Final

2010 Urban Water Management Plan

for the

Southern Division- Los Angeles County District

Prepared for:

CALIFORNIA
AMERICAN WATER

Prepared Under the Responsible Charge of:

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California R.C.E. No. 63004, Expires 6/30/2012

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WSC
WATER SYSTEMS CONSULTING, INC.

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AB 1420- Assembly Bill No. 1420

AB 32- Assembly Bill No. 32

AF- Acre Feet

Afy- acre feet per year

AWWA- American Water Works Association

BABE- Breaks and Background Estimates Model

BMP- Best Management Practice

CDPH- California Department of Public Health

CEQA- California Environmental Quality Act

CII- Commercial, Industrial, and Institutional

CIMIS- California Irrigation Management Information System

CPS- Comprehensive Planning Study

CPUC- California Public Utilities Commission

CRA- Colorado River Aqueduct

CUWCC- California Urban Water Conservation Council

CUWWC MOU- California Urban Water Conservation Council Memorandum of Understanding

District- California American Water Los Angeles County District

DMM- Demand Management Measure

DWR- California Department of Water Resources

EPA- U.S. Environmental Protection Agency

ERAP- Emergency Response Action Plan

ERP- Emergency Response Plan

GHG- Green House Gas

GIS- Geographical Information System

GLAC- Greater Los Angeles County

HCF- Hundred Cubic Feet

HECW- High-Efficiency Clothes Washer

HET- High-Efficiency Toilet

HVAC- Heating, Ventilating, and Air Conditioning

IOU- investor owned utility

IRWMP- Integrated Regional Water Management Plan

JWPCP- Joint Water Pollution Control Pant

LACSD- Los Angeles County Sanitation District

LCWRP- Los Coyotes Water Reclamation Plant

LL- large landscape

MG- million gallons

MSGB- Main San Gabriel Basin

MWD- Metropolitan Water District of Southern California

MWh- Megawatt-hour

NRW- non-revenue water

PV- (Solar) photovoltaic

RAP- Resource Action Programs

SB7- Senate Bill x 7-7

SB7 GUIDEBOOK- *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*

SCAG- Southern California Area of Governments

SJCWRP- San Jose Water Reclamation Plant

SWP- California State Water Project

USGMWD- Upper San Gabriel Valley Municipal Water District

UWMP- Urban Water Management Plan

UWMP Act- Urban Water Management Planning Act

UWMP Guidebook- *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan*

WBIC- water based irrigation controllers

WBMWD- West Basin Municipal Water District

WNWRP- Whittier Narrows Water Reclamation Plant

WRAM- Water Revenue Adjustment Mechanism

WSS- WaterSense Specification

1 PLAN PREPARATION

This plan comprises the 2010 Urban Water Management Plan (UWMP) for California-American Water Company's (California American Water's) Southern Division Los Angeles County District, as required by the California Urban Water Management Planning Act (UWMP Act). The UWMP Act requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre feet per year (afy) to complete an UWMP every five years ending in '5' and '0'. The UWMP Act is administered by the California Department of Water Resources (DWR), who is responsible for compiling data for statewide and regional analysis, and publishing the accepted documents online for public access.

The UWMP is a valuable planning document used for multiple purposes:

- Meets a statutory requirement of the California Water Code
- Provides a key source of information for Water Supply Assessments (WSAs) and Written Verifications of Water Supply
- Supports regional long-range planning documents including City and County General Plans
- Provides a standardized methodology for water utilities to assess their water resource needs and availability
- Serves as a critical component of developing Integrated Regional Water Management Plans (IRWMPs)
- Provides a resource for regional involvement in the California Water Plan

California American Water is an investor owned public utility providing water services to over 630,000 people in 50 communities throughout California. California American Water is organized into three divisions: Northern, Central and Southern. The Northern Division includes the Sacramento and Larkfield Districts, the Central Division includes the Monterey District, and the Southern Division includes the Ventura County, Los Angeles County, and San Diego County Districts.

The Los Angeles County District in California American Water's Southern Division contains three service areas, with the sum of the service areas exceeding the 3,000 afy/ 3,000 connections threshold. California American Water has prepared four previous UWMPs for the Los Angeles County District (1). The 2005 UWMP was originally adopted on April 24, 2006 and a revised version was adopted on January 28, 2011 and submitted to DWR.

This plan was prepared based on guidance from DWR's *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan* (UWMP Guidebook) (2), DWR Urban Water Management Plans Public Workshops and Webinars, DWR Senate Bill x 7-7 (SB7) public listening sessions, *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (SB7 Guidebook) (3), and the 2010 DWR Review Sheets (Appendix I).

The 2010 UWMPs must be adopted by water purveyors by July 1, 2011 and submitted to DWR by July 31, 2011. Usually, UWMPs are due on December 31 of years ending in '0' and '5', but a six month extension has been granted for submittal of the 2010 UWMPs to provide additional time for water suppliers to address SB7 requirements (20% reduction by 2020). The final 2010 UWMP Guidebook became available on March 2, 2011. DWR's 2010 UWMP schedule is summarized in Table 1-1.

Table 1-1. DWR's 2010 UWMP Schedule

Date	Event/Task
November 2010	Initial workshops
December 21, 2010	Draft Guidebook released
March 2011	Amended Final Guidebook released
January/February 2011	Additional workshops
July 1, 2011	Adoption of UWMPs by water purveyors
July 31, 2011	UWMPs due to DWR

According to the 2010 Guidebook, "As a general rule, DWR reviewers will consider a plan complete if it meets the criteria listed in the Review Sheets" (2). A DWR Review Sheet checklist is provided in Appendix I . Table 1-2 summarizes changes to the UWMP Act since 2005 that have been addressed in this UWMP.

Table 1-2. Summary of Changes in the UWMP Act Since 2005

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
Notification	10621(b)	*Added*: Provide at least 60 days notification to any city or county within which the supplier provides water for the public hearing required by Section 10642.	The Cities and County within California American Water's Los Angeles County District service areas will be notified in a timely manner to meet the requirement.
DMM Compliance	10631(j)	*Changed*: Members of the CUWCC will be considered in compliance with the DMM evaluation (10631 (f) and (g)) if they comply with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008 and by submitting their CUWCC annual reports.	California American Water is a member of the CUWCC and is not in full compliance with the CUWCC MOU. However, the 2009-2010 CUWCC BMP Annual Report is attached in Appendix K.

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
Wholesale Suppliers Source Water	10631(j)	*Deleted:* Text identifying the specific types of water an Urban water supplier may seek information from a wholesaler supplier. The option to seek information from a wholesale supplier is not deleted, just the identification of source water types.	No impact to this UWMP.
Lower Income housing water use projections	10631.1	*Added:* Water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households (Health and Safety Code Section 50079.5) will be provided. These water use projections are to assist a supplier in complying with Government Code Section 65589.7 to grant priority of the provision of service to housing units affordable to lower income households.	Values are estimated based on California American Water customer data and the County of Los Angeles Housing Element (See Section 3.2.1)
Linkage of DMM to State grant or loan program	10631.5(a)	*Changed:* After January 1, 2009, eligibility for state-funded grants or loans will be conditioned on the implementation of Section 10631 DMMs. If a DMM is not currently being implemented, then the urban water supplier submits to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement. If a DMM is not locally cost-effective (the present value of the local benefits is less than the present value of local costs to implement the DMM), then the water supplier will submit supporting documentation and the DWR will provide a determination within 120 days of UWMP submittal.	No impact to this UWMP.
DMM Compliance	10631.5(b)	*Added:* DWR will consult with other agencies and public input and develop eligibility requirements for meeting compliance with DMM implementation. Determination of DMM compliance will be based on an individual water agencies implementation or participation with a regional group. An individual water agency will not be denied eligibility if another participating regional agency does not comply with each of the DMMs	No impact to this UWMP.
Determination of Grant and Loan Eligibility	10631.5(c)	*Added:* Grant and loan eligibility, based on DMM compliance, will be included in the funding guidelines.	No impact to this UWMP.

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
	10631.5(d)	*Added:* The administering agency will request an eligibility determination from DWR regarding "the requirements of this section". DWR will respond within 60 days.	No impact to this UWMP.
	10631.5(e)	*Added:* The water supplier may submit copies of its annual reports and other relevant documents to assist DWR in determining implementation or scheduling of the water suppliers DMMs. Water suppliers that are signatories of the CUWCC MOU may submit its annual reports to support its DMM activities.	California American Water will submit its CUWCC BMP 2009-2010 activity report.
	10631.5(f)	*Added:* "This section" is in effect only until July 1, 2016, after which it is repealed, unless another statute is enacted.	No impact to this UWMP.
New DMM Independent Technical Panel	10631.7	*Added:* DWR, with the CUWCC, will convene a technical panel to provide information and recommendations to DWR and the Legislature on new DMMs, technologies, and approaches. There is further language on the panel members and timing.	No impact to this UWMP.
Potential Recycled Water Uses	10633(d)	*Added:* Indirect potable reuse is to be considered as an option for a potential use of recycled water.	No impact to this UWMP.
UWMP Distribution	10644(a)	*Added:* A copy of the UWMP will also be submitted to the California State Library no later than 30 days after its adoption	California American Water will submit a copy of its adopted UWMP to the California State Library to meet this requirement.
Exemplary UWMP Elements	10644(b)	*Added:* 'Exemplary' elements of individual plans are to be identified in the 2011 Legislative Report	No impact to this UWMP.
Exemplary UWMP	10644(c)	*Added:* (1), (2), and (3). Clarifying that "exemplary" DMMs are those that achieve water saving significantly above the levels established by DWR to meet the requirements of 10631.7. The results are to be distributed to the panel convened pursuant to Section 10631.7 and the public.	No impact to this UWMP.
Retail Deadline	144644(j)(1)	*Added:* An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan.	California American Water will make its best effort to adopt the plan in a timely manner.

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
Wholesaler Deadline	144644(j)(2)	*Added:* An urban wholesale water supplier whose urban water management plan . . .is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.	No impact to this UWMP.
	10657	*Deleted.*	No impact to this UWMP.

1.1 COORDINATION

California American Water coordinated with multiple neighboring and stakeholder agencies in the preparation of this UWMP. The coordination efforts were conducted to: 1) inform the agencies of California American Water activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives. The coordination activities conducted by California American Water are shown in Table 1-3.

California American Water is an investor owned utility (IOU) regulated by the California Public Utility Commission (CPUC). Therefore, its facilities, operations and financial structure (including customer rates) are subject to extensive regulation by the CPUC, as well as environmental, health, safety and water quality regulations by federal, state and local governments. The CPUC sets rules and regulates public utility companies in California. The intent of the regulations set by the CPUC is to ensure provision of high quality water service at a fair price. All increases in service rates are directly related to the cost of providing quality service and are subjected to a public review process and approval by the CPUC. Each of California American Water's individual systems is registered with separate operating permits with the California Department of Public Health (CDPH).

Table 1-3. Agency Coordination

	Participated in Developing the Plan	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Notice with a Website Link to Access the Draft Plan	Was Sent a Notice of Intention to Adopt
California Department of Water Resources (DWR)				X		
California Public Utilities Commission (CPUC)					X	
California Water Association					X	
California Water Service Company					X	
Central Basin Watermaster				X		
City of Alhambra					X	X
City of Arcadia					X	X
City of Azusa					X	X
City of Bradbury					X	X
City of Duarte			X		X	X
City of El Monte					X	X
City of Inglewood					X	X
City of Irwindale					X	X
City of Monrovia					X	X

	Participated in Developing the Plan	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Notice with a Website Link to Access the Draft Plan	Was Sent a Notice of Intention to Adopt
City of Pasadena					X	X
City of Rosemead					X	X
City of San Gabriel					X	X
City of San Marino					X	X
City of South Pasadena					X	X
City of Temple City					X	X
County of Los Angeles				X	X	X
East Pasadena Water Company					X	
Golden State Water Company					X	
Los Angeles County Sanitation District				X	X	X
Main San Gabriel Basin Watermaster				X	X	
Metropolitan Water District of Southern California				X	X	X
Raymond Basin Management Board				X		

	Participated in Developing the Plan	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Notice with a Website Link to Access the Draft Plan	Was Sent a Notice of Intention to Adopt
San Gabriel Valley Water Company					X	
Southern California Association of Governments (SCAG)				X		
Upper San Gabriel Valley Municipal Water District				X	X	X
West Basin Municipal Water District				X	X	

1.2 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

To fulfill the requirements of Water Code Section 10621(c), California American Water sent letters of notification of preparation of the 2010 UWMP to all cities and counties within its Los Angeles County District service areas 60 days prior to the public hearing. Copies of the 60 day notification letters are attached as Appendix J.

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, California American Water made the draft 2010 UWMP available for public review and held a public hearing on August 15, 2011. The public review hearing notice is attached as Appendix J. In addition, California American Water maintained a copy of the draft UWMP in its office prior to the public hearing.

The Final 2010 Southern Division Los Angeles County District UWMP was formally adopted by California American Water on January 9, 2012. A copy of the Adoption Resolution is included in Appendix J. A copy of the Final 2010 Southern Division Los Angeles County District UWMP was sent to the California State Library, DWR, and all cities and counties within California American Water's Los Angeles County District service area within 30 days of adoption. California American Water made the 2010 UWMP available for public review on its website and in its offices during normal hours prior to the public heairing.

1.2.1 Implementation of the 2010 UWMP

The implementation of this plan shall be carried out as described unless significant changes occur between the adoption of this plan and the 2015 plan. If such significant changes do occur, California American Water will amend and readopt the plan as required by the California Water Code.

1.2.2 Implementation of the Recycled Water Plan

California American Water's Los Angeles County District does not currently receive recycled water and does not distribute recycled water. Currently, there are no plans to implement any recycled water programs in the Los Angeles County District within the timeline of this plan.

1.2.3 Implementation of the DMMs and BMPs

California American Water is a member of the California Urban Water Conservation Council (CUWCC) and is a signatory to the CUWCC Memorandum of Understanding (CUWCC MOU). The CUWCC MOU outlines 14 Best Management Practices (BMPs) that correspond with the 14 Demand Management Measures (DMM) outlined in the UWMP Act. The UWMP Act allows CUWCC members to submit their CUWCC BMP reports in lieu of completing a DMM section if the member is in full compliance with the BMPs. California American Water is a CUWCC member but it is not known if the Los Angeles County District is in full compliance since the District has not yet received indication from CUWCC. To ensure the District complies with the UWMP Act, a DMM section is included. In the previous UWMP, both a DMM section and BMP report were included. This plan contains a DMM section (see Section 6) and BMP report (see Appendix K) as well.

