Integrated Water Resources Plan (MWD IRP), the Water Surplus and Drought Management Plan (WSDMP), and the WSAP. These programs and plans provide a framework for future Southern California supply planning.*

Integrated Resources Planning

*In the 1990's, several years of drought and regulatory requirements began to affect the reliability of MWD water supplies. In response to this challenge, MWD and its member agencies began an IRP process to assess needed supply reliability and to find a cost-effective way to meet the goals established. The MWD IRP was a collective effort drawing input from several groups including MWD's Board of Directors; an IRP workgroup (comprised of MWD staff, member agencies and sub agency managers, as well as groundwater basin managers); and representatives from the environmental, agricultural, business and civic communities. It was important for the IRP process to be collaborative because its viability was contingent on the success of local projects and local plans in achieving their individual target goals for resource management and development.*

*The outcome of the IRP process was a "Preferred Resource Mix" which would ensure MWD and its member agencies' reliability through 2020. The MWD Board of Directors adopted the first IRP in January of 1996. In November 2001, the MWD Board of Directors adopted a plan to update the IRP. The update focused on changed conditions, updated resource targets, and extending the planning horizon to 2025 and beyond. Again, the process was a collaborative effort. The 2003 MWD IRP Update was adopted in July of 2004.*

*MWD's 2010 IRP Update sought to stabilize MWD's traditional imported water supplies and establish additional water resources to withstand California's drought cycles. Challenges addressed in the 2010 MWD IRP included: limitations on SWP and CRA supplies due to environmental issues and drought, regulatory restrictions, economics and climate. The 2010 MWD IRP proposed an adaptive management strategy that balances the potential risks to water supplies with the need to avoid unnecessary investment in resources. The 2010 MWD IRP update demonstrated that MWD and its member agencies have moved the region toward the goal of long-term water reliability; major achievements include:*

- *Conservation*
- *Water recycling and groundwater recovery*
- *Storage and groundwater management programs within the Southern California region*
- *Storage programs related to the SWP and the Colorado River*
- *Other water supply management programs outside of the region*

*Throughout 2015, MWD developed its most recent update of its IRP. The 2015 MWD IRP Update approach recognizes that policy discussions will be essential to the development and maintenance of local supplies and conservation. The findings and conclusions of the 2015 MWD IRP Update include:*

- *Action is needed – Continued investment in conservation and local supplies is essential to avoiding an unacceptable level of shortage allocation frequency in the future.*
- *Maintain Colorado River supplies – To stabilize deliveries at 900,000 AFY, more than 900,000 AFY of planned actions will be required.*
- *Stabilize SWP supplies – Collaborate with state and federal agencies to resolve SWP operations and support better science and interagency collaboration to advance the coequal goals of Bay-Delta restoration and statewide supply reliability. Work collaboratively with state and federal agencies to invest in system modernization and support the California WaterFix and EcoRestore efforts.*
- *Develop and protect local supplies and water conservation – Increase targets for additional local supplies and conservation to embrace and advance regional self-sufficiency ethics.*
- *Maximize the effectiveness of storage and transfer – Utilize a comprehensive water transfer approach to stabilize and build storage reserves that will increase MWD’s ability to meet water demands in dry years.*
- *Continue with the adaptive management approach – Update the MWD IRP and adaptive management strategies to incorporate improved understanding and changing conditions.*

#### *Water Surplus and Drought Management Plan*

*In order to ensure that water needs will be met during years of drought, surplus water must be managed during years of surplus. To accomplish this task, MWD developed the WSDMP. Adopted in April of 1999, this plan provides policy guidance for management of regional water to achieve the reliability goals of the IRP. The guiding principle of the WSDMP is to “Manage Metropolitan’s water resources and management programs to maximize management of wet year supplies and minimize adverse impacts of water shortage to retail customers.”*

### Water Supply Allocation Plan

*In February 2008, MWD adopted its WSAP to allocate water based on need during periods of mandatory imported water allocations throughout the region. The WSAP contains a specific formula and methodology to determine member agency supply allocations. MWD works with member agencies to periodically review the WSAP formula and make adjustments as needed. The most recent revision to the WSAP was completed in December of 2014. The plan takes into consideration:*

- *The impact on retail customers and the economy*
- *Population and growth*
- *Changes and/or loss of local supply*
- *Reclamation and recycling*
- *Conservation*
- *Investment in local resources*

*In the event allocation is required, the WSAP establishes base period demands and then adjusts them for population growth and changes in local supply; it then calculates the water supply allocation for each member agency based on the calculated needs. Regional shortages are defined in 10 stages and credits are given for conservation and investment in local supplies. It is MWD's intent to prevent member agencies from experiencing retail shortages that are greater than corresponding regional shortages.*

*In April 2015, MWD's Board approved implementation of the WSAP at a Level 3 Regional Shortage, effective July 1, 2015 through June 20, 2016. The WSAP allows member agencies to choose among various conservation strategies to help ensure that demands stay in balance with limited supplies.*

### **MWD System Storage**

*Storage is an important element in MWD's dry-year water supply reliability. MWD has developed dry- year storage with a capacity of over 5.5 MAF through its groundwater storage and surface water reservoirs. Over the past several decades MWD has increased storage significantly through projects like Diamond Valley Lake (located within EMWD's service area) in order to ensure that water needs will be met during years of drought or during a catastrophic event such as an earthquake. The MWD WSDMP established long-term goals for in-basin storage and provides guidance for managing supplies in years of surplus and drought. MWD has been utilizing its dry year storage to meet demand when imported supplies are limited by hydrology.*

*The probability of MWD meeting dry year demands is dependent on the amount of water MWD has in its reserves. Under some conditions, MWD may choose to implement the WSAP proactively to preserve storage reserved for a future year.*

### **Groundwater and Desalinated Groundwater Supply Reliability**

*Protecting the available groundwater supply is an integral component of EMWD's planning efforts. EMWD is actively working with other agencies and groups to ensure that groundwater will be a reliable resource far into the future. To improve groundwater reliability EMWD and other groundwater producers are reducing production of native groundwater and using imported water to supplement natural recharge.*

*EMWD and the other participants in the Hemet/San Jacinto area have agreed to reduce production. In 2015, EMWD's base production right for the Hemet/San Jacinto Basin was 9,300 AF. The long-term base production right for EMWD is 7,303 AFY.*

*Production over the base production right requires basin replenishment. There is a long-term agreement in place for MWD to provide an average of 7,500 AFY for replenishment in the Hemet/San Jacinto Basin. This water is to be used by the Soboba Tribe with any unused water available to the other municipal producers in the Hemet/San Jacinto Basin. EMWD has plans to expand recharge through the ERRP.*

*Potable groundwater production from the West San Jacinto Basin will remain stable, while brackish groundwater production will increase as EMWD's desalter program is expanded.*

*Desalination of groundwater from the West San Jacinto Basin increases groundwater supply reliability in the San Jacinto Basin by helping manage increasing groundwater levels that are due to decreased production. Desalination also prevents migration of brackish groundwater that could otherwise contaminate potable groundwater supplies.*

### **Recycled Water Supply Reliability**

*As of 2014, EMWD reached its strategic goal of maximizing beneficial reuse of recycled water by reusing 100 percent of the wastewater generated in its service area as recycled water. Because recycled water supply is dependent on wastewater generation and not precipitation, it is considered a nearly 100 percent reliable, drought-resistant supply. EMWD also has optimization efforts underway to improve operation of the recycled water system, including the distribution storage facilities.*

### **7.2.2 – Constraints on Quality**

Total dissolved solids (TDS) and Nitrate are monitored in the Hemet/San Jacinto Groundwater Management Area. These constituents may require treatment or blending in the future in order to maintain groundwater production goals. The City will work cooperatively with the other participants of the GWMP to resolve water quality issues, as needed.