The evaluation of BMPs provides guidance for internal development of California American Water's conservation programs and is used as testimony and support documentation for rate cases required by the CPUC. California American Water is working towards achieving full compliance with the CUWCC BMPs. Therefore, the BMP report is attached in Appendix K. The BMPs listed in the previous UWMP are being implemented as planned or exceed the planned implementation. The implementation of any of the described programs and costs are contingent on the CPUC approval of programs and their budget funding, as well as incorporation in the American Water Business Plan.

2 SYSTEM DESCRIPTION

California American Water is a wholly-owned subsidiary of the American Water Works Company (American Water), one of the largest investor-owned water and wastewater utility companies in the United States. American Water is headquartered in Voorhees, New Jersey, and California American Water is headquartered in Coronado, California. California American Water was incorporated into American Water under California law in 1966 when American Water acquired California Water and Telephone.

California American Water is operated by three Division Offices: the Northern Division; Central Division; and Southern Division. The Southern Division includes the Ventura County District, Los Angeles County District, and San Diego County District. This UWMP will cover the Los Angeles County District's three service areas, which together exceed 3,000 customers and deliver 3,000 afy or more. Figure 2-1 shows the service areas covered in this UWMP.

2.1 SERVICE AREA DESCRIPTION

The Los Angeles County District consists of the Baldwin Hills, Duarte and San Marino service areas. All three service areas of the Los Angeles County District are located in Los Angeles County, California. The Los Angeles County District provides water to 28,128 connections and serves a population of approximately 102,889 people. In 2010, this population made up 1% of the Los Angeles County population. Figure 2-1 shows the location of all three service areas in Los Angeles County.

The Baldwin Hills service area encompasses approximately 2,056 acres and is located east of Highway 90, to north of the City of Inglewood. California American Water's Baldwin Hills service area provides water to 6,259 customers in portions of the City of Inglewood, and in the unincorporated communities of Ladera Heights and View Park-Windsor Hills. California American Water serves approximately 17,688 people in Baldwin Hills. The Baldwin Hills service area is shown in Figure 2-2.

The Duarte service area encompasses approximately 6,484 acres and is located approximately 20 miles northeast of downtown Los Angeles. Duarte spans both sides of Interstate 210 immediately west of the Interstate 210/ Interstate 605 freeway interchange. The San Gabriel River runs along the eastern border of Duarte. California American Water's Duarte service area provides water to 7,594 customers in the cities of Azusa, Bradbury, Duarte, Irwindale, and Monrovia. California American Water serves approximately 29,643 people in Duarte. The Duarte service area is shown in Figure 2-3.

The San Marino service area encompasses approximately 5,495 acres and is located approximately 10 miles northeast of downtown Los Angeles in the San Gabriel Valley. California American Water's San Marino service area provides water to 14,275 customers in the cities of Alhambra, Arcadia, El Monte, Pasadena, Rosemead, San Gabriel, San Marino, Temple City, and in portions of the unincorporated communities of San Pasqual, East Pasadena, and East San Gabriel. California American Water serves a population of approximately 55,558 people in San Marino. The San Marino service area is shown in Figure 2-4.

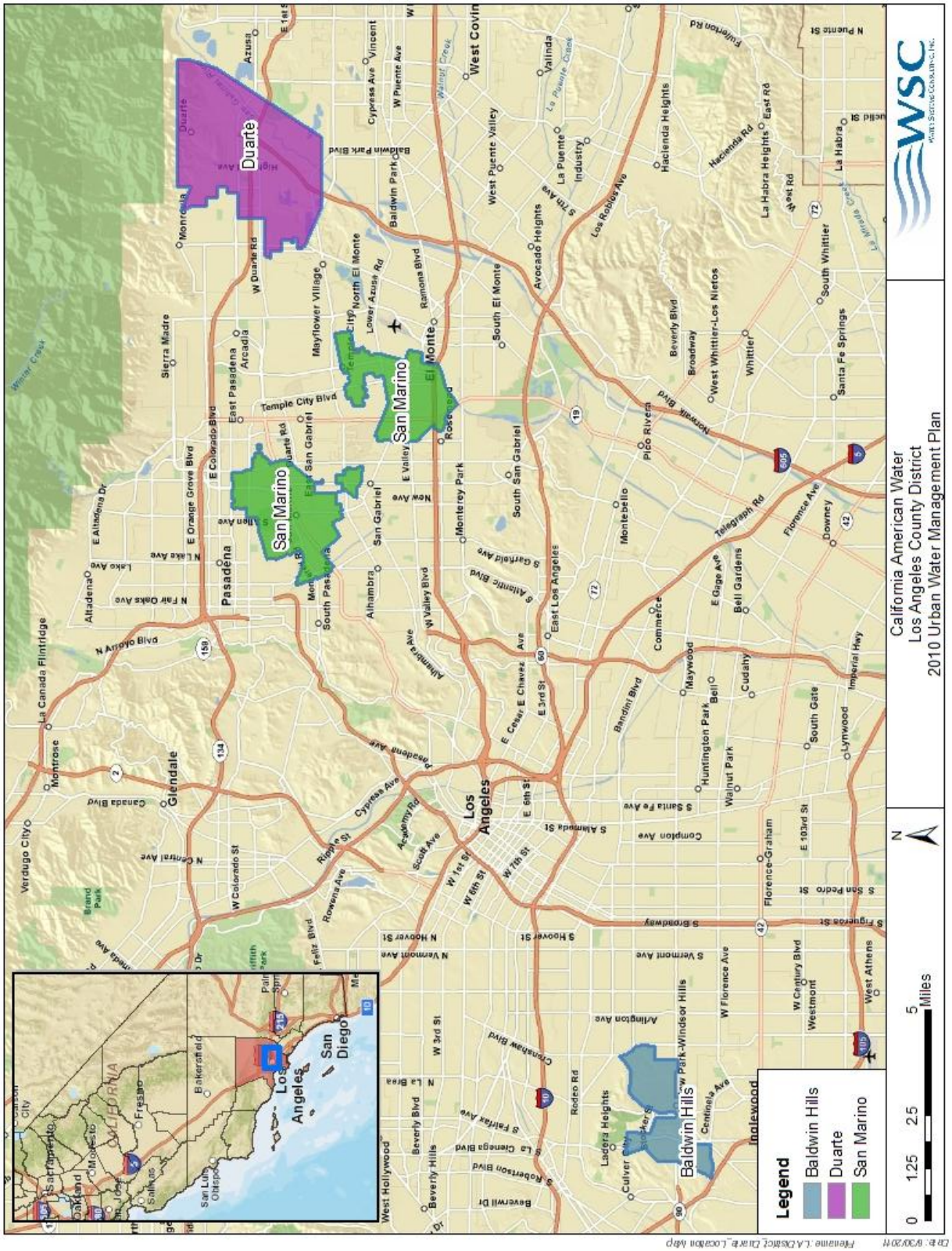

Figure 2-1. Los Angeles County District Service Areas

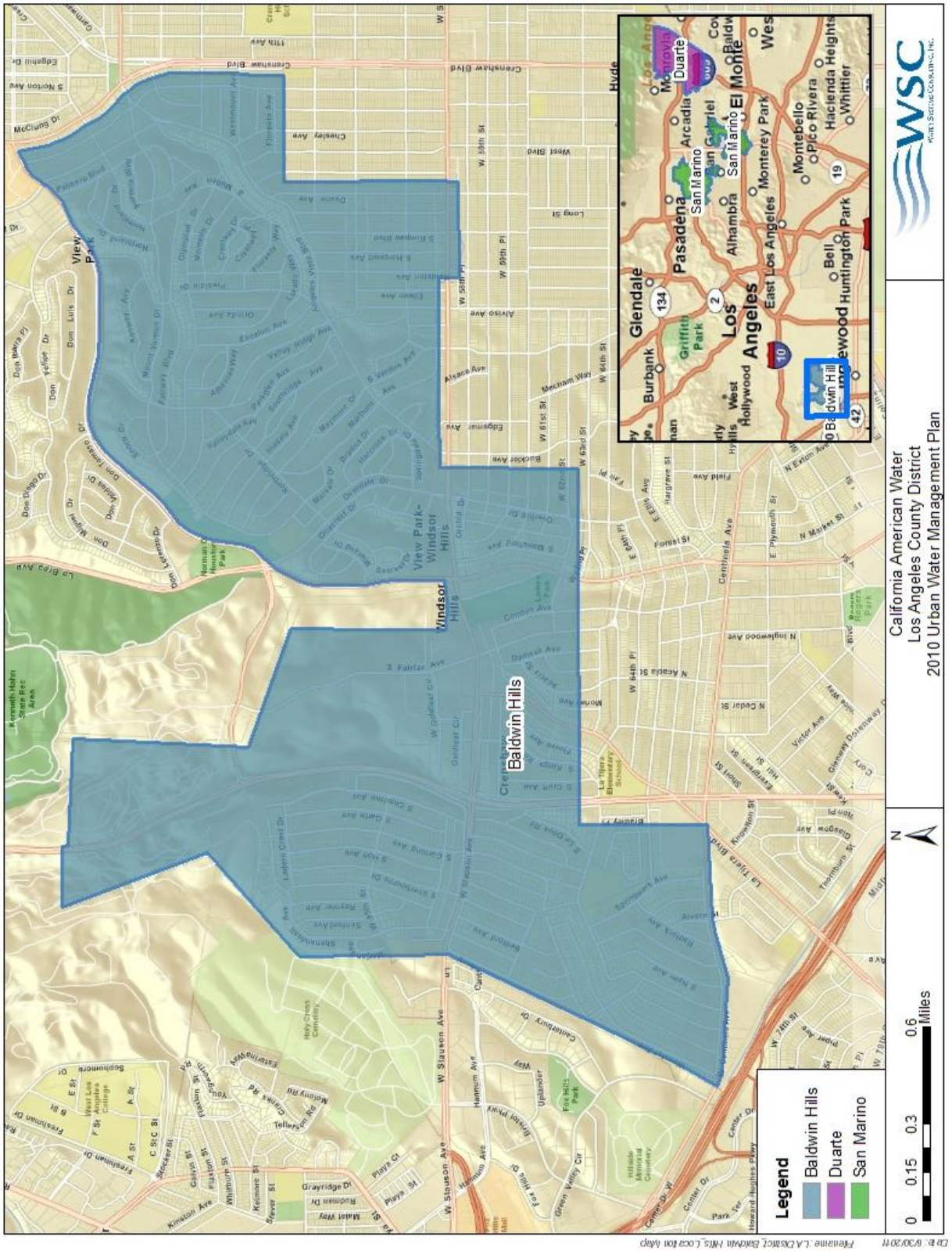

Figure 2-2. Baldwin Hills Service Area

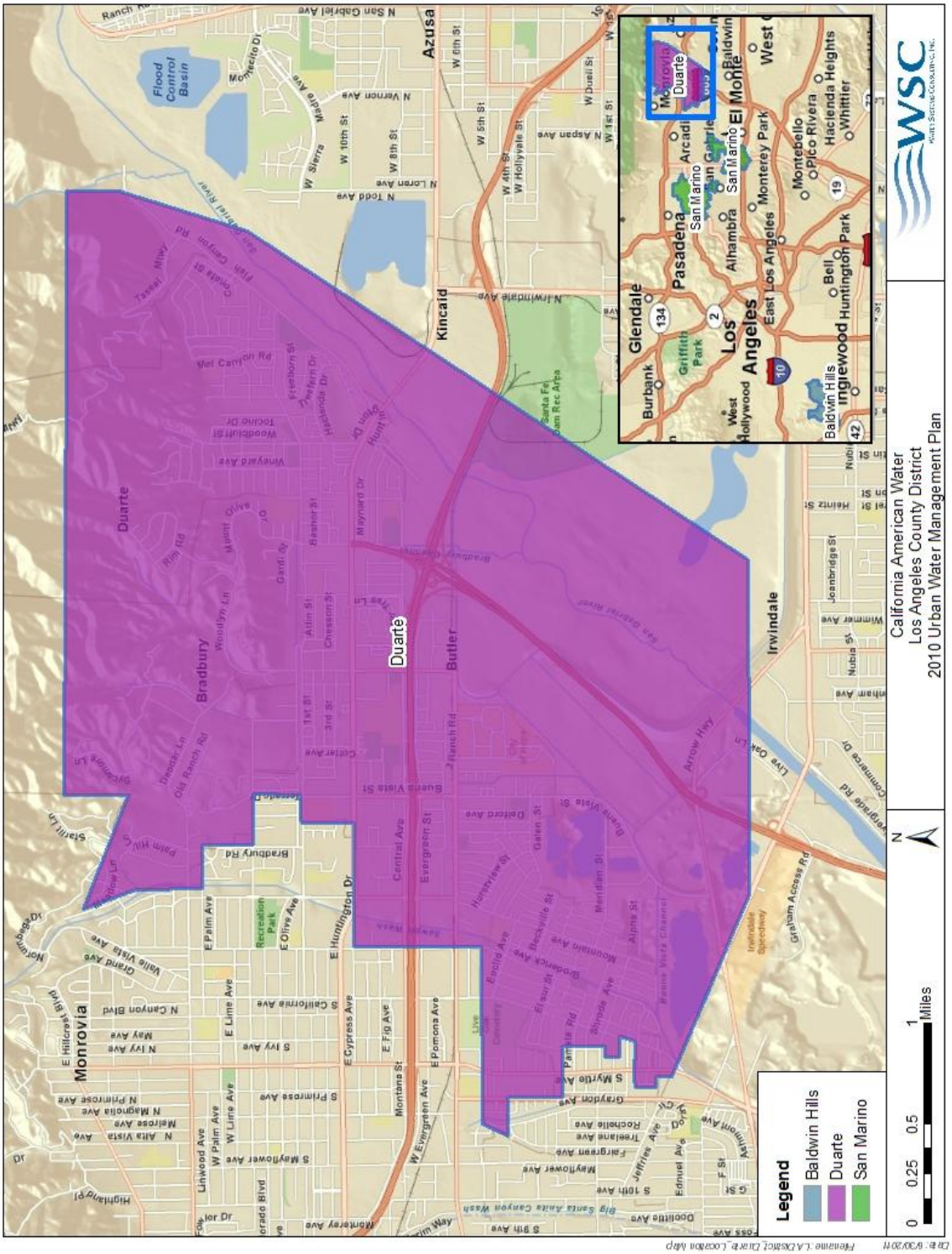

Figure 2-3. Duarte Service Area

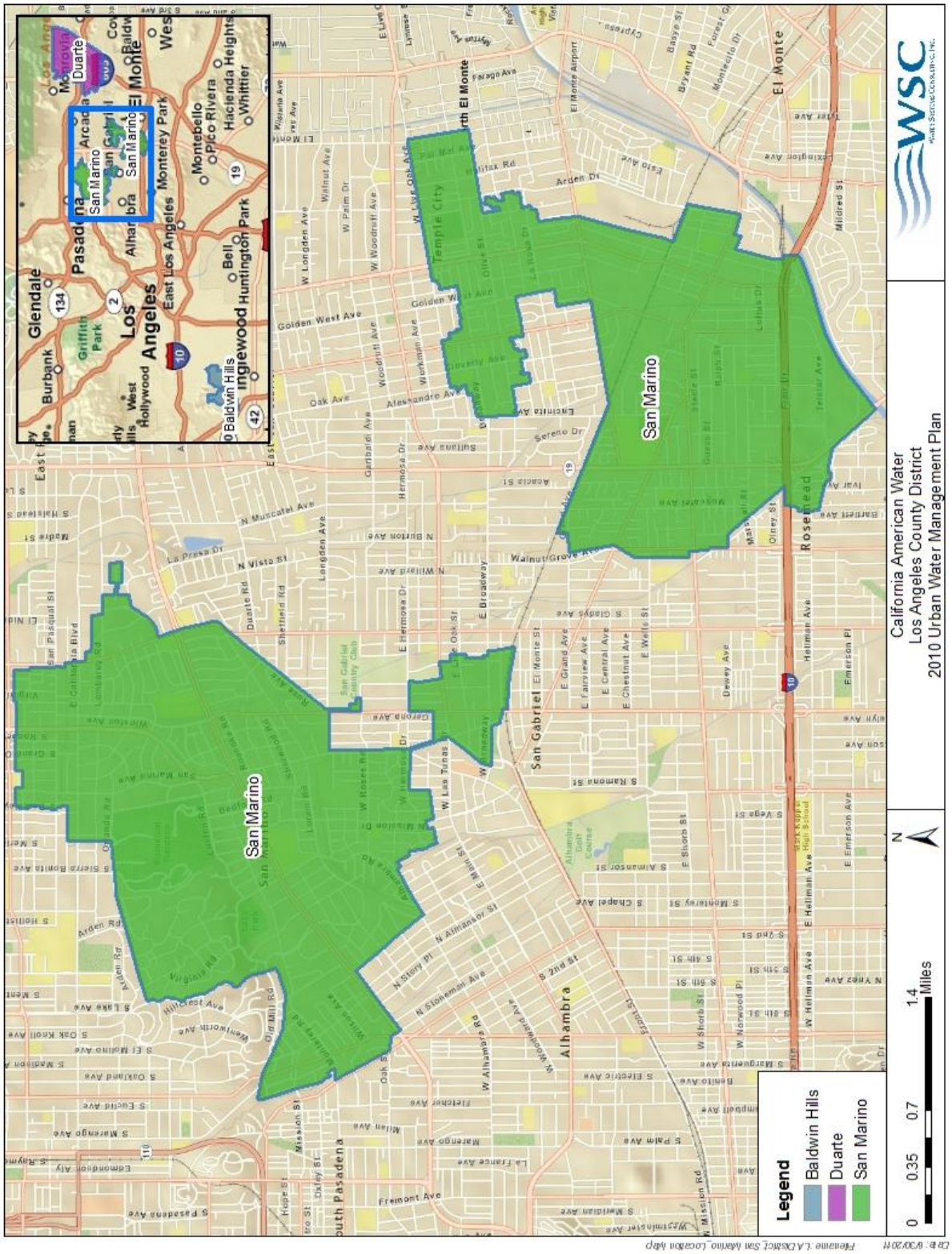

Figure 2-4. San Marino Service Area

2.1.1 Climate

The Los Angeles County District has a Mediterranean climate as evidenced by its dry, warm to hot summers, and mild, somewhat rainy winters with modest transitions in temperature. The warmest month of the year is August and the coldest month is January. The average temperature is a mild 64.72 degrees Fahrenheit. On average Los Angeles County receives 17.28 inches of rainfall per year. Table 2-1 and Table 2-2 show monthly climate data in more detail.

Table 2-1. Precipitation and Evapotranspiration in the Los Angeles County District (January through June)

	January	February	March	April	May	June
Standard Average ETo, in[1]	1.59	2.2	3.66	5.08	6.83	7.8
Average Rainfall, in[2]	3.73	3.98	3	1.21	0.28	0.09
Average Temperature, °F[2]	55.49	56.88	58.81	62.18	65.63	69.86

[1] Data from California Irrigation Management Information System (CIMIS), Station 159 in Monrovia, (period of record is from October 1999 through April 2011) http://wwwcimis.water.ca.gov/cimis/data.jsp (4)

[2]Data from Western Regional Climate Center, Station:(047785) San Gabriel Fire Department, California, (1939-March 24, 2011) http://www.wrcc.dri.edu/CLIMATEDATA.html (5)

Table 2-2. Precipitation and Evapotranspiration in the Los Angeles County District (July through December)

	July	August	Sept.	Oct.	Nov.	Dec.	Annual
Standard Average ETo, in[1]	8.67	7.81	5.67	4.03	2.13	1.59	57.06
Average Rainfall, in[2]	0.02	0.07	0.35	0.56	1.64	2.35	17.28
Average Temperature, °F[2]	74.92	75.58	73.74	68.04	60.82	55.81	64.72

[1] Data from California Irrigation Management Information System (CIMIS), Station 159 in Monrovia, (period of record is from October 1999 through April 2011) http://wwwcimis.water.ca.gov/cimis/data.jsp

[2]Data from Western Regional Climate Center, Station:(047785) San Gabriel Fire Department, California, (1939-March 24, 2011) http://www.wrcc.dri.edu/CLIMATEDATA.html

2.2 SERVICE AREA POPULATION

In the greater Southern California region, population growth has slowed, however population has increased by more than 2 million since 2000 (6). Similar to the Southern California region, Los Angeles County's growth has slowed since 1990 and 2000. Los Angeles County grew by 7.4% from 1990-2000 (7) and by 3.1% from 2000-2010 (8).

The historical, current and projected populations for California American Water's Los Angeles County District are shown in Table 2-3 and Figure 2-5. The population projections were calculated based on 2000 and 2010 census block data as well as calculated growth rates from the Southern California Association of Governments' (SCAG) population projections by census tract.

Table 2-3. Historical, Current and Projected Population[1]

	2000	2005	2010	2015	2020	2025	2030
Baldwin Hills	17,737	17,712	17,688	18,099	18,527	18,943	19,345
Duarte	28,961	29,302	29,643	30,369	31,116	31,840	32,538
San Marino	54,058	54,808	55,558	57,329	58,954	60,556	62,103
Total	**100,756**	**101,822**	**102,889**	**105,797**	**108,597**	**111,339**	**113,985**

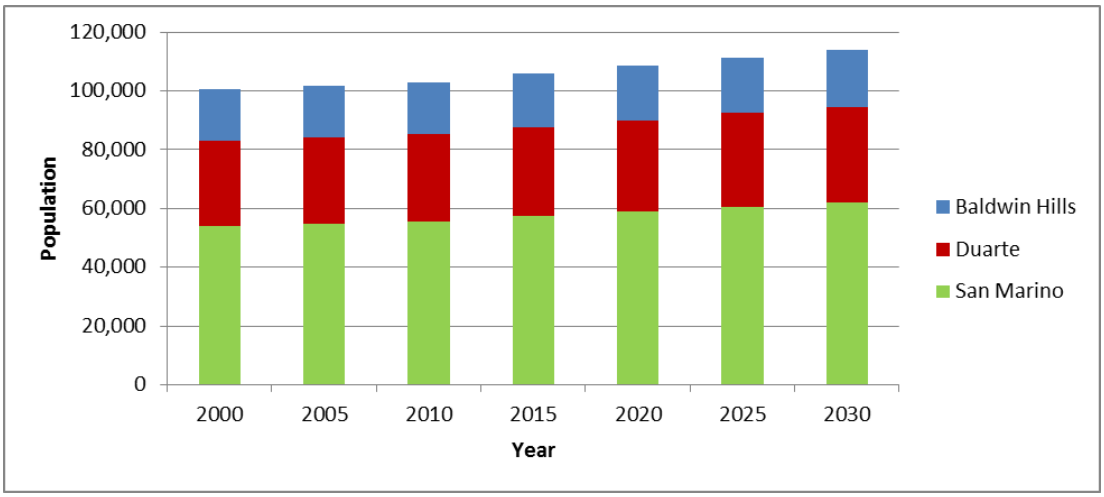

Figure 2-5. Historical, Current, and Projected Population by Service Area[1]

[1] The population projections were calculated based on 2000 and 2010 census block data as well as growth rates calculated from SCAG's population projections by census tract.

2.2.1 Other Demographic Factors

The growth in Los Angeles County is projected to take place at a higher rate in the unincorporated areas of the County due to multiple constraints involved with incorporated communities. The Baldwin Hills service area is located within the Westside Planning Area and a small portion overlies the South Bay Planning Area as defined in the Los Angeles County General Plan (Figure 2-6). The projected population growth within the unincorporated portion of the Westside Planning Area is 29% and employment growth is projected to be 4% between 2010 and 2035 (9). The Duarte and San Marino service areas are located within the West San Gabriel Valley Planning Area and Duarte overlies a small portion of the East San Gabriel Valley Planning Area as defined in the Los Angeles County General Plan (Figure 2-6). The projected population growth within the unincorporated portion of the West San Gabriel Valley Planning Area is 33% and the projected employment growth is 10% between 2010 and 2035 (9).

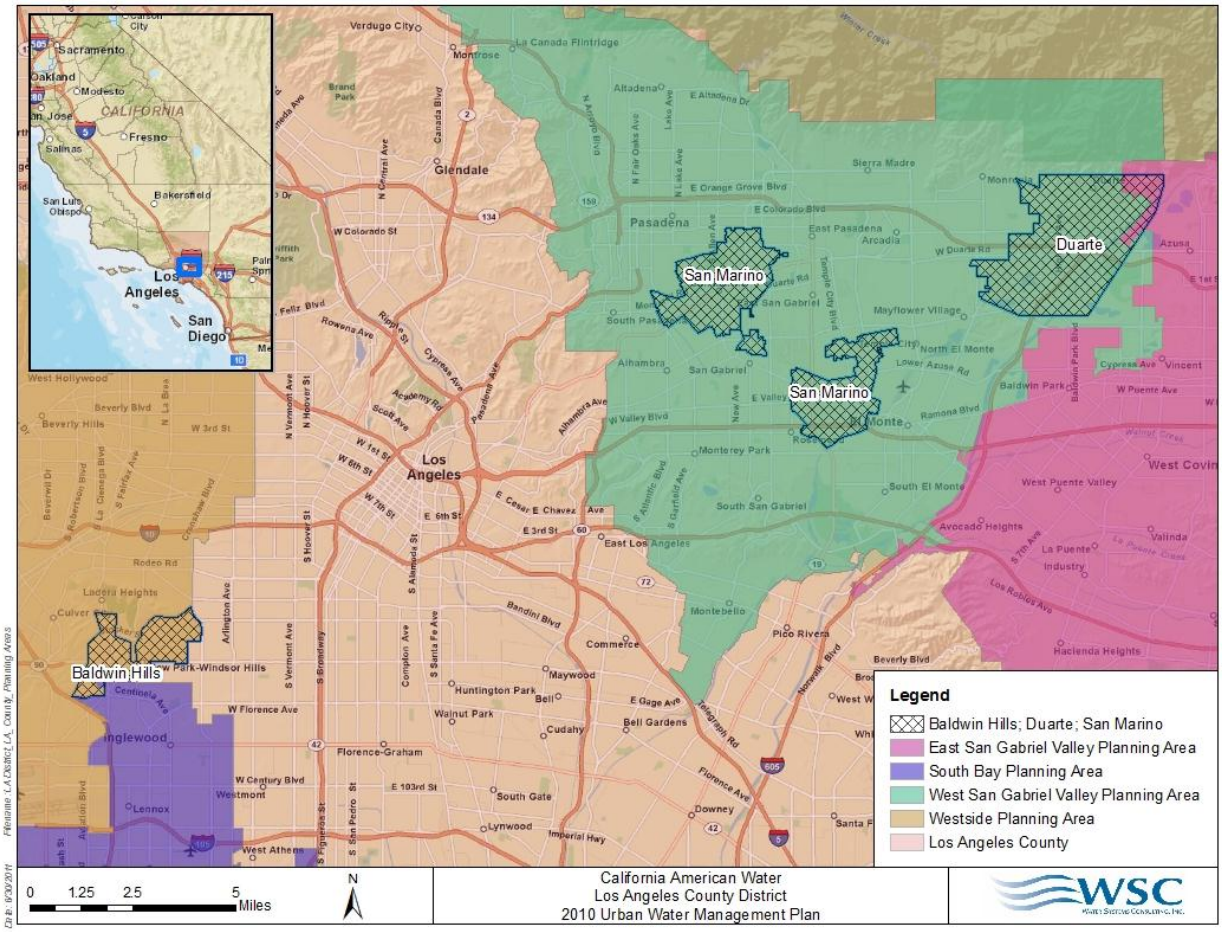

Figure 2-6. Los Angeles County Planning Areas

Most of the communities in the Los Angeles District service areas are approaching buildout and have little or no available vacant land left to develop. Most growth is anticipated to come from redevelopment and higher density development. The L.A. County General Plan Housing Element states:

> *"There will be a continued decrease in land available for new housing throughout the County, coupled with a continued increase in pressure to preserve open space and agricultural land; and higher density housing is needed to balance the shortages of land for development and the increasing needs for housing and commerce"* (10).

The demographic factors affecting each service area vary individually. To make sure the demographic factors in each service area are accurately captured, the growth rates utilized for projections calculated for this UWMP are based on the most current and detailed data available, as explained in Appendix E.

3 SYSTEM DEMANDS

The methodology for developing demand projections is included in Appendix E. Projections incorporate ongoing and future water conservation efforts to reflect a reduced per capita usage as required by SB7.

3.1 BASELINES AND TARGETS

The calculation of SB7 baseline and target per capita water use is discussed in detail in Appendix D. Table 3-1 shows the baseline, compliance, interim target, and target per capita water use for the Los Angeles County District. Figure 3-1 displays the baseline and targets as well as historical and projected per capita water use.