### 7.3 – Reliability by Type of Year

**CWC 10631**

**(c)(1)** Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (A) an average water year,
- (B) a single dry water year,
- (C) multiple dry water years.

The City intends to supply all demands with groundwater from the Hemet/San Jacinto Groundwater Management Area. The Management Area is adjudicated and sustainably managed by Watermaster. Groundwater is anticipated to be available at 100% of the City's Adjusted Base Production Rights (ABPR) of 4,542 AFY and at an average of 1,000 AFY as the City's share of excess imported water delivered on behalf of the Soboba Tribe under all conditions. To account for variability in supply and demand, the City maintains a Carry-Over Credit of stored groundwater and may purchase imported water from EMWD as needed to meet demand.

Supply is available at 5,542 AFY under average year, single dry year, and multiple dry years conditions.

### 7.4 – Supply and Demand Assessment

**CWC 10635**

**(a)** Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.

**7.4.1 – Identification of Dry Years**

Historical precipitation data were collected from the PRISM Climate Group⁴. Table 7.1 shows the historical precipitation for the City from 1995 to 2015, which coincided with available demand and production data.

**Table 7.1 – Historical Precipitation**

Year	Precipitation (inches)
1995	17.22
1996	11.18
1997	9.71
1998	21.78
1999	5.35
2000	8.04
2001	9.37
2002	4.86
2003	12.59
2004	13.94
2005	17.85
2006	8.55
2007	5.19
2008	11.83
2009	6.75
2010	19.71
2011	8.70
2012	7.88
2013	5.39
2014	10.70
2015	7.44

By observation, the single dry year occurred in 2002 with 4.86 inches of precipitation. During 2002, demand increased to 102% of normal.

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⁴ PRISM Climate Group. Northwest Alliance for Computational Science & Engineering. Oregon State University. Site accessed April 7, 2016: <http://www.prism.oregonstate.edu/explorer/>

By observation, the most severe multiple dry years corresponds to the 5-year period from 2011 to 2015 with a 5-year average annual precipitation of 8.02 inches. During the 5-year period, demand varied from normal as shown in Table 7.2.

**Table 7.2 – Multiple Dry Years Demand Variation from Normal**

Year	Variation as Percent of Normal
2011	100%
2012	106%
2013	107%
2014	105%
2015	88%

Note that mandatory water use reduction was in place in 2015, which explains the extreme drop from 2014.

#### 7.4.2 – Assessment of Supply Sufficiency

As shown in Table 7.3, there will be sufficient supply to meet demand under normal year conditions.

**Table 7.3 – Normal Year Supply and Demand Assessment**

Year	2020	2025	2030	2035	2040
Supply	5,542	5,542	5,542	5,542	5,542
Demand	4,860	4,960	5,040	5,110	5,150
Surplus	682	582	502	432	392

As shown in Table 7.4, there will be sufficient supply to meet demand under single dry year conditions.

**Table 7.4 – Single Dry Year Supply and Demand Assessment**

Year	2020	2025	2030	2035	2040
Supply	5,542	5,542	5,542	5,542	5,542
Demand	4,960	5,060	5,140	5,210	5,250
Surplus	582	482	402	332	292

As shown in Table 7.5, there will be sufficient supply to meet demand under multiple dry years conditions.

**Table 7.5 – Multiple Dry Years Supply and Demand Assessment**

Dry Year		2020	2025	2030	2035	2040
First Year	Supply	5,542	5,542	5,542	5,542	5,542
	Demand	4,860	4,960	5,040	5,110	5,150
	Surplus	682	582	502	432	392
Second Year	Supply	5,542	5,542	5,542	5,542	5,542
	Demand	5,150	5,260	5,340	5,420	5,460
	Surplus	392	282	202	122	82
Third Year	Supply	5,542	5,542	5,542	5,542	5,542
	Demand	5,200	5,310	5,390	5,470	5,510
	Surplus	342	232	152	72	32
Fourth Year	Supply	5,542	5,542	5,542	5,542	5,542
	Demand	5,100	5,210	5,290	5,370	5,410
	Surplus	442	332	252	172	132
Fifth Year	Supply	5,542	5,542	5,542	5,542	5,542
	Demand	4,280	4,360	4,440	4,500	4,530
	Surplus	1,262	1,182	1,102	1,042	1,012

## 7.5 – Regional Supply Reliability

### **CWC 10620**

*(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

The City has achieved its 2020 water use target through water conservation at the retail and wholesale levels. The City will continue its water conservation efforts to maintain its current water use. The City will continue to work with the other participants in the Hemet/San Jacinto Groundwater Management Area to maximize local resources under their purview.

The local wholesaler takes a prominent role in maximizing local supplies. Per the EMWD 2015 UWMP Draft:

*EMWD anticipates it will have enough supplies to meet demands under all water year conditions from 2020 through 2040. To supplement MWD imported sources and improve reliability, EMWD has several local resource programs. Production of local groundwater has been a source of supply for EMWD's service area for decades, but overproduction of groundwater has led to a need for groundwater management. Native production is limited and plans are in place to recharge local ground water basins to increase supply reliability. Desalination of high TDS groundwater also provides a reliable local supply of water.*

*Recycled water production and sales reduce the demand for imported water and provide a sustainable supply. EMWD's continued investment in improved facilities will continue to grow the market for recycled water, and innovative planning and recycled water management will allow EMWD's recycled water supply to bring an even greater benefit to the service area.*

*EMWD also has several planned projects that will increase regional supply reliability by increasing local supplies and decreasing demands for imported water from MWD. These projects include increasing local groundwater banking through the ERRP, expanding the desalter program with the Perris II Desalter, and full utilization of recycled water through implementation of IPR.*

*In addition to the development of local resources, EMWD aggressively promotes the efficient use of water. Through the implementation of local ordinances, conservation programs and an innovative tiered pricing structure, EMWD is reducing demands on retail accounts. Reducing demands allows existing and proposed water supplies to stretch farther and reduces the potential for water supply shortages.*

## Chapter 8 – Water Shortage Contingency Planning

### 8.1 – General Description

**Water Shortage Contingency Planning** deals with the imposition of water use constraints on end users in order to assure sustainability under stressful emergency and long-term water shortage conditions.

Excerpts from Division 3, Section 82 of the Municipal Code are cited throughout this chapter and presented in *italics*. This portion of the Municipal Code describes the City's water conservation plan.

#### **CWC 10632**

*(a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier.*

### 8.2 – Stages of Action

#### 8.2.1 – Water Rationing Phase 1 – Minor Shortage

The city council may activate, by resolution, a voluntary or mandatory use reduction program when the:

*normal operating production drops by ten percent during the highest production time of the year (May 15 through October 15) or the water level in the underground aquifer, as measured above the pumps in the wells, drops by an average of 25 feet*

The objective is to reduce water system consumption within the city by 10 percent.

#### 8.2.2 – Water Rationing Phase 2 – Moderate Shortage

The city council may activate, by resolution, a voluntary or mandatory use reduction program when the:

*normal operating production drops by 25 percent during the highest production time of the year (May 15 through October 15) or the water level in the underground aquifer, as measured above the pumps in the wells, drops by an average of 50 feet*

The objective is to reduce water system consumption within the city by 25 percent.

#### 8.2.3 – Water Rationing Phase 3 – Serious Shortage

The city council may activate, by resolution, a voluntary or mandatory use reduction program when the:

*normal operating production drops by 35 percent during the highest production time of the year (May 15 through October 15) or the water level in the underground aquifer, as measured above the pumps in the wells, drops by an average of 60 feet*

The objective is to reduce water system consumption within the city by 35 percent.

#### **8.2.4 – Water Rationing Phase 4 – Critical Shortage**

The city council may activate, by resolution, a voluntary or mandatory use reduction program when the:

*normal operating production drops by 50 percent during the highest production time of the year (May 15 through October 15) or the water level in the underground aquifer, as measured above the pumps in the wells, drops by an average of 70 feet*

The objective is to reduce water system consumption within the city by 50 percent.

#### **8.2.5 – Authority to Respond to Water Supply Shortages**

Per Section 82-125 – Implementation of division; water conservation commission

*The city manager, the water superintendent or a designated representative is hereby authorized and directed to implement the provisions of this division as approved by the city council.*

Section 82-128 (a) stipulates:

*Based on the severity of the water shortage, the city council shall direct the city manager, the water superintendent or a designated representative to implement the provisions of this division. Phases I, II, III and IV shall be implemented and shall continue as voluntary use reduction phases with additional mandatory water use restrictions as long as the target water savings are achieved. The level of water use reduction achieved shall be monitored through monthly or weekly, depending on the severity of the rationing, system wide production amounts compared to 1988/89 fiscal year production amounts. Any time the conservation goals are not achieved, the appropriate phase shall be implemented as a mandatory use reduction. The level of water use reduction achieved shall be monitored through weekly system wide production amounts compared to 1988/89 fiscal year production amounts.*

## 8.3 – Prohibitions on End Uses

### **CWC 10632**

**(a)(4)** *Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*

**(5)** *Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

Division 3, Section 82 of the Municipal Code outlines four Water Rationing Phases and the prohibitions of each of those phases as well as Water Waste Prevention measures. The following are the mandatory prohibitions and consumption reduction methods related generally to water conservation and specifically to the four Water Rationing Phases.

Note that implementation of Water Rationing Phase 4 is the appropriate response to a 50% reduction in water supply.

### **8.3.1 – Water Waste Prevention**

*No customer shall cause or permit any water furnished to his property by the city to run to waste or be used for nonessential application of water. Hoses used for any purpose shall be equipped with a positive shutoff device. Leaks must be repaired as soon as discovered, and shall not be allowed to continue. The following is a partial list of nonessential applications of water, which include but are not limited to:*

- 1. Watering to excess, which allows water to run off the landscaped area or allows the landscape to become supersaturated.*
- 2. Potable water used for earthwork, grading or road construction purposes when nonpotable water is available.*
- 3. Washing down any paved surface except to alleviate immediate fire, sanitation or health hazards.*

*Draining and filling of above- or below-grade swimming pools with a capacity of 1,500 gallons or greater, or a depth of four feet or greater, regardless of capacity, shall require a permit for such draining or filling.*

### **8.3.2 – Water Rationing Phase 1 – Minor Shortage**

*All single-family residential accounts (single-family detached units and individually metered mobile homes) shall be allocated their 1990/91 district average adjusted to achieve a ten percent reduction in the single-family category, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per*

*bimonthly billing period per service. Annually, there are currently 205 (or 2.7 percent) single-family accounts that fall into this minimum category.*

*All other accounts (multifamily, apartment complexes, commercial, irrigation and mobile home parks on a single water meter) shall be allotted their historic consumption during the 1990/91 fiscal year less ten percent, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period. All other accounts without historic consumption shall be allotted 2,000 cubic feet per bimonthly billing period per service. Annually, there are 34 (or 0.7 percent) non-single-family accounts that fall into this minimum category.*

*Additional mandatory water use restrictions are as follows:*

- 1. Restaurants, cafes, cafeterias or other public places where food is sold shall serve water to customers only upon request.*
- 2. Additional water shall not be allowed for new landscaping or expansion of existing facilities unless low water use landscape designs and efficient irrigation systems are used.*

### **8.3.3 – Water Rationing Phase 2 – Moderate Shortage**

*All single-family residential accounts (single-family detached units and individually metered mobile homes) shall be allocated their 1990/91 district average adjusted to achieve a 25 percent reduction in the single-family category, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period per service. Annually, there are currently 205 (or 2.7 percent) single-family accounts that fall into this minimum category.*

*All other accounts (multifamily, apartment complexes, commercial accounts, irrigation, and mobile home parks on a single water meter) shall be allotted their historic consumption during the 1990/91 fiscal year less 25 percent, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period. All other accounts without historic consumption shall be allotted 2,000 cubic feet per bimonthly billing period per service. Annually, there are 34 (or 0.7 percent) non-single-family accounts that fall into this minimum category.*

*Additional mandatory water use restrictions include the mandatory water use restrictions included in phase I, and the following items:*

- 1. Commercial carwash businesses must recycle their water.*
- 2. Car washing is prohibited except with a bucket or container not exceeding a three-gallon capacity. Hoses for rinsing must be equipped with a positive shutoff nozzle.*
- 3. No water shall be used for fire drills.*
- 4. Irrigation of ornamental landscaping and turf with potable water is limited to no more than two days per week. Landscape watering is prohibited between 6:00 a.m. and 6:00 p.m. except for performing regular maintenance checks and repairs, watering golf course greens and tees, using a hand-held hose equipped with a positive shutoff nozzle, using a hand-held*

*bucket of five gallons in capacity or less, or watering with a drip irrigation system. Watering between 6:00 a.m. and 6:00 p.m. may be allowed if freezing temperatures prevent irrigation at night. (Urgency Ord. No. 1894, § 2, 1-27-2015)*

#### **8.3.4 – Water Rationing Phase 3 – Serious Shortage**

*All single-family residential accounts (single-family detached units and individually metered mobile homes) shall be allocated their 1990/91 district average adjusted to achieve a 35 percent reduction in the single-family category, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period per service. Annually, there are currently 205 (or 2.7 percent) single-family accounts that fail [sic] into this minimum category.*

*All other accounts (multifamily, apartment complexes, commercial accounts and mobile home parks on a single water meter) shall be allotted their historic consumption during the 1990/91 fiscal year less 35 percent, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period. All other accounts without historic consumption shall be allotted 2,000 cubic feet per bimonthly billing period per service. Annually, there are 34 (or 0.7 percent) non-single-family accounts that fall into this minimum category.*

*Additional mandatory water use restrictions include the mandatory water use restrictions included in phase I and phase II, and the following items:*

- 1. No water is to be used for filling of new pools.*
- 2. Operation of decorative fountains is prohibited unless water is recycled.*
- 3. Water shall not be used to clean, fill or maintain levels in decorative fountains, ponds or artificial lakes.*

#### **8.3.5 – Water Rationing Phase 4 – Critical Shortage**

*All single-family residential accounts (single-family detached units and individually metered mobile homes) shall be allocated their 1990/91 district average adjusted to achieve a 50 percent reduction in the single-family category, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period per service. Annually, there are currently 205 (or 2.7 percent) single-family accounts that fall into this minimum category.*

*All other accounts (multifamily, apartment complexes, commercial accounts and mobile home parks on a single water meter) shall be allotted their historic consumption during 1990/91 fiscal year less 50 percent, but in no case shall consumers be asked to reduce their consumption to less than 2,000 cubic feet per bimonthly billing period. All other accounts without historic consumption shall be allotted 2,000 cubic feet per bimonthly billing period per service. Annually, there are 34 (or 0.7 percent) non-single-family accounts that fall into this minimum category.*

*Additional mandatory water use restrictions include the mandatory water use restrictions included in phase I, phase II and phase III, and the following item: no installation of new turf.*

### 8.3.6 – Defining Water Features

#### **CWC 10632**

*(b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*

#### **Health and Safety Code Section 115921**

*As used in this article the following terms have the following meanings:*

*(a) “Swimming pool” or “pool” means any structure intended for swimming or recreational bathing that contains water over 18 inches deep. “Swimming pool” includes in-ground and aboveground structures and includes, but is not limited to, hot tubs, spas, portable spas, and non-portable wading pools.*

There is one water feature located at the Echo Hills Golf Course with an area of approximately 0.4 acres, as shown in Figure 8.1.