Table 3-1. Baseline, Compliance, Interim Target, and Target Per Capita Water Use

Parameter	Water Use (gpcd)
Baseline Daily Per Capita Water Use	214.7
2010 Daily Per Capita Water Use	176.2
2015 Interim Urban Water Use Target	200.6
2020 Urban Water Use Target	**186.5**

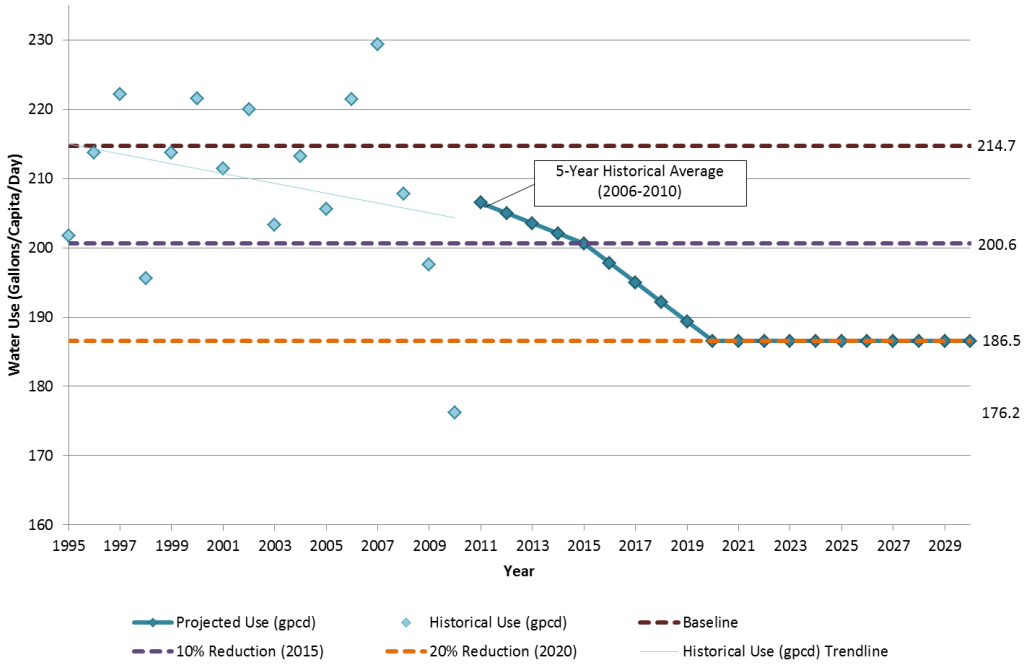

Figure 3-1. Historical, Current, and Projected Per Capita Water Use

3.2 WATER DEMANDS

The following tables and figures show the past, current, and projected demands for the Los Angeles County District. The methodology used to develop demand projection is outlined in Appendix E.

Table 3-2. Past, Current and Projected Deliveries by Service Area, afy

	2005 [1]	2010 [1]	2015	2020	2025	2030
Baldwin Hills	3,610	3,247	3,603	3,432	3,512	3,589
Duarte	6,145	5,450	6,471	6,130	6,294	6,452
San Marino	11,851	10,064	11,939	11,360	11,688	12,005
Total	**21,607**	**18,760**	**22,013**	**20,922**	**21,494**	**22,046**

[1] Past deliveries come from California American Water customer records. Deliveries do not include non-revenue water.

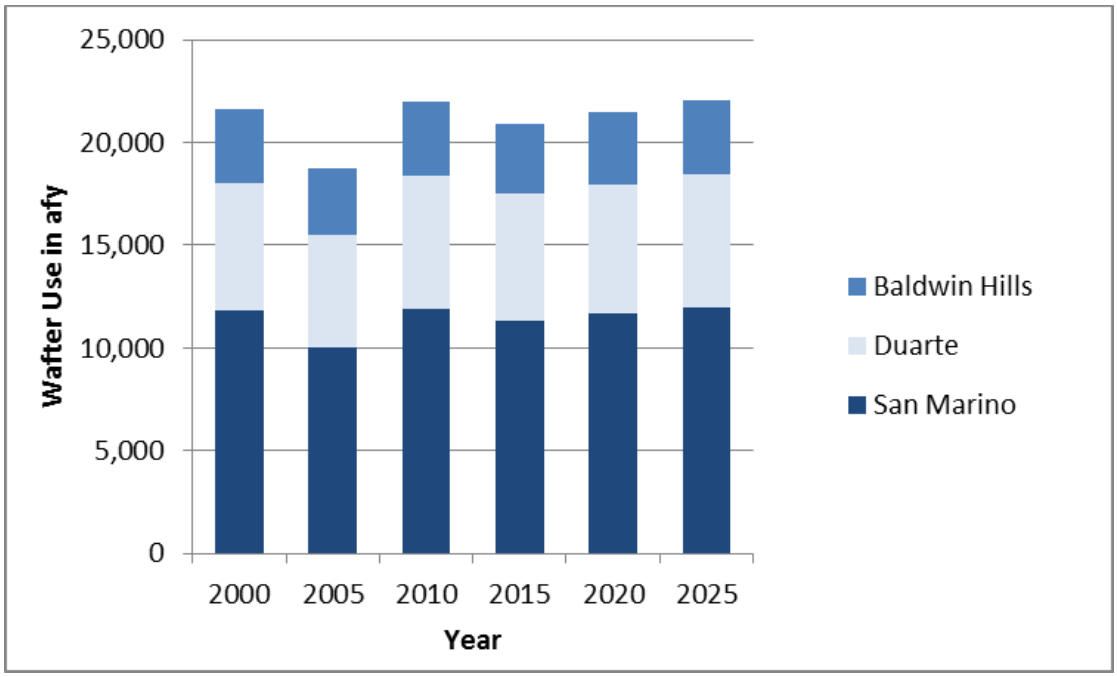

Figure 3-2. Past, Current and Projected Deliveries by Service Area

Table 3-3. Los Angeles County District Deliveries 2005, afy

	2005 [1]				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	24,479	14,685	0	0	14,685
Multi-family	1,002	2,084	0	0	2,084
Commercial	1,888	3,039	0	0	3,039
Industrial	0	0	0	0	0
Institutional/ governmental	136	1,256	0	0	1,256
Landscape	124	541	0	0	541
Agriculture	0	0	0	0	0
Other	7	3	0	0	3
Total	**27,635**	**21,607**	**0**	**0**	**21,607**

[1] Past deliveries come from California American Water customer records. Deliveries do not include non-revenue water.

Table 3-4. Los Angeles County District Deliveries 2010, afy

	2010 [1]				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	24,888	12,862	0	0	12,862
Multi-family	1,027	1,657	0	0	1,657
Commercial	1,916	2,888	0	0	2,888
Industrial	0	0	0	0	0
Institutional/ governmental	144	850	0	0	850
Landscape	134	501	0	0	501
Agriculture	0	0	0	0	0
Other	20	2	0	0	2
Total	**28,128**	**18,760**	**0**	**0**	**18,760**

[1] Past deliveries come from California American Water customer records. Deliveries do not include non-revenue water.

Table 3-5. Los Angeles County District 2015, afy

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	25,583	19,464	0	0	19,464
Multi-family	1,055	761	0	0	761
Commercial	1,971	1,543	0	0	1,543
Industrial	0	0	0	0	0
Institutional/ governmental	148	116	0	0	116
Landscape	138	112	0	0	112
Agriculture	0	0	0	0	0
Other	20	16	0	0	16
Total	**28,914**	**22,013**	**0**	**0**	**22,013**

Table 3-6. Los Angeles County District Deliveries 2020, afy

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	26,255	18,499	0	0	18,499
Multi-family	1,082	724	0	0	724
Commercial	2,024	1,467	0	0	1,467
Industrial	0	0	0	0	0
Institutional/ governmental	152	111	0	0	111
Landscape	141	107	0	0	107
Agriculture	0	0	0	0	0
Other	21	15	0	0	15
Total	**29,675**	**20,922**	**0**	**0**	**20,922**

Table 3-7. Los Angeles County District Deliveries 2025 & 2030, afy

	2025		2030	
	Metered		Metered	
Water use sectors	# of Accounts	Volume	# of Accounts	Volume
Single family	26,913	19,004	27,548	19,492
Multi-family	1,109	743	1,134	762
Commercial	2,076	1,507	2,126	1,547
Industrial	0	0	0	0
Institutional/ governmental	156	114	159	116
Landscape	145	109	148	112
Agriculture	0	0	0	0
Other	21	16	22	16
Total	**30,419**	**21,494**	**31,137**	**22,045**

3.2.1 Low-Income Demands

Changes to the California Water Code section 10631.1 since 2005 require UWMP demand projections to include projected water use for single-family and multi-family residential housing needed for lower income households. Low-income households are defined as households making less than 80% of mean income within a given geographic area of the state adjusted for family size and revised annually. The percentage of low-income households in 2006 was approximately 38.5% of households in Los Angeles County (10). SCAG's Regional Housing Need Allocation Plan provides the projected numbers of units that need to be built for lower income households, allocated by jurisdiction (11). California American Water's service areas overlie various jurisdictions, each with its own number of projected low-income housing units. Estimates of the areas of California American Water's service areas overlying multiple jurisdictions were calculated in GIS. Projections for new low-income units within California American Water's service areas were developed by assuming a portion, based on area, of a uniform distribution of low-income units within each jurisdiction. Once the number of projected lower income units was established, the number of single-family and multi-family units was estimated by applying the percentage of existing single-family and multi-family residential connections. The amount of water used per connection was estimated based on existing connection and delivery data in 2010 for each service area as shown in Table 3-8. Annual demand for new low-income households is included in the total demand projections presented previously. Table 3-8 and Table 3-9 show the water demands per connection and annual portion of the total demand that is projected for new low-income household demand.

Table 3-8. Low-Income Projected Water Demands Per Connection

Service Area	AFY/ Multi-Family Connection	AFY / Single-Family Connection
Baldwin Hills	0.77	0.42
Duarte	2.16	0.47
San Marino	2.10	0.59

Table 3-9. Annual Projected New Low-Income Demand

Service Area	# of Multi-Family Units	Volume (afy)	# of Single-Family Units	Volume (afy)
Baldwin Hills	0	0	3	1
Duarte	3	7	128	60
San Marino	13	28	361	212
Total	**17**	**35**	**493**	**273**

3.2.2 Sales to Other Water Agencies

California American Water does not have contracts to sell water to other agencies as a wholesaler, and does not project water sales to other agencies through the horizon of this plan. However, in 2000 California American Water sold less than 0.5 afy to Adams Ranch Mutual Water Company. Table 3-10 shows the historical, current and projected volumes of water provided to other agencies.

Table 3-10. Los Angeles County District Sales to Other Water Agencies, afy

Agency Name	2005	2010	2015	2020	2025	2030
N/A	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

3.2.3 Additional Water Uses and Losses

Historical non-revenue water was estimated by examining production and delivery records for each system from 1995-2010. The volume of non-revenue water was calculated as the difference between production and customer deliveries for each service area from 1995-2010. AWWA Water Audit software was used to calculate non-revenue water from March 2009 through February 2010 for each service area. This calculated value was used to establish projected non-revenue water volumes for years 2011-2030. Table 3-11 shows the past, current and projected volume of non-revenue water for the Los Angeles County District.

Table 3-11. Los Angeles County District Additional Water Uses and Losses, afy

Water use	2005[1]	2010[2]	2015[3]	2020[3]	2025[3]	2030[3]
Non-Revenue	1,843	1,552	1,763	1,763	1,763	1,763
Total	**1,843**	**1,552**	**1,763**	**1,763**	**1,763**	**1,763**

[1] Non-revenue volume based on comparisons of 2005 production and delivery data.

[2] Non-revenue volume based on comparisons of 2010 production and delivery data.

[3] Non-revenue volumes based on the AWWA Water Balance for March 2009 through February 2010.

3.2.4 Total Water Use

Total water use includes water delivered to meet the demands of customers, water sold to other agencies and non-revenue water. The past, current and projected volumes of total water use for the Los Angeles County District are shown in Table 3-12.

Table 3-12. Los Angeles County District Total Water Use, afy

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries	21,607	18,760	22,013	20,922	21,494	22,045
Sales to other water agencies	0	0	0	0	0	0
Non-Revenue	1,843	1,552	1,763	1,763	1,763	1,763
Total	**23,450**	**20,312**	**23,776**	**22,685**	**23,257**	**23,808**

3.3 WHOLESALE WATER DEMAND

California American Water purchases water from the Metropolitan Water District of Southern California (MWD) via the City of San Marino; Upper San Gabriel Valley Municipal Water District (USGVMWD) via the MSGB Watermaster; and West Basin Municipal Water District (WBMWD). Table 3-13 shows the amount of water projected to be purchased from wholesalers.

Table 3-13. Demand Projections Provided to Wholesale Suppliers[1], afy

Wholesaler	2010	2015	2020	2025	2030
MWD	628	2,296	1,717	2,045	2,362
USGVMWD	309	1,648	1,307	1,471	1,628
WBMWD	972	1,663	1,492	1,572	1,649
Total	**1,909**	**5,607**	**4,515**	**5,088**	**5,639**

[1] For more information on how these numbers are calculated see Section 4.

3.4 WATER USE REDUCTION PLAN

In response to multiple group affiliations, MOUs, statutory requirements, and concern for the region's water supply sustainability, California American Water employs multiple tactics to conserve water. The major tactics currently being implemented by California American Water include conservation measures, CUWCC Best Management Practices (BMPs) implementation, and conservation rate structures. All of these tactics are currently being implemented or are in the process of being implemented in the near future. The projected demand incorporates all of these conservation influences.

The District expects to achieve the per capita water use targets through continued implementation of CUWCC Best Management Practices (BMPs). When in full compliance, the District is expected to meet its 2020 per capita water use target. Refer to Section 6 for a detailed discussion of the District's BMPs. A copy of the 2009 BMP Annual Report is included in Appendix K.

4 SYSTEM SUPPLIES

4.1 WATER SOURCES

The current and future water supplies for the Los Angeles County District consist of groundwater, surface water and wholesale purchases. The amount of demand that is not met by groundwater allocations is met by purchasing supplemental water from a wholesaler for potable direct use or untreated replacement water for groundwater pumping. Surface water is untreated water used to meet irrigation demands or to replenish the groundwater basin. Wholesale purchases are used for direct use or as replenishment water for exceeding allocations of groundwater production. Table 4-1 shows the current and projected supplies by source for each service area.