**Figure 8.1 – Water Feature**



Per WDR Bulletin 73-79⁵, the annual evaporation rate in the vicinity of the City is 1,370 mm. Loss from the water feature due to evaporation is estimated at 1.8 AFY.

$$Q = \left( \frac{1,370 \text{ mm}}{\text{year}} \right) \left( \frac{\text{foot}}{304.8 \text{ mm}} \right) (0.4 \text{ acres}) \cong 1.8 \text{ AFY}$$

⁵ [http://www.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_73/Bulletin_73_1979.pdf](http://www.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_73/Bulletin_73_1979.pdf)

## 8.4 – Penalties, Charges, Other Enforcement of Prohibitions

### **CWC 10632**

**(a)(6)** Penalties or charges for excessive use, where applicable.

### 8.4.1 – Penalties

*The city shall give notice to the customer at the premises at which the incident occurred. All notices shall contain the facts of the incident, recommendations to remedy the incident, a statement of the possible penalties for each incident, a statement informing the customer of his right to appeal the incident, and a brief summary of the appeal process specified in this section. In addition, some notices shall contain the date and time that installation of a flow restriction device or termination of water service may occur. All penalties shall be paid to the city water department within 15 days after the notice of water waste incident or upon final determination of an appeal.*

- 1. For a first incident, a city representative shall advise the citizen of the provisions of this division verbally and in writing. Water conservation advice and information shall be given to assist the citizen in eliminating the water waste problem.*
- 2. For a second incident, the city shall give written notice of the water waste to the customer personally, or tag the door and mail a certified notice to the name on the water service. An inspection date shall be set within ten days to verify that the water waste incident has been remedied. The cost of issuance for the second incident will be billed according to Executive Order No. S-128, Water Waste Second Incident.*
- 3. For a third incident, the city shall assess a penalty, equal to two times the customer's prior bimonthly water bill amount, to the customer personally, or tag the door and mail a certified notice of the penalty to the name on the water service. A bimonthly billing period includes all water consumed from one meter reading date to the next meter reading date.*
- 4. For any additional incident, the city may assess an additional penalty or give the date and time that a flow restricting device shall be installed on the service or that the service shall be terminated. The customer shall be notified personally or by tagging the door, and a certified notice shall be sent to the name on water service.*

### 8.4.2 – Charges

The current tiered water rates shall be increased to create an incentive rate structure to achieve the required reduction in consumption. The incentive rates will depend on the current mandatory rationing phase of the conservation plan. Consistent with various published studies on the relationship between water rates and consumption, the incentive water rate will call for a minimum ten percent rate increase for every five percent of desired decrease in water consumption. Any customer who exceeds his water

allotment during the various phases of mandatory water rationing will be billed at a new incentive water rate structure. The entire water consumption for that period will be calculated using the new incentive rates.

A new rate structure went into effect October 2015. See Table 9.8 for additional information.

## 8.5 – Consumption Reduction Methods

### **CWC 10632**

*(a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

Implementation of Water Rationing Phase 4 is the appropriate response to a 50% reduction in water supply.

## 8.6 – Determining Water Shortage Reductions

### **CWC 10632**

*(a)(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

The City is a member of the Hemet/San Jacinto Watermaster and coordinates with its partners in determining water shortage reductions on a regional basis.

## 8.7 – Revenue and Expenditure Impacts

### **CWC 10632**

*(a)(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.*

The City of Hemet Water Department has seen a decline in revenues over the past decade as the result of reduced water use. While this has also resulted in decreased variable costs, fixed costs increased. Fixed costs include department administration, billing, facility maintenance, water quality testing, and regulatory compliance requirements. The City of Hemet Water Department has a tiered rate structure with a minimum monthly fixed charge according to meter size. This monthly fixed charge is designed to

generate sufficient income, based on water system connections to fund all fixed costs related to system operation. As a result, fluctuating water sales do not impact basic operations.

A new rate structure went into effect October 2015. See Table 9.8 for additional information.

## 8.8 – Resolution or Ordinance

**CWC 10632**

**(a)(8)** *A draft water shortage contingency resolution or ordinance.*

Division 3, Section 82 of the Municipal Code is provided in Appendix L.

## 8.9 – Catastrophic Supply Interruption

**CWC 10632**

**(a)(3)** *Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*

*A water shortage could exist based upon the occurrence of one or more of the following conditions:*

- A major failure of any or all supply, storage or distribution facilities of the city water and reservoir system.*
- A water supply shortage due to the inability to meet acceptable water quality standards mandated by the state health department.*
- A general water supply shortage due to increased demand or limited supplies.*
- A decline in the underground aquifer as measured by the height of water in the wells.*
- A complete power failure of all four electrical connections from Southern California Edison. The city water department would be able to maintain minimum water supply to all of its customers using only auxiliary connections from the Eastern Municipal Water District and Lake Hemet.*

*The city water superintendent or a designated representative may invoke emergency water shortage response restrictions when a major failure occurs, whether temporary or permanent, in the supply, the water quality, the distribution lines or the reservoirs of the city's water system.*

## 8.10 – Minimum Supply Next Three Years

**CWC 10632**

**(a)(2)** *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's water supply.*

Water supply for the next three years is anticipated to be available at the 2014 Adjusted Based Production Rights of 5,590, as show in Table 8.1.

**Table 8.1 – Minimum Supply Next Three Years**

Year	2016	2017	2018
Available Water Supply	5,590	5,590	5,590

## Chapter 9 – Demand Management Measures

### 9.1 – General Description

**Demand Management Measures** (DMMs) are established methods and practices for water use reduction. DWR requires implementation of all DMMs through a coordinated effort at the wholesale and retail levels. However, DWR acknowledges that there may be local influences on the viability of individual DMMs and makes allowances for non-implementation.

### 9.2 – Demand Management Measures for Wholesale Agencies

#### **CWC 10631**

*(f) Provide a description of the (wholesale) supplier’s water demand management measures. This description shall include all of the following:*

*(1)(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

*(ii) Metering.*

*(iv) Public education and outreach.*

*(vi) Water conservation program coordination and staffing support.*

*(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

*(2) For an urban wholesale water supplier, as defined in Section 10608.12, (provide) a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.*

Per the EMWD 2015 UWMP Draft:

#### **Metering**

*All of EMWD’s wholesale customers are fully metered and billed volumetrically each month.*

#### **Public Education and Outreach**

*As a wholesale agency, EMWD maintains extensive Public Information and School Education Programs for all of its wholesale customers.*

#### Public Information Programs

*As a wholesale agency, EMWD takes the lead in an annual landscaping competition with customers from EMWD, Western Municipal Water District, Inland Empire Utilities Agency, and the respective sub agencies. EMWD provides support to other water agencies during Community Water Conservation Festivals and other related functions. EMWD has initiated a long-term campaign to encourage all customers to use water wisely. EMWD sponsors workshops on California-friendly plants to promote landscaping using drought tolerant plants and the Water Waste Program to report/correct the wasteful use of water. The New Residential Development Campaign is targeted at new residential customers and consists of a welcome letter, a quarterly newsletter containing seasonal tips and ideas for water conservation, and a survey. EMWD enforces local and state landscape ordinances through the use of budget based tiered rates.*

#### School Education Programs

*EMWD implements an Education Program to foster understanding of water and wastewater issues and to promote wise water use among the future leaders of the community. EMWD supports an extensive education program designed to provide a useful academic experience at all grade levels (K-12). Any school within EMWDs sphere of influence and beyond is eligible to benefit from the program. EMWD offers resources such as lesson plans, curriculum packets, and student materials.*

*As a wholesale agency, EMWD has created the language arts program "Write Off" for middle school students, and is the lead agency in partnership with RCWD, a sub agency of EMWD. Multiple presentations, which include complete curriculum packets, have resulted from this program, and agencies throughout California and other states have either duplicated the program or have requested materials to add to their current education programs.*