Table 4-1. Water Supplies- Current and Projected, afy

Water Supply Sources	2010 [1]	2015	2020	2025	2030
Baldwin Hills					
Central Basin[2]	2,517	2,067	2,067	2,067	2,067
WBMWD[3]	972	1,663	1,492	1,572	1,649
Subtotal	**3,489**	**3,730**	**3,559**	**3,639**	**3,716**
Duarte					
MSGB[4]	4,158	4,062	4,062	4,062	4,062
MSGB Surface Water[5]	1,672	1,672	1,672	1,672	1,672
USGVMWD[6]	309	1,648	1,307	1,471	1,628
Subtotal	**6,139**	**7,382**	**7,041**	**7,205**	**7,362**
San Marino					
MSGB[7]	8,436	8,759	8,759	8,759	8,759
Raymond[8]	1,620	1,609	1,609	1,609	1,609
MWD[9]	628	2,296	1,717	2,045	2,362
Subtotal	**10,684**	**12,664**	**12,085**	**12,413**	**12,730**
Total	**20,312**	**23,776**	**22,685**	**23,257**	**23,808**

[1] The allocations for 2010 are based on actual production and purchases. In 2010, California American purchased 3 acre feet from City of Pasadena and 36 acre feet from the City of South Pasadena.

[2] For more information on the Central Basin allocation see Section 4.2.1.1.

[3] Assumes all demand not met by the Central Basin annual allocation will be met by pumping and purchasing replacement water from WBMWD. For more information see Section 4.4.

[4] For more information on the MSGB allocation see Section 4.2.1.2.

[5] For more information on MSGB Surface Water see Section 4.3.

[6] The amount of demand in each year not met by the allocations in the MSGB is assumed to be pumped from the MSGB and untreated replacement water will be purchased from MWD through USGVMWD. For more information see Section 4.4.

[7] For more information on the MSGB allocation see Section 4.2.1.2.

[8] For more information on the Raymond Basin allocation see Section 4.2.1.3.

[9] Replacement water is purchased from MWD for the amount of water pumped from the MSGB exceeding the MSGB groundwater allocation. For more information see Section 4.4.

4.2 GROUNDWATER

Groundwater is the primary source of supply for the Los Angeles County District. Projected groundwater supplies are determined by California American Water's stipulated allocation as defined in the Judgment of each basin. The amount of demand that is not met by groundwater allocations is assumed to be met by purchasing supplemental water from a wholesaler for potable direct use or as untreated replacement water for groundwater pumping. However, the availability of replacement water may vary from year to year depending on regional drought conditions and other factors as described in Section 5. Table 4-2 shows how much groundwater has been pumped since 2005 and Table 4-3 shows how much groundwater is projected to be pumped.

Table 4-2. Los Angeles County District Groundwater- Volume Pumped, afy

Basin Name(s)	2006	2007	2008	2009	2010
Baldwin Hills					
Central Basin	2,708	1,944	1,651	3,526	2,517
Duarte					
MSGB	7,896	8,424	7,329	6,897	5,830
San Marino					
MSGB	8,512	10,051	8,810	8,948	8,436
Raymond Basin	1,839	1,844	1,870	1,905	1,620
Total groundwater pumped	**20,955**	**22,263**	**19,660**	**21,276**	**18,403**
Percent of total water supply	83%	85%	82%	94%	91%

[1] For more information on how these values were calculated see Table 4-1.

Table 4-3. Los Angeles County District Groundwater-Projected to be Pumped, afy

Basin Name(s)	2015	2020	2025	2030
Baldwin Hills				
Central Basin[1]	2,067	2,067	2,067	2,067
Duarte				
MSGB[1]	4,062	4,062	4,062	4,062
MSGB Surface Water[1]	1,672	1,672	1,672	1,672
San Marino				
MSGB[1]	8,759	8,759	8,759	8,759
Raymond[1]	1,609	1,609	1,609	1,609
Total groundwater pumped	**18,169**	**18,169**	**18,169**	**18,169**
Percent of total water supply	76%	80%	78%	76%

[1] For more information on how these values were calculated, see Table 4-1.

4.2.1 Groundwater Basins

The Los Angeles County District produces its groundwater from the Central Basin, the Main San Gabriel Basin (MSGB), the Canyon Basin, which is a subbasin of the MSGB, and the Raymond Basin. Each of the groundwater basins is adjudicated, and is described in more detail below.

4.2.1.1 Central Basin

The Baldwin Hills service area obtains its groundwater from the Central Basin. The Central Basin lies east of the West Coast Basin and is bounded on the north by the La Brea high surface divide and by less permeable tertiary rocks of the Elysian, Repetto, Merced and Puente Hills to the northeast and east. The total surface area is 277 square miles with a total storage capacity of 4.5 trillion gallons of groundwater (12). California American Water's Baldwin Hills service area has a fixed annual allocation of 2,067 acre-feet for the Central Basin. Withdrawals may exceed the fixed allocation by up to 20% without violating the terms of the adjudication; however the difference must be compensated for in the following year. Conversely, up to 20% of unused allocation may be carried over to the following year, but must be utilized the following year. In the past, California American Water has been able to lease unused portions of other purveyors' allocations in the Central Basin. Typically, these opportunities are available when other purveyors experience well contamination or other production interruptions. While this supply is available sometimes, it is not considered a reliable source and is not quantifiable as a projected future supply source. The basin is monitored by the Central Basin Watermaster. The groundwater management plan for the Central Basin is the 2009-2010 groundwater monitoring plan (13). The 2009-2010 groundwater monitoring plan for the Central Basin can be found in Appendix G. Figure 4-1 shows the Central Basin boundary.

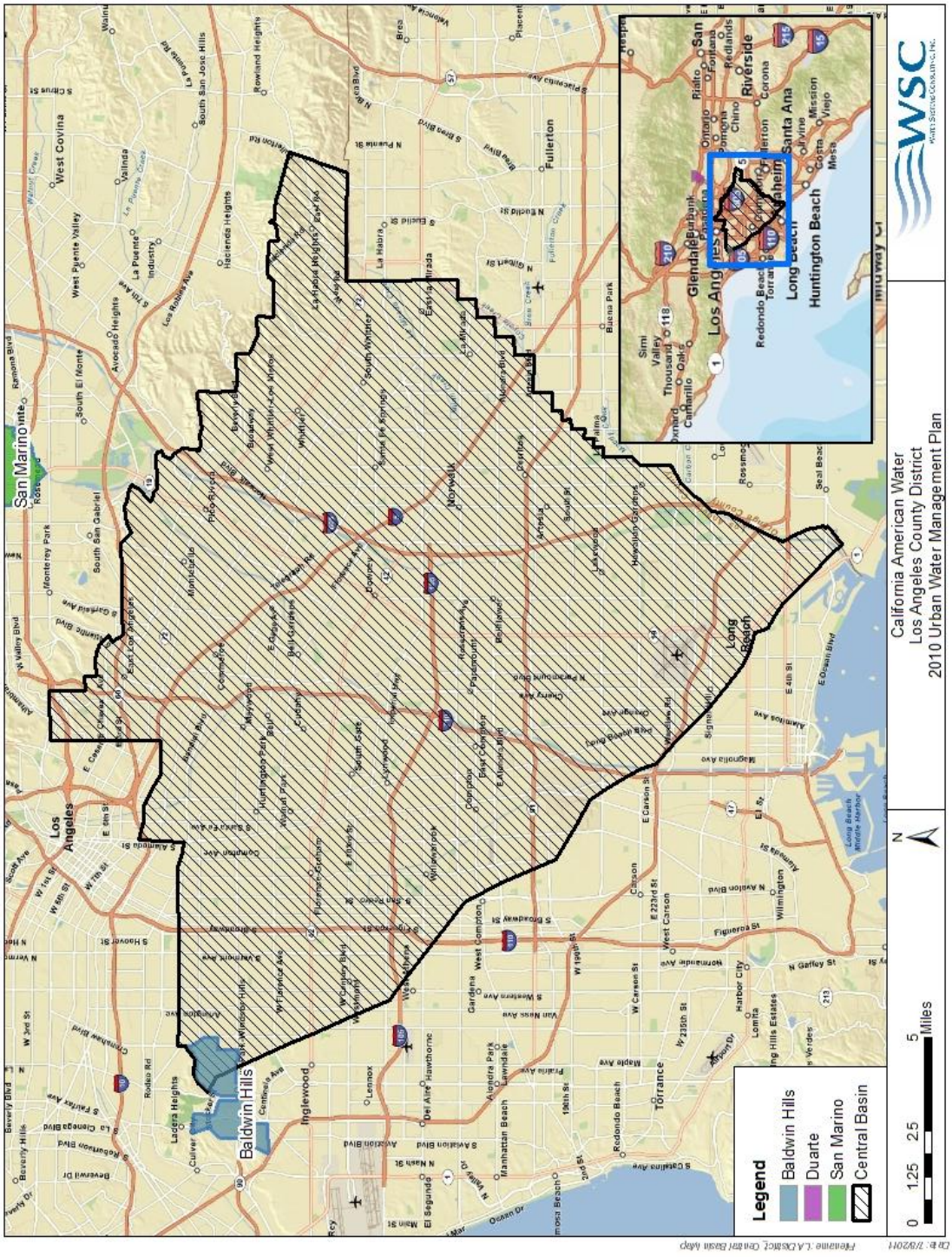

Figure 4-1. Central Basin Boundary

4.2.1.2 Main San Gabriel Basin and the Canyon Basin

The Duarte and San Marino service areas overlie the MSGB. The MSGB is an unconfined aquifer which provides up to 90 billion gallons of groundwater annually to San Gabriel Valley's 1.4 million residents. The total surface area of the MSGB is 167 square miles and contains about 2.8 trillion gallons of groundwater (14). The San Gabriel Mountains border the north with smaller hills including San Jose, Puente, Merced, and Repetto forming the east, south, and southwest borders.

California American Water's Duarte service area is classified as an "Integrated Producer", which provides for two types of water allocation rights. Duarte has an adjudicated right to 1.84634% of the annual safe yield of the MSGB, regulated by the MSGB Watermaster as well as a fixed surface water allocation of 1,672 acre feet per year. For the purposes of demand projection, it is assumed the 1.8634% safe yield allocation from 2000 (normal year[1]), determined by the MSGB Watermaster, is available for all years from 2010 through 2030. When California American Water exceeds its groundwater production allocation in Duarte, replacement water is purchased from USGVMWD through the MSGB Watermaster. The replacement water is delivered to spreading grounds where it percolates back into the MSGB.

A portion of the Duarte service also area overlies the Canyon Basin. The Canyon Basin is a subbasin of the MSGB and is thus governed by the MSGB Watermaster. The Canyon Basin is an unconfined aquifer bounded by the San Gabriel Mountains to the north, west and east. The total water storage capacity of the Canyon Basin is limited to approximately 4.89 billion gallons of groundwater. The basins are monitored by the MSGB Watermaster. The groundwater management plan for the MSGB is the 2009 groundwater monitoring plan (14). The 2009 groundwater monitoring plan for the MSGB can be found in Appendix F.

California American Water's San Marino service area has an adjudicated right to 3.98144% of the annually determined safe yield for the MSGB. For the purposes of demand projection, it is assumed the 3.98144% allocation in a historical normal year (2000), determined by the MSGB Watermaster, is available for all years from 2015-2030. San Marino can exceed its allocation if replacement water is purchased from the Upper San Gabriel Valley Municipal Water District (USGVMWD) through the MSGB Watermaster. Figure 4-2 shows the MSGB boundary.

[1] The normal year is based on historic hydrologic data from Western Regional Climate Center, Station:(047785) San Gabriel Fire Department, California, (1939-March 24, 2011) (5) . The normal year represents the year closest to the historical average rainfall. 2000 was the year closest to the historical average rainfall.

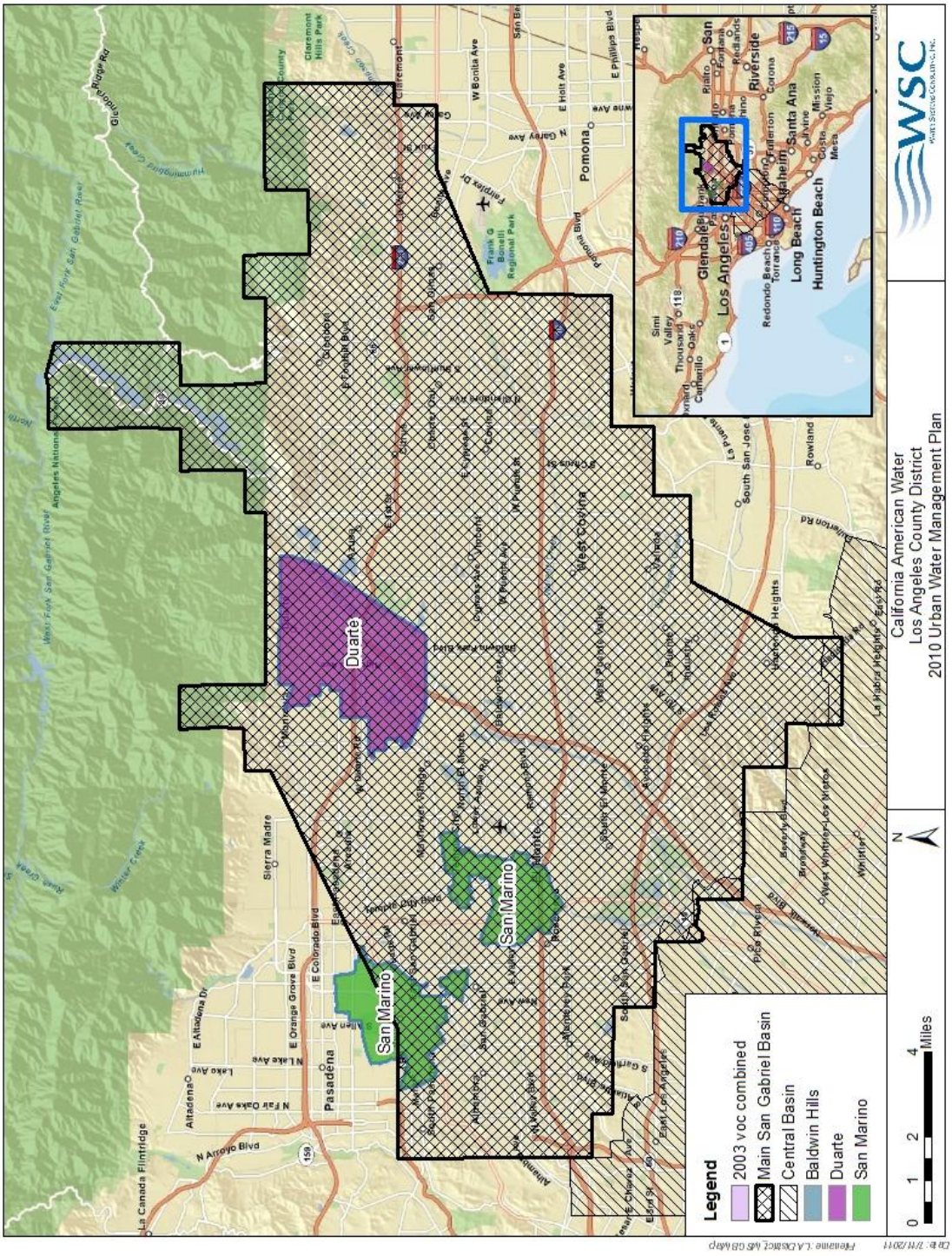

Figure 4-2. Main San Gabriel Basin Boundary

4.2.1.3 Raymond Basin

The San Marino service area is also located within the Raymond Basin. The Raymond Basin is separated from the MSGB by the Raymond fault which lies to the north of the MSGB. The Raymond Basin covers about 40.9 square miles and is estimated to store a maximum of approximately 472 billion gallons of groundwater (15). California American Water has a fixed allocation of 2,299 afy. Historically, California American Water could have withdrawals exceeding the fixed allocation by up to 10% without violating the basin's adjudication. However, in January 2009, the Raymond Basin Management Board adopted a resolution that imposed a 30 percent reduction in water rights over a five-year period. The purpose of this resolution was to address declining water levels in the basin. For California American Water this means that its annual decreed rights of 2,299 afy will ultimately be reduced to 1,609 afy by July 2014. The Raymond Basin is monitored by the Raymond Basin Watermaster. The groundwater management plan for the Raymond Basin is the 2008-2009 annual report (16). The 2009 groundwater monitoring plan for Raymond Basin can be found in Appendix H. Figure 4-3 shows the Raymond Basin boundary.