#### **Water Conservation Program Coordination and Staffing Support**

*EMWD maintains full-time Conservation staff including one conservation analyst, one conservation program manager, two conservation program specialists, and one conservation program assistant.*

#### **Other Demand Management Measures**

*EMWD's wholesale agencies' customers are eligible to participate in the region-wide rebate program offered through MWD. EMWD has also worked with wholesale customers to implement agency administered programs funded in part by MWD. EMWD provides support and information about water use efficiency to sub agencies, and offers training opportunities in landscape efficiency. EMWD also partners with wholesale customers on an annual water festival for customers that promote water use efficiency.*

*EMWD has a volume based rate structure for wholesale customers.*

### **Asset Management**

*EMWD's wholesale distribution system asset management program is the same as its retail asset management program.*

*The mission of EMWD is to deliver value to customers and the communities within the EMWD's service area by providing safe, reliable, economical and environmentally sustainable water, wastewater and recycled water services. One of the ways this mission is carried out is through the EMWD's Asset Management program. This program was established to effectively manage assets throughout their lifecycle. The underpinnings of this program are rooted research of other water agencies that have implemented Asset Management Plans.*

*One of the key components of the program is EMWD's Computerized Maintenance Management System. This system is a transactional database system that is used to capture physical attributes as well as work activities performed on assets. Asset technicians manage the asset records during new construction, refurbishment and replacements. Two of the initial attributes captured for asset records are installation date and original purchase price. In addition, other important data is collected such as horsepower, rpm, power requirements, etc. Asset grouping is employed to compare histories of like assets. Further analysis may provide insight on premature failures and lead to the procurement of better performing assets.*

*The lifecycles of assets are determined by a number of factors. Due to the nature of business at EMWD, assets may be found in office, potable water, wastewater and recycled water operating environments. Wastewater produces the harshest operating conditions and, therefore, decreases the life of an asset more than other EMWD environments. Another factor that impacts the life of an asset is its expected life. Empirical data is the best indicator for predicting an asset's expected life. This takes into account the operating conditions of the asset at a particular location using real-world parameters. However, this method takes time to build history from maintenance activities. An alternative method entails using industry standards from similar operations. Combining these factors allows for the remaining life of assets to be calculated.*

*An Asset Management model was produced to provide a framework for business decisions related to the replacement and refurbishment (R&R) of EMWD's assets. The inputs to the model include the physical location, remaining life expectancy, and the corrective maintenance costs. The health of an asset can be determined, in part, by the cost of maintenance relative to like assets. For example, if a potable pump historically costs more to maintain than another potable pump operating under similar conditions it should be further analyzed to understand the cause. Another input to the model includes EMWD's Capital Improvement Projects. By including Capital Improvement Project commitments into the model, assets that are likely candidates based on maintenance costs or end of life may be excluded from R&R consideration.*

*Output from the Asset Management model is provided to management for budget preparation. Assets may be grouped by site for a holistic review. Furthermore, the model allows for grouping of assets by maintenance responsibility whether electrical, mechanical or other maintenance group. Management can easily review assets nearing end of life or with higher than usual maintenance costs. Assets are earmarked for budget inclusion or deferred to a future budget cycle. These decisions are recorded in the Asset Management model for future reference.*

### **Wholesale Supplier Assistance Program**

#### Wholesale Agency Assistance Programs

*Coverage requirements: (a) Wholesale agency programs include financial investments and building partnerships, when mutually agreeable and beneficial to a wholesaler and its retail agencies, and cost effectiveness assessments, including avoided cost per AF, for each BMP the wholesale agency is potentially obligated to support. (b) When requested, the wholesale agency will provide technical support, incentives, staff or consultant support, and equivalent resources to retail members to assist or otherwise support the implementation of BMPs. (c) When mutually beneficial to a wholesaler and its retail agencies, a wholesaler may offer program management and BMP reporting assistance to its retailers. Wholesale agencies have limited control over retail agencies, thus wholesale agencies cannot be held responsible for levels of implementation by individual retailers in their wholesale service area. (d) Water shortage allocation plans or policies will encourage and reward investment in long-term conservation. (e) Wholesale water agencies will report on non-signatory BMP implementation, when possible. (f) Wholesale agencies will encourage CUWCC membership and offer recruitment assistance.*

*Compliance method: EMWD has met the coverage requirements in the following ways:*

- Financial incentives provided for by MWD for a variety of water efficient devices are administered through the SoCal WaterSmart regional rebate program for residential and commercial customers. Both residential and commercial customers of EMWD's sub agencies are eligible to participate in the regional rebate programs.*
- EMWD has hosted and/or conducted workshops for landscape professionals, including personnel and customers of EMWD's sub agencies, providing certification opportunities for smart irrigation controller technologies. EMWD's Board members hold Director Advisory Committee meetings with stakeholders throughout the year; and staff members attend/participate at local city councils and planning commissions. EMWD also provides assistance to sub agencies with various GIS mapping requests.*
- EMWD is the first water agency in Riverside County to offer the Qualified Water Efficient Landscaper (QWEL) professional certification program which provides landscape professionals with 24 hours of education on principles of proper plant selection for the local climate, irrigation system design and maintenance, and irrigation system programming and operation. In order to obtain the QWEL certification an individual must demonstrate their ability to perform an irrigation system audit as well as pass the QWEL exam.*

- *Staff meets with sub agencies to discuss conservation related topics. Regional incentive programs are administered through vendors assigned by MWD and sub agencies are encouraged to participate in these programs. MWD hosts monthly water use efficiency meetings to discuss the implementation of conservation programs; EMWD's sub agencies are encouraged to participate.*
- *Under the WSCP, supply to wholesale customers will be allocated using the formula and methodology based on MWD's WSAP. This plan takes into consideration: the impact on retail customers and the economy; population and growth; changes and/or loss of local supply; reclamation and recycling; conservation; and investment in local resources. EMWD will establish base period demands and then adjust them for growth and changes in local supply. Regional shortages will be phased in 10 stages. At each stage the wholesale customers will not experience shortages on the wholesale level that are greater than one-and-a-half times the percentage shortage of regional water supplies; nor will they face a retail shortage less than the regional shortage. Credits will be given for conservation and investment in local supplies.*
- *EMWD will evaluate the feasibility to provide BMP reports for sub agencies that are non-signatories with CUWCC.*

*EMWD has encouraged sub agencies to become signatories of the CUWCC.*

### 9.3 – Demand Management Measures for Retail Agencies

#### **CWC 10631**

**(f)(A)**...*The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

**(B)** *The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

- (i) Water waste prevention ordinances.*
- (ii) Metering.*
- (iii) Conservation pricing.*
- (iv) Public education and outreach.*
- (v) Programs to assess and manage distribution system real loss.*
- (vi) Water conservation program coordination and staffing support.*
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

#### **9.3.1 – Water Waste Prevention Ordinances**

Section 82-127 of Municipal Code – Division 3 – Water Conservation Plan states the waste of water is to be prohibited:

*Nonessential application of water. No customer shall cause or permit any water furnished to his property by the city to run to waste or be used for nonessential application of water. Hoses used for any purpose shall be equipped with a positive shutoff device. Leaks must be repaired as soon as discovered, and shall not be allowed to continue. The following is a partial list of nonessential applications of water, which include but are not limited to:*

- i) Watering to excess, which allows water to run off the landscaped area or allows the landscape to become supersaturated.*
- ii) Potable water used for earthwork, grading or road construction purposes when nonpotable water is available.*
- iii) Washing down any paved surface except to alleviate immediate fire, sanitation or health hazards.*

*Draining and filling of above- or below-grade swimming pools with a capacity of 1,500 gallons or greater, or a depth of four feet or greater, regardless of capacity, shall require a permit for such draining or filling.*

**9.3.2 – Metering**

**CWC 526**

*(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:*

*(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.*

**CWC 527**

*(a) An urban water supplier that is not subject to Section 526 shall do both the following:*

*(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.*

All accounts are metered. The City has a residential meter replacement program.