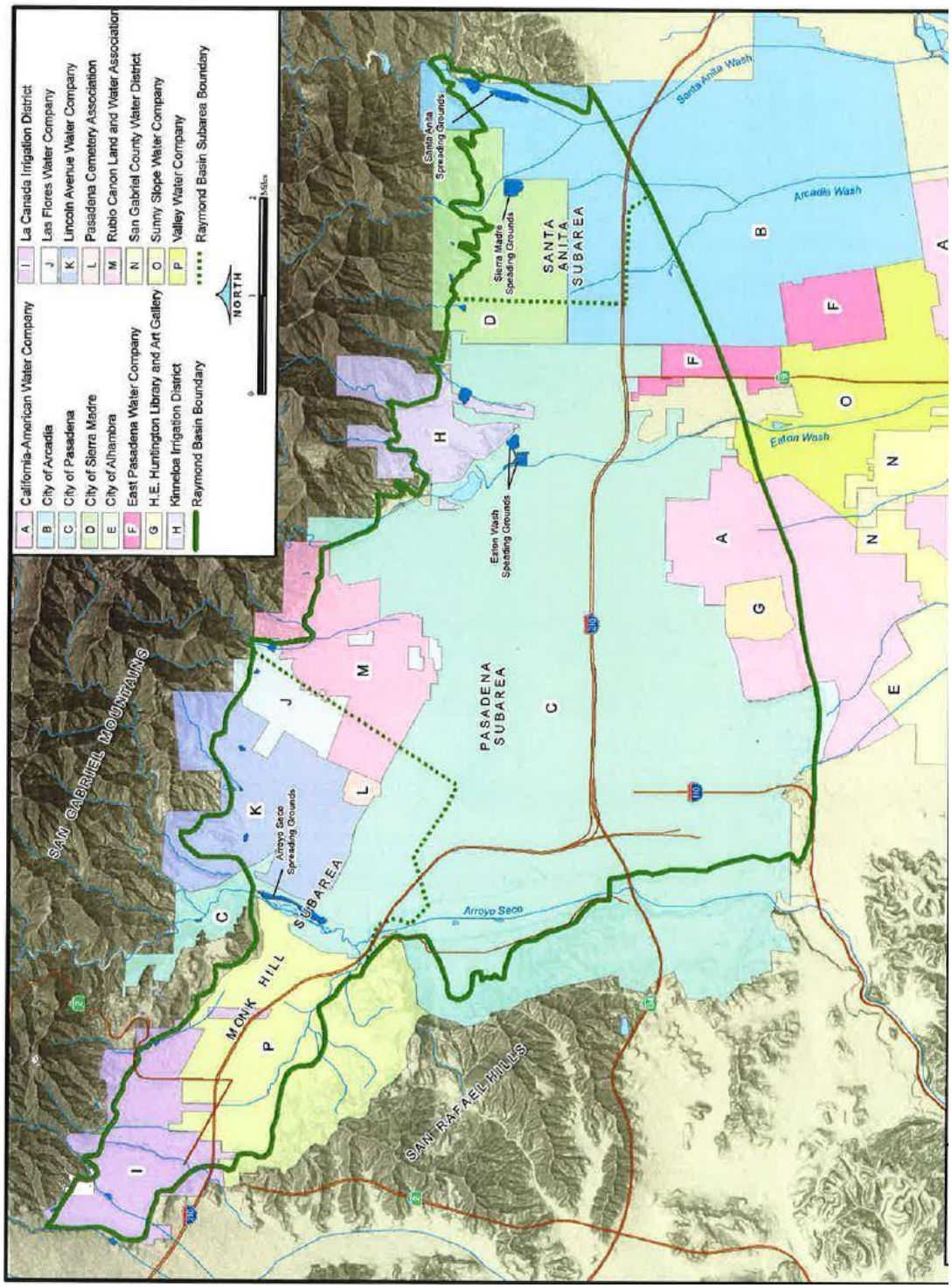

Figure 4-3. Raymond Basin Boundary (16)

4.3 SURFACE WATER

In the Duarte service area, California American Water is classified as an "Integrated Producer" that provides for two types of water allocation rights including a diversion component and a pumping component. California American Water has surface water diversion rights from the San Gabriel River. The surface water diversion right is fixed at an annual allocation of 1,672 afy and does not change from year to year. Historically the surface water has been diverted from the San Gabriel River located in the San Gabriel watershed. Surface water that is released from the San Gabriel Reservoir is delivered through a weir located adjacent to the City of Pasadena power plant. Morris Reservoir water is diverted directly from the San Gabriel River. Water from both sources is intercepted by California American Water's infrastructure and flows by gravity to the Woodlyn Lane and Lemon Irrigation reservoirs to supply Duarte's irrigation system. The remainder is either applied to the Fish Canyon spreading grounds or returned to the San Gabriel River and spread further downstream. The spreading functions recharge the aquifers which supply Duarte's wells. The reservoir and spreading activity is managed by the Los Angeles County Department of Public Works in conjunction with water purveyors with surface water diversion rights.

The Duarte Irrigation system currently is in use by 52 customers and is under a plan for retirement during the 2015-2017 General Rate Case. A portion of the San Gabriel River surface water diversion right is projected to supply the 52 irrigation customers through 2014. Once system upgrades are made to absorb the additional demand of the irrigation customers, existing irrigation lines will be retired and abandoned in place. The irrigation system demand will be supplied entirely with water from the existing potable system after upgrades are completed to ensure an adequate and reliable supply for the additional demand. California American Water currently transfers a portion the surface water diversion rights from the irrigation system to the Los Angeles County spreading basins for groundwater recharge and will transfer the entire diversion right once the irrigation system is abandoned. The surface water rights are recovered through additional pumping rights within the MSGB.

4.4 WHOLESALE WATER

California American Water obtains wholesale water from three wholesale water agencies: MWD via the City of San Marino; USGVMWD via the MSGB Watermaster; and WBMWD. Treated water from MWD and WBMWD is use directly for potable use, whereas untreated water from USGVMWD is used for groundwater replenishment. The City of San Marino, USGVMWD, and WBMWD are Member Agencies of MWD. The current and projected supplies from all wholesale agencies are shown in Table 4-4.

Table 4-4. Current & Projected Wholesale Supplies, afy

Wholesaler	2010	2015	2020	2025	2030
MWD	628	2,296	1,717	2,045	2,362
USGVMWD	309	1,648	1,307	1,471	1,628
WBMWD	972	1,663	1,492	1,572	1,649
Total	**1,909**	**5,607**	**4,516**	**5,088**	**5,639**

Groundwater purveyors of the Central Basin may exceed their fixed groundwater production allocation by up to 20% without violating the basin's adjudication. The difference however must be compensated for in the following year. To make up for exceeding their allocation, California American Water purchases water from the West Basin Municipal Water District (WBMWD). Table 4-5 shows WBMWD's average year supplies.

Table 4-5. WBMWD Average Year Supplies, afy

West Basin Municipal Water District Sources	2010	2015	2020	2025	2030	2035
Groundwater[1]	36,360	45,000	45,000	45,000	45,000	45,000
Imported Water[2]	104,985	114,647	76,797	75,386	70,598	69,761
Recycled Water[3]	14,182	16,368	33,882	33,882	37,382	37,382
Desalination[4]	500	1,000	21,500	21,500	21,500	21,500
Total	**156,027**	**177,015**	**177,179**	**175,768**	**174,480**	**173,643**
Conservation[5]	14,000	15,119	21,039	21,640	22,971	23,632
Total	**170,027**	**192,134**	**198,218**	**197,408**	**197,451**	**197,275**

Source: Table Adapted from WBMWD Draft 2010 UWMP, Table 4-2 (17)

[1] Groundwater production within West Basin service area only.

[2] Imported retail use only; Does not include replenishment deliveries (i.e. Barrier).

[3] Recycled water does not include replenishment deliveries (i.e. Barrier).and deliveries outside the service area.

[4] Desalination includes both brackish and ocean-water.

[5] Conservation consists of Active and Passive savings according to West Basin's projected estimates.

Groundwater producers in the MSGB are allowed to exceed their safe yield allocation provided they pay an assessed replenishment fee to the MSGB Watermaster. Most years the MSGB is over pumped because total demand from the various producers, including California American Water, exceeds the available safe yield established by the Watermaster. The Watermaster uses the funds generated from the replenishment fees to purchase replacement water from wholesale agencies that have access to imported water. The authorized wholesaler for California American Water is the USGVMWD. This replacement water is then delivered to spreading grounds to replenish the aquifer. Imported water has historically been available for this purpose. However, in recent years drought mandated cutbacks from the California State Water Project and the Colorado River Aqueduct have severely limited the availability of imported water. It is possible that in the future Watermaster may have to institute mandatory water conservation measures in order to manage the aquifer. The projected supply for USGVMWD is shown in Table 4-4.

UPPER DISTRICT
PROJECTED WATER SUPPLY AND DEMAND
DURING A NORMAL YEAR
(ACRE-FEET)

Year	2010	2015	2020	2025	2030
Imported Water from Metropolitan					
Demand 1/					
Treated Imported Water for Direct Use	5,700	3,000	3,000	3,000	3,000
Untreated Imported Water for Replacement /Replenishment	21,000	25,000	16,000	19,000	23,000
Total Demand	**26,700**	**28,000**	**19,000**	**22,000**	**26,000**
Supply 2/					
Total Supply	**26,700**	**28,000**	**19,000**	**22,000**	**26,000**
Surplus	**0**	**0**	**0**	**0**	**0**

1/ Includes information from Table 6
2/ Assumed no WSAP allocation and Upper District will meet its demands

Figure 4-4. USGVMWD Average Year Supply (18)

For its San Marino service area, California American Water also has access to treated water from MWD via the City of San Marino, which is a Member Agency of MWD. The projected water supply for MWD is shown in Table 4-5.

AverageYear
Supply Capability[1] and Projected Demands
Average of 1922-2004 Hydrologies
(acre-feet per year)

Forecast Year	2015	2020	2025	2030	2035
Current Programs					
In-Region Storage and Programs	685,000	931,000	1,076,000	964,000	830,000
California Aqueduct[2]	1,550,000	1,629,000	1,763,000	1,733,000	1,734,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	1,507,000	1,529,000	1,472,000	1,432,000	1,429,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**3,485,000**	**3,810,000**	**4,089,000**	**3,947,000**	**3,814,000**
Demands					
Firm Demands of Metropolitan	1,826,000	1,660,000	1,705,000	1,769,000	1,826,000
IID-SDCWA Transfers and Canal Linings	180,000	273,000	280,000	280,000	280,000
Total Demands on Metropolitan[5]	**2,006,000**	**1,933,000**	**1,985,000**	**2,049,000**	**2,106,000**
Surplus	**1,479,000**	**1,877,000**	**2,104,000**	**1,898,000**	**1,708,000**
Programs Under Development					
In-Region Storage and Programs	206,000	306,000	336,000	336,000	336,000
California Aqueduct	382,000	383,000	715,000	715,000	715,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	187,000	187,000	187,000	182,000	182,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**588,000**	**689,000**	**1,051,000**	**1,051,000**	**1,051,000**
Potential Surplus	**2,067,000**	**2,566,000**	**3,155,000**	**2,949,000**	**2,759,000**

[1] Represents Supply Capability for resource programs under listed year type.
[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.
[3] Colorado River Aqueduct includes water management programs, IID-SDCWA transfers and canal linings conveyed by the aqueduct.
[4] Maximum CRA deliveries limited to 1.25 MAF including IID-SDCWA transfers and canal linings.
[5] Firm demands are adjusted to include IID-SDCWA transfers and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Figure 4-5. MWD Average Year Supply (19)

California American Water also purchases a small amount of water from the City of South Pasadena. However, this water is used for peaking purposes to meet hourly changes in demand in a single pressure zone of its San Marino service area and is not projected as a reliable source of supply.

4.5 TRANSFER OPPORTUNITIES

California American Water leases unused portions of other purveyors' allocations in the Central Basin when available. Typically, these opportunities are available when other purveyors experience well contamination or other production interruptions. While this supply is available sometimes, it is not considered a reliable source and is not quantifiable as a projected future supply source.

4.6 FUTURE WATER PROJECTS

Other than the redevelopment of existing infrastructure, there are no future supply projects to bring in new sources of water planned. California American Water currently plans on the retirement of its irrigation system in Duarte as discussed in Section 4.3.

4.7 DESALINATED WATER OPPORTUNITIES

California American Water is currently participating in a regional dialogue regarding a desalination study being conducted by WBMWD. WBMWD is exploring the possibility of seawater desalination with a pilot program. A portion of the Los Angeles County District's wholesale supply could eventually come from desalinated seawater.

WBMWD has been actively researching the feasibility of an ocean water desalination program as part of their drinking water supply. From 2002 to 2009, WBMWD operated the Desalination Pilot Project, which marked the first use of microfiltration as a pretreatment to reverse osmosis for ocean-water desalination.