**9.3.3 – Conservation Pricing**

As of March 1, 2016, new Normal Water Usage Rates went into effect, as shown in Table 9.1 and Table 9.2.

**Table 9.1 – 2016 Base Water Rates**

Base Water Rate	
Meter Size	Monthly Rate
5/8 inch	24.95
3/4 inch	27.26
1 inch	32.83
2 inch	81.02

**Table 9.2 – 2016 Drought Water Rates**

Consumption Water Drought Rates	
Consumption	Rate per 100 CF
All Use	6.25

**Increased Frequency of Billing:**

On December 17, 2015, the City issued a press release announcing the transition from bi-monthly to monthly billing in 2016.

*Monthly billing is a key piece in effectively monitoring water usage and determining accurate conservation numbers. It also provides a benefit to the customers as it provides a look at their water usage on a more frequent basis. Having the information sooner allows adjustments to be made to high or abnormal usage, minimizing excess consumption costs. The City anticipates that the change will have a positive impact to current conservation efforts and continue to encourage customers to conserve water even as cooler weather arrives.*

**9.3.4 – Public Education and Outreach**

**Information Website and Online Tools:**

The City's website page "Water Conservation" lists ways to save water outdoors as well as in the kitchen and laundry room and in the bathroom.

**10 WAYS TO SAVE WATER OUTDOORS**

*Water your lawn only when needed. Step on the grass. If it springs back when you take your foot off, it doesn't need water.*

*Deep soak your lawn. When you do water your lawn, water it just long enough to seep down to the roots where it is needed. A light sprinkling, which sits on the surface, will evaporate and be wasted.*

*Water during the cool parts of the day. Early morning is better than dusk since it helps prevent the growth of fungus.*

*Don't water the gutter or sidewalks. Position your sprinklers so water lands on your lawn or garden, not on concrete or other paved areas. Also, avoid watering on windy days.*

*Plant drought-resistant trees and plants. Many beautiful trees and plants thrive with little water in our semi-arid region.*

*Put a layer of mulch around trees and plants. Mulch slows the evaporation of moisture.*

*Use a broom instead of a hose to clean driveways and sidewalks.*

*Don't run the hose while washing your car. Soap down the car from a pail of soapy water. Use hose only to rinse it off.*

*Tell your children not to play with the hose and sprinklers.*

*Check for leaks in pipes, hoses, faucets and couplings. Leaks outside the house can be extremely wasteful, especially when they occur in your main water line. To check for hidden leaks in your pipes, shut off all faucets and taps around the house for 15 minutes. If the water meter shows some movement during that time, you have a leak.*

### **5 WAYS TO SAVE WATER IN THE KITCHEN & LAUNDRY ROOM**

*Use your automatic dishwasher and washing machine for full loads only.*

*Don't let the faucet run while you clean vegetables, instead rinse them in a sink full of clean water.*

*Keep a bottle of drinking water in the refrigerator. This beats the wasteful habit of running tap water to cool it for drinking.*

*If you wash the dishes by hand, don't leave the water running for rinsing. If you have two sinks, fill one with rinse water. If you have only one sink, gather your washed dishes in a dish rack and rinse them quickly with a spray device or pan of water.*

*Check faucets and pipes for leaks.*

### **8 WAYS TO SAVE WATER IN THE BATHROOM**

*Check your toilet for leaks. Put a few drops of food coloring in your toilet tank. If the coloring begins to appear in the toilet bowl without flushing, you have a wasteful leak that should be repaired at once.*

*Stop using your toilet as an ashtray or wastebasket.*

*Take shorter showers. Limit your showers to the time it takes to soap up, wash down and rinse off.*

*Install water-saving shower heads or flow restrictors. Your hardware or plumbing supply store stocks inexpensive shower heads and flow restrictors that are easy to install and still give you cleansing, refreshing showers.*

*Take baths. A partial filled tub uses less than all but the shortest showers.*

*Turn off the water while brushing your teeth. Before brushing, wet your brush and fill a glass for rinsing your mouth.*

*Turn off the water while shaving. Fill the bottom of the sink with a few inches of water in which to rinse your razor.*

*Check faucets and pipes for leaks.*

Additionally, a link to the "Water Use It Wisely" website is included for more water conservation tips. The city encourages:

*Visit [www.wateruseitwisely.com](http://www.wateruseitwisely.com) to find nearly 200 water-saving tips for indoors, outdoors, at the office, and even some ideas to get your kids involved!*

### 9.3.5 – Programs to Assess and Manage Distribution System Real Loss

The City has a leak monitoring program. Water Department personnel routinely identify areas of the system with known leak problems and monitor these areas on a regular basis.

The City maintains a log of customer feedback on leaks. The City has a program for inspection and system repair based on customer feedback.

The City computes water loss on an annual basis.

The City has a residential meter replacement program.

### 9.3.6 – Water Conservation Program Coordination and Staffing Support

The water conservation program is led by:

*Mathew Osborn*

*Water Quality/Conservation Specialist*

*Office Ph. (951) 765-3711*

[*mosborn@cityofhemet.org*](mailto:mosborn@cityofhemet.org)

### 9.3.7 – Other Demand Management Measures

The City planned to implement a high-efficiency washing machine rebate program in the FY 2011/2012 to provide 50 water customers with rebates of \$100 each for the purchase of high efficiency washers. However, due to a \$3.8 million General Fund budget deficit in FY 2011/2012 and a citywide reorganization to address this deficit, the program was postponed. The program has not been implemented. It should be noted that City water customers are eligible for rebates on high efficiency clothes washers through the SoCal WaterSmart program offered by Metropolitan Water District of Southern California.

## 9.4 – Implementation over the Past Five Years

### **CWC 10631**

*(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:*

*(1)(A) ... a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.*

### 9.4.1 – Water Survey Programs for Single-Family Residential and Multifamily Residential Customers

Over the past 5 years, the City has continued to offer free water audits to all residential customers upon request. Water use audits are conducted by the Water Quality/Conservation Specialist who has received certification as a Conservation Practitioner from the American Water Works Association (AWWA).

Interior audits include measurement of flow rates of existing plumbing fixtures, testing for toilet leakage with dye tablets, installation of showerheads and faucet aerators (if necessary), and providing general information about water conservation in the home.

External audits include showing the customer the location of the water meter and how to read it (if necessary), measurement of landscaped areas, testing of the sprinkler system for irrigation efficiency and distribution uniformity, instructions on how to set the irrigation controller (if necessary); and recommendations concerning sprinkler system repairs or improvements and brochures on water efficient landscaping, design, and use of drought tolerant and native plants.

**9.4.2 – Residential Plumbing Retrofit**

The City distributes water conservation kits with low-flow showerheads and faucets, aerators, toilet tank bags and leak detection tablets, and low-flow hose nozzles per customer request, during residential water audits, and at local community events. Low flow devices are also available at the City Corporation Yard for City water customers to pick up.

Approximately 2,000 conservation kits were distributed over the past five years (2011-2015).

**9.4.3 – System Water Audits, Leak Detection, and Repair**

Water Department personnel routinely identify areas of the system with known leak problems and monitor these areas on a regular basis. In addition, reports of leaks in the municipal water distribution system by customers and field crews trigger inspection and system repairs. Unaccounted for water loss for the period 2011-2015 is shown in Table 9.3.

**Table 9.3 – Historical Water Loss**

Total Well Production	Purchased Water	Total Water Production	Total Water Consumed	Unaccounted for Water	Water Loss Percentage
21,380	81	21,461	21,133	642	3.0%

Consumption records include water used by customers, for firefighting, fire hydrant flushing and annual system flushing. Water use for well start up and well testing averages 24 AF each year, and is not included above.

New electronic read water meters were installed in 2009 and 2010. In 2015, the water department established an ongoing residential meter replacement program to install 480 new meters each year.

**9.4.4 – Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections**

The City meters all water sales to its customers. There are 9,304 metered accounts and all are subject to commodity rates. The City’s water rates include a fixed base water rate plus an additional charge for water use. The use charge is based on a two-tiered system that rewards conservation with lower rates. A Low Use Rate is applicable for residential customers who use more than 1,000 cubic feet of water in a bimonthly billing period. All other customers are billed a base rate determined by the size of the water meter and a consumption charge based on the cubic feet of water used.

New water and sewer rate adjustments were approved on September 22, 2015. The water rate adjustments included a schedule of rate increases and transition to a single water rate charged on all

water use. The rates were calculated to encourage water conservation and generate enough revenue to operate the water system during drought years. The new rates will be phased in over the next five years. The first charge adjustment became effective on October 1, 2015. See Table 9.8 for additional detail.

#### **9.4.5 – Large Landscape Conservation Programs and Incentives**

All developers requesting building permits for commercial, industrial, institutional/governmental, and multi-family projects are required to submit a landscape plan as part of their overall land use application. City water department personnel review all landscape plans. Use of drought tolerant plants, shrubs and trees and the efficiency of any proposed irrigation system is noted, and recommendations are made concerning water conservation improvements, if necessary.

In 2015, there were 146 dedicated irrigation meter accounts in the city system. Water system personnel track usage for all large landscape customers. Landscape irrigation audits are offered and available to all large landscape customers.

Table 9.4 shows historical accounts and deliveries for large landscape.

**Table 9.4 – Historical Large Landscape Irrigation**

<b>Year</b>	<b>No. of Accounts</b>	<b>Water Delivered</b>
2005	99	250
2006	100	268
2007	145	410
2008	151	387
2009	151	365
2010	151	177
2011	152	251
2012	149	528
2013	147	607
2014	143	269
2015	146	272

Table 9.4 shows a significant reduction in landscape irrigation in 2014 and 2015. This is attributed to increased efforts by the City in 2014 to encourage businesses to reduce water use due to ongoing drought conditions, and implementation of Phase 2 of the City's Water Conservation Plan in January 2015 to achieve a 25% reduction in overall water use. This action was taken in response to the State Water Resources Control Board Emergency Regulations for Statewide Urban Water Conservation⁶.

#### **9.4.6 – High-Efficiency Washing Machine Rebate Programs**

The City planned to implement a high-efficiency washing machine rebate program in the FY 2011/2012 to provide 50 water customers with rebates of \$100 each for the purchase of high efficiency washers. However, due to a \$3.8 million General Fund budget deficit in FY 2011/2012 and a citywide reorganization to address this deficit, the program was postponed. The program has not been implemented to date. It should be noted that City water customers are eligible for rebates on high

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⁶ [http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/](http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/)

efficiency clothes washers through the SoCal Water\$mart program offered by Metropolitan Water District of Southern California.

#### 9.4.7 – Public Information Programs

The City promotes water conservation by providing informational pamphlets with water saving tips to citizens at City Hall and the City Corporation Yard, responding to citizen questions and requests, posting information on water conservation on the City website, and distribution of water conservation kits at community events.

In addition, the City participates in a water conservation work group comprised of representatives from local water agencies including Eastern Municipal Water District, Lake Hemet Municipal Water District, and the City of San Jacinto. All agencies benefit from the joint efforts of this group to promote water savings in the local community including: paid advertising, public service announcements, media advisories, utility bill inserts, notification and promotion of special events, and availability of speakers on water conservation topics. Figure 9.1 is an example of the City’s public outreach efforts on water conservation.

**Figure 9.1 – Water Conservation Banner**



Additional examples of printed material focusing on public outreach for water conservation are provided in Appendix O.

The City is also very fortunate to be able to take advantage of the fact that EMWD has an active public water conservation education program in the local community. (Many City residents are EMWD customers.) The City benefits from the efforts of EMWD, which include distribution of public information through brochures, community speakers, paid advertising, and their website which provides information on water conservation, recycling, and other resource issues. EMWD has a demonstration garden at their headquarters designed to educate the community about drought tolerant landscaping.

#### 9.4.8 – School Education Programs

Water conservation information is currently provided to students in the local schools by EMWD, which provides water to many City of Hemet residents. EMWD has a variety of educational materials and programs for teachers/students in schools within the EMWD service area. Programs include complimentary environmental assembly presentations, a new Theater Assembly Program entitled “H2O Where Did You Go?”, an annual poster contest for students in grades K-5, a “Write Off Contest” for grades 6-8 in which groups of students author and illustrate a K-4 story focused on an annual theme, and Water Education field trips to selected EMWD facilities. EMWD also provides a variety of educational materials, free of charge, to teachers in the 11 school districts in the EMWD service area.

**9.4.9 – Conservation Programs for Commercial, Industrial, and Institutional Accounts**

The City provides free water use audits to commercial and institutional customers upon request. The City has no industrial customers. In 2015, there were 721 commercial/institutional accounts in the Water Service Area. The Hemet Unified School District recently took advantage of outdoor water use audits at several school sites to reduce landscaping watering.

**9.4.10 – Conservation Pricing**

Until October 2015, the City water rates were based on a three-tiered system that rewarded conservation with lower rates. The rates included a fixed base water rate plus an additional charge for water use, as shown in Table 9.5 and Table 9.6.

**Table 9.5 – Residential Tiered Rate Structure**

RESIDENTIAL NORMAL WATER USAGE RATES – Effective January 7, 2009				
<i>All other Residential accounts are billed a Base Rate determined by the size of the water meter and a Consumption Charge based on the cubic feet of water used.</i>				
BASE METER RATES			CONSUMPTION RATES	
METER SIZE	MONTHLY RATE	BIMONTHLY RATE	BIMONTHLY CONSUMPTION	RATE PER 100 CF
5/8-inch	21.14	42.28	0-600 CF	2.30
¾-inch	22.79	45.58	601-1200 CF	2.50
1-inch	27.29	54.58	1201-Over CF	2.88
2-inch	70.75	141.50		

**Table 9.6 – Commercial and Institutional Tiered Rate Structure**

COMMERICAL & INSTITUTIONAL NORMAL WATER USAGE RATES – Effective January 7, 2009				
<i>All commercial and industrial accounts are billed a Base Rate determined by the size of the water meter and a Consumption Charge based on the cubic feet of water used.</i>				
BASE METER RATES			CONSUMPTION RATES	
METER SIZE	MONTHLY RATE	BIMONTHLY RATE	BIMONTHLY CONSUMPTION	RATE PER 100 CF
5/8-inch	21.14	42.28	0-600 CF	2.30
¾-inch	22.79	45.58	601-1200 CF	2.50
1-inch	27.29	54.58	1201-Over CF	2.88

In addition, a low use rate was available to customers using less than 500 cubic feet (CF) of water per month (or 1,000 CF over the bimonthly billing cycle), as shown in Table 9.7.

**Table 9.7 – Residential Low Water Usage Rate Structure**

<b>RESIDENTIAL LOW WATER USAGE RATES – Effective January 7, 2009</b>		
<i>Residential water accounts with a 5/8-inch or 3/4-inch meter which registers less than 1,000 cubic feet in a bimonthly billing period are eligible for the following flat water charges:</i>		
<b>QUALIFYING CONSUMPTION</b>	<b>MONTHLY RATE</b>	<b>BIMONTHLY RATE</b>
0—1,000 CF bimonthly Billed at a lower of flat rate or actual usage	\$28.00	\$56.00

In 2014/2015 the City hired a consultant to conduct a Water and Sewer Rate Study, which led to the adoption by the city council of a new water rate schedule with a five-year plan for rate adjustments beginning in October 2015. Major components of the Water Rate Study included identification of fixed costs and variable costs; addition of a pass through surcharge in the rate structure to allow the City to recover costs associated with the Ground Water Management Plan; replacement of the existing three-tier rate structure with a single tier structure in which a unit of water costs the same for every user; changing from a bimonthly to a monthly billing cycle; and adopting separate consumption rates to encourage conservation and provide flexibility in times of reduced water use: “Drought” rates effective during State mandated conservation periods. “Non-drought” rates in effect at all other times.