In early 2011, WBMWD dedicated its Ocean-Water Desalination Demonstration Facility and Water Education Center. WBMWD used the data acquired from the pilot project in the planning and development of the demonstration facility that produces 50,000 gallons per day of drinking water. This Ocean-Water Desalination Demonstration Facility will test the viability of a future, full-scale Ocean-Water Desalination Facility capable of providing up to 20,000 AFY, or enough to supply 40,000 families for a year, in the initial phase (20).

WBMWD will perform a Desalination Program Master Plan in 2011 that will evaluate potential siting opportunities within WBMWD's service area that could accommodate a full-scale facility. Pending the findings from the demonstration facility, the Master Plan, and subsequent environmental review process, WBMWD anticipates permitting, financing, and constructing a full-scale facility by 2017.

4.8 RECYCLED WATER OPPORTUNITIES

4.8.1 Wastewater System Description

California American Water does not collect or treat any of the wastewater generated within its Los Angeles County District boundaries. Los Angeles County Sanitation District (LACSD) collects and treats the wastewater within California American Water's Los Angeles County District service area boundaries. Based on a wastewater generation factor of 83 gallons per capita per day (gpcd), provided by LACSD staff, an estimate of gross wastewater production was calculated. LACSD recycled about 36% of its wastewater from 2007-2008 and that amount of gross recycled water was applied to the estimate of wastewater produced by California American Water customers to come up with an estimate of how much of California American Water's wastewater is treated to recycled water standards. There are four treatment facilities that service California American Water's service areas: Los Coyotes Water Reclamation Plant (LCWRP), San Jose Water Reclamation Plant (SJCWRP), Whittier Narrows Water Reclamation Plant (WNWRP), and the Joint Water Pollution Control Pant (JWPCP). The wastewater influent from the California American Water service areas is treated by different facilities at different times by LACSD. Figure 4-6 shows LACSD's tributary areas to its various treatment facilities. Table 4-6 shows historic, current and projected wastewater collected and treated by LACSD from California American Water's service areas.

Table 4-6. Wastewater Collection and Treatment, afy

Type of Wastewater	2005	2010	2015	2020	2025	2030
Los Angeles County Sanitation District						
Wastewater collected in service area[1]	9,467	9,566	9,836	10,096	10,351	10,597
Treated volume that meets recycled water standard[2]	3,408	3,444	3,541	3,635	3,727	3,815
Amount of Recycled Water Actually Reused[3]	1,500	1,515	1,558	1,599	1,640	1,679

[1] Wastewater calculations are based on the population for each service area multiplied by a wastewater flow generation factor of 83 gallons per capita per day provided by Los Angeles County Sanitation District Staff.

[2] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards. Source: LACSD 2008-2009 Water Reuse Summary (21)

[3] Assumes 44% of the recycled water is actually reused. The remaining recycled water is discharged to the ocean. Source: LACSD 2007-2008 Water Reuse Summary (21)

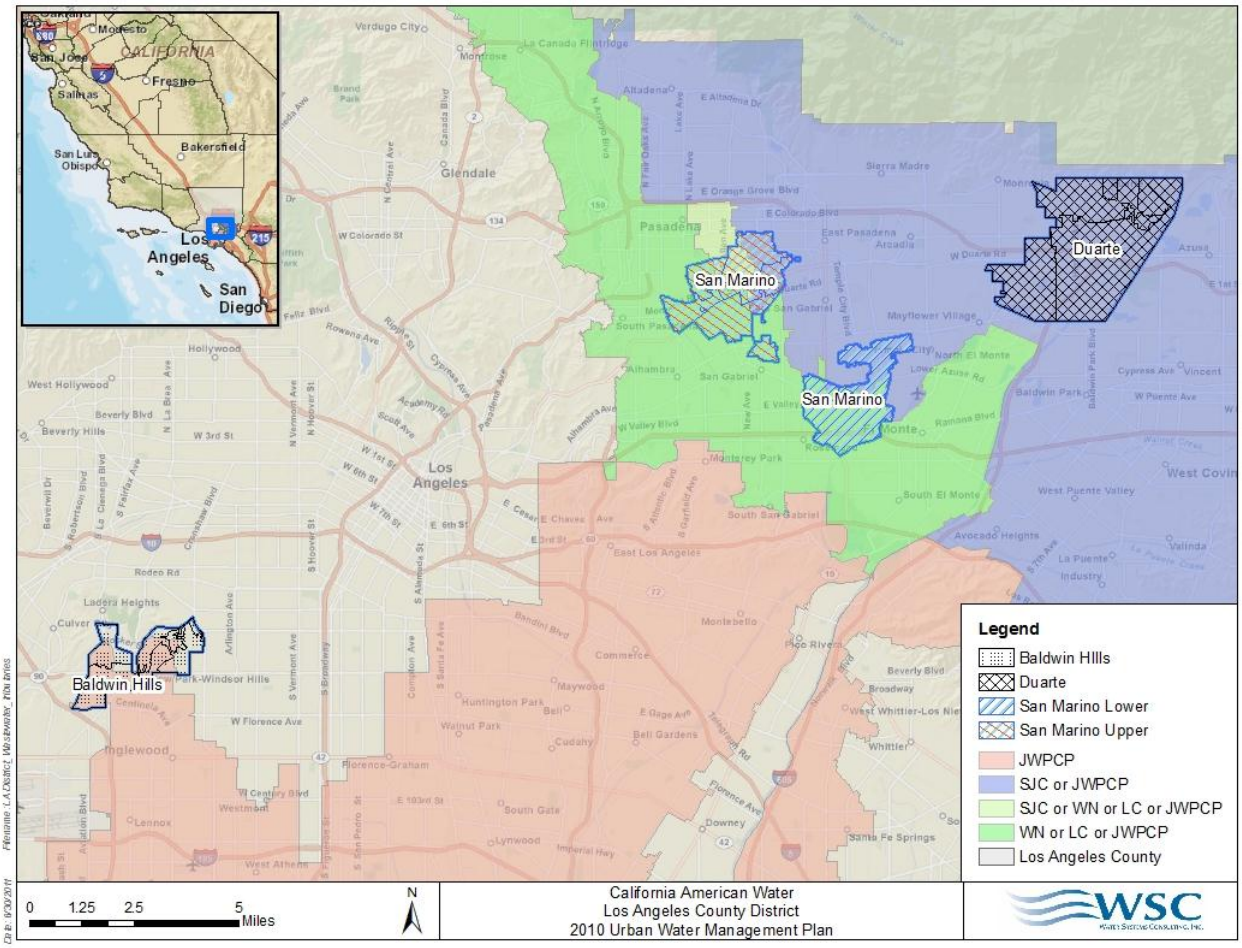

Figure 4-6. LACSD Treatment Facility Tributary Areas[1]

4.8.2 Wastewater Disposal and Recycled Water Uses

LACSD's treatment facilities carry out primary, secondary and tertiary treatment, except for JWPCP, which only carries out primary and secondary treatment. It is not possible to know to what extent California American Water's wastewater is treated as it is mixed in with an immense amount of other wastewater. Therefore, it is estimated that 36% of the wastewater is treated to recycled water standards but only 44% of that amount is actually reused (21). Table 4-7 shows the amount of wastewater estimated to be disposed and not recycled.

[1] LACSD treatment facility tributary geographical data provided by LACSD staff on 7/29/2010.

Table 4-7. Disposal of Wastewater, afy

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
Ocean Discharge[1]	Primary, Secondary or Tertiary	8,051	8,278	8,497	8,712	8,919

[1] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards and 44% of that water is actually recycled. The remaining recycled water is discharged to the ocean. Source: LACSD 2007-2008 Water Reuse Summary (21)

California American Water does not use any recycled water in its Los Angeles County District service areas currently. Table 4-8 shows the estimated potential recycled water use projected for 2010 in the 2005 Los Angeles County District UWMP. California American Water is interested in developing recycled water projects within its Los Angeles County District; however, no cost-effective projects have been identified to-date. Table 4-9 shows potential recycled water use within the Los Angeles County District based on projected irrigation demands that could be supplied by recycled water. Table 4-10 shows the projected recycled water use within the District through 2030, based on the fact that no cost-effective projects have been identified to-date to deliver recycled water to meet the potential demands.

Table 4-8. 2005 UWMP Recycled Water Use Projected for 2010 and Actual 2010 Recycled Water Use, afy

Use Type	2010 Actual Use	2005 Projection for 2010[1]
Agricultural irrigation	0	0
Landscape irrigation	0	0
Commercial irrigation	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/Energy	0	0
Indirect potable reuse	0	0
Total	**0**	**0**

[1] As described in the 2005 Los Angeles District UWMP, California American Water had no plans to implement a recycled water program by 2010.

Table 4-9. Potential Future Recycled Water Use in Service Area, afy

User type	Description	2015	2020	2025	2030
Agricultural irrigation	Potential				
Landscape irrigation	Potential	107	102	105	107
Commercial irrigation	Potential				
Golf course irrigation	Potential				
Wildlife habitat	Potential				
Wetlands	Potential				
Industrial reuse	Potential				
Groundwater recharge	Potential				
Seawater barrier	Potential				
Geothermal/Energy	Potential				
Indirect potable reuse	Potential				
	Total	**107**	**102**	**105**	**107**

[1] This estimate assumes all landscape demands could potentially be met through recycled water use. Currently California American Water does not plan to implement a recycled water program within the timeline of this plan.

Table 4-10. Projected Future Recycled Water Use

	2015	2020	2025	2030
Recycled Water Use	0	0	0	0

4.8.3 Central Basin Recycled Water Injection

The Water Replenishment District of California (WRD) injects recycled water for groundwater replenishment into the Central Basin from which California American Water extracts water. The WRD injects recycled water from the Leo J. Vander Lans Facility as a part of the Alamitos Barrier Project. In 2009, recycled water injection accounted for approximately 6.25% (22) of the total volume of production in the Central Basin. Thus, approximately 6.25% of California American Water's production from the Central Basin, or 220 acre feet, was from recycled water injection replenishment water in 2009.

5 WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

5.1 WATER SUPPLY RELIABILITY

Historically, California American Water has been able to supply 100% of its demand through groundwater production, surface water diversion, and wholesale purchases. It is assumed that projected availability of groundwater and surface water allocations will be equal to 100% of average year (2000) allocations. Wholesale purchases are assumed to equal 100% of the amount required to replace water pumped in excess of each of California American Water's groundwater basin allocations.

Table 5-1 summarizes the primary factors affecting the supply reliability of the Los Angeles County District. The legal factors affecting supply include groundwater adjudications, discussed in Appendix L, Appendix M and Appendix N and replacement water purchases for excess pumping. Environmental factors related to wholesale supply reliability are reduced deliveries of State Water Project (SWP) due to reduced pumping in the Sacramento Delta. The MWD UWMP states that the "listing of several fish species as threatened or endangered under the federal or California Endangered Species Acts (ESAs) have adversely impacted operations and limited the flexibility of the SWP" (19). Water quality factors influence groundwater production capacity and efficiency in the MSGB and Raymond Basin. All of the supplies are subject to reduction as a result of climatic factors.

Table 5-1. Los Angeles County District Factors resulting in Inconsistency of Supply

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
Central Basin	X			X
MSGB	X		X	X
MWD	X	X		X
Raymond Basin	X		X	X
USGVMWD	X	X		X
WBMWD	X	X		X

Table 5-2 shows the supply reliability base years used to approximate average, single dry and multiple dry years conditions for all supply sources of the Los Angeles County District.

Table 5-2. Los Angeles County District Supply Reliability Base Years

Supply Reliability	Average Water Year	Single Dry	Multiple Dry Years
Baldwin Hills			
Central Groundwater Basin[1]	2000	2006	2006-2008
WBMWD[2]	1999	2001	2001-2003
Duarte			
MSGB[1]	2000	2006	2006-2008
USGVMWD[3]	1922-2004	1977	1990-1992
San Marino			
Raymond Basin[1]	2000	2006	2006-2008
MWD[4]	1922-2004	1977	1990-1992
[1] Based on historic hydrologic data from the San Gabriel Fire Department Station No. 47785 (1975-2010) (5)			
[2] Source: WBMWD 2010 UWMP (17)			
[3] Source: USGVMWD 2010 UWMP (18)			
[4] Source: MWD 2010 UWMP (19)			

Table 5-3 shows supply availability during average, single dry and multiple dry years. The historical normal, single dry, and multiple dry years were calculated using precipitation data (1975- 2010) from the San Gabriel Fire Department Station No. 47785 (5). The values in Table 5-3 are based on historical production records and allocations. However, production amounts and wholesale supplies could change in the future depending on safe yield reductions and availability of wholesale supplies.

Table 5-3. Los Angeles County District Supply Reliability- Average, Single Dry Year & Multiple Dry Years Supply

			Multiple Dry Water Years		
Water Supply Sources	Average / Normal Water Year	Single Dry Water Year	Year 1	Year 2	Year 3
Baldwin Hills					
Central Groundwater Basin Allocation [1]	2,067	2,067	2,067	2,067	2,067
WBMWD Purchases[2]	1,732	2,043	2,043	1,952	1,828
Total Water Supply	**3,799**	**4,110**	**4,110**	**4,019**	**3,895**
% of Normal	100%	114%	114%	111%	108%

			Multiple Dry Water Years		
Water Supply Sources	Average / Normal Water Year	Single Dry Water Year	Year 1	Year 2	Year 3
Duarte					
MSGB Groundwater Allocation[3]	4,062	4,431	4,431	3,877	3,323
MSGB Surface Water Allocation[4]	1,672	1,672	1,672	1,672	1,672
USGVMWD MSGB Replacement Purchases [5]	1,629	2,274	2,274	3,478	2,422
Total Water Supply	**7,363**	**8,377**	**8,377**	**9,027**	**7,417**
% of Normal	100%	114%	114%	123%	101%
San Marino					
MSGB Allocation [6]	8,759	9,555	8,512	10,051	8,810
Raymond Basin Allocation[7]	2,299	1,609	1,609	1,609	1,609
MWD Purchased Water[8]	2,743	503	2,695	1,564	2,120
Total Water Supply	**13,801**	**11,667**	**12,816**	**13,224**	**12,539**
% of Normal	100%	85%	93%	96%	91%
Total	**24,963**	**24,154**	**25,303**	**26,270**	**23,851**
% of Normal	100%	97%	101%	105%	96%

[1]Fixed Annual Allocation of 2,067 afy

[2] It is assumed that all demand not met by the allocations in the Central Basin will be met by purchasing replacement water from WBMWD. The average year is assumed to be 2000. The single dry year is assumed to be 2006. The multiple dry years are assumed to be 2006-2008.