The new five-year rate schedule is provided in Table 9.8.

**Table 9.8 – Rates Based on Water and Sewer Rate Study**

**WATER RATE AND SERVICE CHARGES**

<b>Ready-to-Serve (Basic) Charges</b>						
Meter Size	Monthly Charge and Effective Date					
	1-Oct-15	1-Mar-16	1-Jan-17	1-Jan-18	1-Jan-19	1-Jan-20
5/8-inch	\$23.05	\$24.95	\$26.25	\$27.55	\$28.85	\$30.15
3/4-inch	\$25.02	\$27.26	\$28.87	\$30.49	\$32.14	\$33.81
1-inch	\$30.04	\$32.83	\$34.86	\$36.93	\$39.03	\$41.16
1 1/2-inch	\$46.74	\$52.79	\$57.85	\$63.14	\$68.66	\$74.42
2-inch	\$74.85	\$81.02	\$85.25	\$89.47	\$93.69	\$97.91
3-inch	\$112.60	\$140.77	\$167.98	\$197.16	\$228.31	\$261.43
4-inch	\$152.11	\$191.23	\$229.15	\$269.84	\$313.31	\$359.54
6-inch	\$259.22	\$317.79	\$373.50	\$433.08	\$496.54	\$563.88
8-inch	\$383.19	\$449.63	\$509.74	\$573.47	\$640.84	\$711.85
Flow Meter	\$86.01	\$99.80	\$112.05	\$125.00	\$138.64	\$152.98

The City currently bills for water service on a bimonthly basis. The bimonthly charge is converted to a monthly charge (shown here).

<b>Consumption (Variable) Charges</b>						
<b>Non-Drought Rates –</b>						
Standard billing rate for all water consumption						
	Rate per 100 cubic feet (100cf = 748 gallons)					
Effective Date	Oct 1, 2015	Mar 1 2016	Jan 1 2017	Jan 1 2018	Jan 1 2019	Jan 1 2020
All Use	\$3.30	\$4.28	\$4.41	\$4.54	\$4.67	\$4.79

<b>Drought Rates –</b>						
Billing rates that may be imposed by City Council action in response to drought conditions and local emergencies requiring conservation of water supply.						
	Rate per 100 cubic feet (100cf = 748 gallons)					
Effective Date	Oct 1, 2015	Mar 1 2016	Jan 1 2017	Jan 1 2018	Jan 1 2019	Jan 1 2020
All Use	\$4.85	\$6.25	\$6.45	\$6.60	\$6.75	\$6.88

*Drought rates are in effect as of October 1, 2015, per Council action of September 22, 2015, adoption of Resolution 15-050.*

**9.4.11 – Water Conservation Coordinator**

The City established the position of Water Quality/Conservation Specialist in 1992. This multi-function position continues to be responsible for the City’s water conservation program as well as customer service, water quality testing and the backflow prevention program. The individual currently holding this position has received certification as a Conservation Practitioner from the AWWA. Water conservation activities include conducting water audits for residential, commercial, and institutional/governmental customers and making appropriate recommendations concerning improvements that will result in water savings. In addition, the Water Quality/Conservation Specialist

represents the City as a member of the Water Conservation Workgroup (comprised of four local water agencies) and attends applicable seminars and conferences as time allows. He is an active member of a local non-profit group dedicated to promoting use of native plants in residential and commercial landscaping.

**9.4.12 – Water Waste Prohibition**

In January 2015, to satisfy the requirements of the SWRCB Emergency Conservation Regulation, the City Council activated Phase 2 of the water rationing plan in the City’s Water Conservation Plan (Hemet Municipal Code section 82-121 et seq.). The City Council adopted an urgency ordinance to appoint the City Council as the Water Conservation Commission in order to enable effective enforcement of mandatory water use reductions.

The water department updated the water waste enforcement process by creating a standard Notice of Water Waste for the first, second and third water waste incidents. Each notice provides photos of the location of the incident, conservation advice and information, and a Confirmation of Receipt form. First Incident Notices advise customers of water waste, recommend ways to eliminate the waste, and a scheduled follow up inspection within 30 days of the initial inspection. Second Incident Notices warn customers that a penalty (equal to two times the customer’s prior bimonthly water bill amount) will be assessed if water waste is not eliminated within 10 days. The Third Incident Notice includes an invoice for the penalty assessment.

In 2015, a total of 41 notices were issued to commercial and residential properties in the water service area.

**9.4.13 – Residential Ultra-Low-Flush Toilet Replacement Program**

The City had a successful ultra-low-flush toilet replacement program from 2012-2015. Over this 4-year period, the City purchased a total of 800 Niagara 1.6 GPF high-efficiency toilets, distributing 200 toilets free of charge to City of Hemet Water Department customers each year at one-day events in April.

## 9.5 – Planned Implementation to Achieve Water Use Targets

### **CWC 10631**

*(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:*

*(1)(A) ...The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

The City has already achieved its 2020 Water Use Target. To maintain water use at or below the target, the City will continue to implement its current water conservation program in coordination with EMWD and other members of Hemet/San Jacinto Watermaster.

## 9.6 – Members of the California Urban Water Conservation Council

### **CWC 10631**

*(i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.*

The City is not signatory to the MOU regarding urban water conservation.

## Chapter 10 – Plan Adoption, Submittal, and Implementation

### 10.1 – General Description

The chapter provides a summary of the protocols related to the adoption and submittal processes. Implementation will proceed upon submittal of the UWMP to the state.

### 10.2 – Inclusion of All 2015 Data

This UWMP includes all pertinent 2015 data.

### 10.3 – Notice of Public Hearing

#### 10.3.1 – Notice to Riverside County

**CWC 10621**

*(b) Every urban water supplier required to prepare a plan shall... at least 60 days prior to the public hearing on the plan ... notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

**CWC 10642**

*...The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area...*

The City issued notification to Riverside County of its intent to prepare the UWMP more than 60 days prior to the public hearing. The City issued notification to Riverside County of the public hearing. See Appendix D.

### 10.3.2 – Notice to the Public

**CWC 10642**

*...Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection...Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code...*

**Government Code 6066**

*Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.*

Notice was provided to the public of the availability of the UWMP for review and of the opportunity to submit comments on UWMP Draft prior to adoption. See Appendix Q for the notifications and supporting documents.

### 10.4 – Public Hearing

**CWC 10642**

*...Prior to adopting a plan, the urban water supplier shall hold a public hearing thereon.*

**CWC 10608.26**

*(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:*

- (1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.*
- (2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.*
- (3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.*

A public hearing was conducted on June 14, 2016.

## 10.5 – Adoption

### **CWC 10642**

*...After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

The UWMP was adopted on June 14, 2016. The resolution of adoption is provided in Appendix R.

## 10.6 – Plan Submittal

### **CWC 10621**

*(d) An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.*

### **CWC 10644**

*(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.*

### **CWC 10635**

*(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.*

The UWMP was submitted to the State prior to the deadline of July 1, 2016.

## 10.7 – Public Availability

### **CWC 10645**

*Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.*

The adopted UWMP will be made available to the public on the City website and the DWR website within 30 days of submittal to the State.

## 10.8 – Amending an Adopted UWMP

**CWC 10621**

*(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).*

**CWC 10644**

*(a)(1) Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.*

In the event the UWMP is amended in the future, the City will meet all established requirements for the amendment process.



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