[3] The multiple dry years are based on the 1.8634% of the safe yield historical allocation during dry year conditions in 2006, 2007 and 2008. The single dry year is based on 1.8634% of the safe yield historical allocation during 2006, and the average year is based on 1.8634% of the safe yield in 2000. Source: Duarte CPS 2008, Table 4-3 (23)

[4] Available fixed surface water allocation of 1,672 afy

[5] It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD.

[6] The multiple dry years are based on historical production during 2006, 2007, and 2008. The single dry year is based on the 3.98144% of the 2006 MSGB safe yield, and the average year is based on 3.98144% of the 2000 MSGB safe yield. Source: San Marino 2008 CPS, Table 4-4 (24)

[7] It is assumed that average supply is the current allocation of 2,299 afy, but the allocation will be reduced to 1,609 afy by 2015 and in dry years.

[8] It is assumed that all demand not met by the allocations in the MSGB and Raymond Basin will be met by purchasing replacement water from MWD.

Table 5-4 shows the three-year minimum supply available, which reflects the driest three-year historic sequence in the history of California American Water's supply. The three-year minimum supply closely mirrors the multiple dry years established in Table 5-3. The driest three year period on record for the groundwater sources is 2006-2009. The available supply from those years, excluding the City of South Pasadena, is applied to the next three years (2011-2013).

Table 5-4. Three-Year Minimum Supply

Supply Source	2011	2012	2013
Baldwin Hills			
Central Groundwater Basin[1]	2,067	2,067	2,067
WBMWD[2]	1,788	1,757	1,726
Subtotal	3,855	3,824	3,793
Duarte			
MSGB[3]	4,431	3,877	3,323
Surface Water[4]	1,672	1,672	1,672
USGVMWD[2]	1,601	2,076	2,550
Subtotal	7,704	7,625	7,545
San Marino			
MSGB[3]	9,555	8,631	7,167
Raymond Basin[5]	1,609	1,609	1,609
MWD[2]	1,207	2,203	3,740
Subtotal	12,371	12,443	12,516
Total	**23,930**	**23,892**	**23,854**

[1] Fixed annual allocation of 2,067 afy

[2] The amount of demand in each year not met by the allocations in the Central Basin, MSGB, and Raymond Basin is assumed to be purchased from MWD through WBMWD, the MSGB Watermaster and USGVMWD.

[3] Based on California American Water's allocation in the MSGB for historical dry years 2006-2008.

[4] Fixed surface water allocation of 1,672 afy.

[5] Assumes that California American Water will reduce its current allocation of 2,299 afy to 1,609 afy, as required by the Raymond Basin Management Board by July 2014, during dry years .

5.1.1 Wholesale Supply Reliability

The Los Angeles County District relies heavily on wholesale supplies for direct use and indirect groundwater replenishment. The historic average, single dry, and multiple dry years are shown in Table 5-2 for each wholesale supply source. The single dry and multiple dry years supplies for MWD are shown in Figure 5-1 and Figure 5-2.

Single Dry-Year
Supply Capability[1] and Projected Demands
Repeat of 1977 Hydrology
(acre-feet per year)

Forecast Year	2015	2020	2025	2030	2035
Current Programs					
In-Region Storage and Programs	685,000	931,000	1,076,000	964,000	830,000
California Aqueduct[2]	522,000	601,000	651,000	609,000	610,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	1,416,000	1,824,000	1,669,000	1,419,000	1,419,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**2,457,000**	**2,782,000**	**2,977,000**	**2,823,000**	**2,690,000**
Demands					
Firm Demands of Metropolitan	1,991,000	1,889,000	1,921,000	1,974,000	2,039,000
IID-SDCWA Transfers and Canal Linings	180,000	273,000	280,000	280,000	280,000
Total Demands on Metropolitan[5]	**2,171,000**	**2,162,000**	**2,201,000**	**2,254,000**	**2,319,000**
Surplus	**286,000**	**620,000**	**776,000**	**569,000**	**371,000**
Programs Under Development					
In-Region Storage and Programs	206,000	306,000	336,000	336,000	336,000
California Aqueduct	556,000	556,000	700,000	700,000	700,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	187,000	187,000	187,000	182,000	182,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**762,000**	**862,000**	**1,036,000**	**1,036,000**	**1,036,000**
Potential Surplus	**1,048,000**	**1,482,000**	**1,812,000**	**1,605,000**	**1,407,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes water management programs, IID-SDCWA transfers and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.25 MAF including IID-SDCWA transfers and canal linings.

[5] Firm demands are adjusted to include IID-SDCWA transfers and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Figure 5-1. MWD Single Dry Year Supply (19)

Multiple Dry-Year
Supply Capability[1] and Projected Demands
Repeat of 1990-1992 Hydrology
(acre-feet per year)

Forecast Year	2015	2020	2025	2030	2035
Current Programs					
In-Region Storage and Programs	246,000	373,000	435,000	398,000	353,000
California Aqueduct[2]	752,000	794,000	835,000	811,000	812,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	1,318,000	1,600,000	1,417,000	1,416,000	1,416,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**2,248,000**	**2,417,000**	**2,520,000**	**2,459,000**	**2,415,000**
Demands					
Firm Demands of Metropolitan	2,056,000	1,947,000	2,003,000	2,059,000	2,119,000
IID-SDCWA Transfers and Canal Linings	180,000	241,000	280,000	280,000	280,000
Total Demands on Metropolitan[5]	**2,236,000**	**2,188,000**	**2,283,000**	**2,339,000**	**2,399,000**
Surplus	**12,000**	**229,000**	**237,000**	**120,000**	**16,000**
Programs Under Development					
In-Region Storage and Programs	162,000	280,000	314,000	336,000	336,000
California Aqueduct	242,000	273,000	419,000	419,000	419,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	187,000	187,000	187,000	182,000	182,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**404,000**	**553,000**	**733,000**	**755,000**	**755,000**
Potential Surplus	**416,000**	**782,000**	**970,000**	**875,000**	**771,000**

[1] Represents Supply Capability for resource programs under listed year type.
[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.
[3] Colorado River Aqueduct includes water management programs, IID-SDCWA transfers and canal linings conveyed by the aqueduct.
[4] Maximum CRA deliveries limited to 1.25 MAF including IID-SDCWA transfers and canal linings.
[5] Firm demands are adjusted to include IID-SDCWA transfers and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Figure 5-2. MWD Multiple Dry Years Supply (19)

The single dry and multiple dry years supply for USGVMWD are shown in Figure 5-3 and Figure 5-4.

UPPER DISTRICT
PROJECTED WATER SUPPLY AND DEMAND
DURING A SINGLE DRY YEAR
(ACRE-FEET)

Year	2010	2015	2020	2025	2030
Imported Water from Metropolitan					
Demand 1/					
Treated Imported Water for Direct Use	5,700	3,000	3,000	3,000	3,000
Untreated Imported Water for Replacement /Replenishment	21,000	25,000	16,000	19,000	23,000
Total Demand	**26,700**	**28,000**	**19,000**	**22,000**	**26,000**
Supply 2/					
WSAP Allocation	32,000	31,000	45,000	43,000	41,000
Total Supply	**32,000**	**31,000**	**45,000**	**43,000**	**41,000**
Surplus	**5,300**	**3,000**	**26,000**	**21,000**	**15,000**

1/ Includes information from Table 6
2/ Information from Table 13. Assumes Upper District will have a WSAP allocation at Level 2.

Figure 5-3. USGVMWD Single Dry Year Supply (18)

UPPER DISTRICT
PROJECTED WATER SUPPLY AND DEMAND
DURING MULTIPLE DRY YEARS
(ACRE-FEET)

	2010					2015					2020					2025					2030				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
Imported Water from Metropolitan																									
Demand 1/																									
Treated Imported Water for Direct Use	5,700	5,700	5,700	NA	NA	3,000	3,000	3,000	NA	NA	3,000	3,000	3,000	NA	NA	3,000	3,000	3,000	NA	NA	3,000	3,000	3,000	NA	NA
Untreated Imported Water for Replacement /Replenishment	21,000	21,000	21,000	NA	NA	25,000	25,000	25,000	NA	NA	16,000	16,000	16,000	NA	NA	19,000	19,000	19,000	NA	NA	23,000	23,000	23,000	NA	NA
Total Demand	**26,700**	**26,700**	**26,700**	**NA**	**NA**	**28,000**	**28,000**	**28,000**	**NA**	**NA**	**19,000**	**19,000**	**19,000**	**NA**	**NA**	**22,000**	**22,000**	**22,000**	**NA**	**NA**	**26,000**	**26,000**	**26,000**	**NA**	**NA**
Supply 2/																									
WSAP Allocation	32,000	32,000	32,000	NA	NA	31,000	31,000	31,000	NA	NA	45,000	45,000	45,000	NA	NA	43,000	43,000	43,000	NA	NA	41,000	41,000	41,000	NA	NA
Total Supply	**32,000**	**32,000**	**32,000**	**NA**	**NA**	**31,000**	**31,000**	**31,000**	**NA**	**NA**	**45,000**	**45,000**	**45,000**	**NA**	**NA**	**43,000**	**43,000**	**43,000**	**NA**	**NA**	**41,000**	**41,000**	**41,000**	**NA**	**NA**
Surplus	**5,300**	**5,300**	**5,300**	**NA**	**NA**	**3,000**	**3,000**	**3,000**	**NA**	**NA**	**26,000**	**26,000**	**26,000**	**NA**	**NA**	**21,000**	**21,000**	**21,000**	**NA**	**NA**	**15,000**	**15,000**	**15,000**	**NA**	**NA**

1/ Includes information from Table 6
2/ Information from Table 13. Assumes Upper District will have a WSAP allocation at Level 2.

Figure 5-4. USGVMWD Multiple Dry Years Supply (18)

The single dry and multiple dry years supply for WBMWD are shown in Figure 5-5, Figure 5-6 and Figure 5-7.

Supplies[1]	2010	2015	2020	2025	2030	2035
Groundwater	36,360	45,000	45,000	45,000	45,000	45,000
Imported Water	111,246	121,728	83,884	82,417	77,577	76,707
Recycled Water	14,182	16,368	33,882	33,882	37,382	37,382
Desalination	1,000	1,000	21,500	21,500	21,500	21,500
Total Supply	**162,788**	**184,096**	**184,266**	**182,799**	**181,459**	**180,589**
Total Demand[2]	**162,788**	**184,096**	**184,266**	**182,799**	**181,459**	**180,589**
Surplus/(Shortage)	**0**	**0**	**0**	**0**	**0**	**0**

[1]Supply reliability covers only retail water demand; does not include replenishment/barrier deliveries
[2] Reflects demand after planned conservation and assumes a 4% increase in demand from average year

Figure 5-5. WBMWD Single Dry Year Supplies 2013-2025 (17)

Supplies	2013	2014	2015
Groundwater	40,700	42,850	45,000
Imported Water	117,501	115,788	114,078
Recycled Water	15,494	15,931	16,368
Desalination	1,000	1,000	1,000
Total Supply[1]	**174,695**	**175,569**	**176,446**
Total Demand[2]	**174,695**	**175,569**	**176,446**
Surplus/(Shortage)	**0**	**0**	**0**

[1]Supply reliability covers only retail water demand; does not include replenishment/barrier deliveries.
[2] Reflects demand after conservation and assumes a 5% increase from average to dry year 3.

Supplies	2018	2019	2020
Groundwater	45,000	45,000	45,000
Imported Water	99,022	92,340	85,662
Recycled Water	26,876	30,379	33,882
Desalination	13,300	17,400	21,500
Total Supply[1]	**184,198**	**185,119**	**186,044**
Total Demand[2]	**184,198**	**185,119**	**186,044**
Surplus/(Shortage)	**0**	**0**	**0**

[1]Supply reliability covers only retail water demand; does not include replenishment/barrier deliveries.
[2] Reflects demand after conservation and assumes a 5% increase from average to dry year 3.

Supplies	2023	2024	2025
Groundwater	45,000	45,000	45,000
Imported Water	83,003	83,920	84,842
Recycled Water	33,882	33,882	33,882
Desalination	21,500	21,500	21,500
Total Supply[1]	**183,385**	**184,302**	**185,224**
Total Demand[2]	**183,385**	**184,302**	**185,224**
Surplus/(Shortage)	**0**	**0**	**0**

[1]Supply reliability covers only retail water demand; does not include replenishment/barrier deliveries.
[2] Reflects demand after conservation and assumes a 5% increase from average to dry year 3.

Figure 5-6. WBMWD Multiple Dry Year Supplies (17)

Supplies	2028	2029	2030
Groundwater	45,000	45,000	45,000
Imported Water	79,513	79,723	79,937
Recycled Water	35,982	36,682	37,382
Desalination	21,500	21,500	21,500
Total Supply[1]	**181,995**	**182,905**	**183,819**
Total Demand[2]	**181,995**	**182,905**	**183,819**
Surplus/(Shortage)	**0**	**0**	**0**

[1]Supply reliability covers only retail water demand; does not include replenishment/barrier deliveries.
[2] Reflects demand after conservation and assumes a 5% increase from average to dry year 3.

Supplies	2033	2034	2035
Groundwater	45,000	45,000	45,000
Imported Water	77,055	77,960	78,869
Recycled Water	37,382	37,382	37,382
Desalination	21,500	21,500	21,500
Total Supply[1]	**180,937**	**181,842**	**182,751**
Total Demand[2]	**180,937**	**181,842**	**182,751**
Surplus/(Shortage)	**0**	**0**	**0**

[1]Supply reliability covers only retail water demand; does not include replenishment/barrier deliveries.
[2] Reflects demand after conservation and assumes a 5% increase from average to dry year 3.

Figure 5-7. WBMWD Multiple Dry Years Supplies 2028-2035 (17)

All wholesale sources are members of MWD. Under the historic hydrology conditions, MWD projects 100% reliability for its customers. During the historic dry year periods identified for each wholesale source, the Los Angeles County District's wholesale demands have always been met.

5.1.2 Resource Maximization and Import Minimization

In response to multiple group affiliations, statutory requirements, and concern for the region's water supply sustainability, California American Water employs multiple tactics to conserve water and reduce groundwater production. The major tactics currently being implemented by California American Water include 1) Metering, 2) Tiered Water Rates, 3) Plumbing Retrofits, 4) Public Education, 5) Large Landscape Conservation Incentives, 6) High-Efficiency Washing Machine Rebates, and 7) High-Efficiency Toilet Replacement Rebates, and 8) CUWCC Best Management Practices (BMPs) implementation. All of these tactics are currently being implemented or are in the process of being implemented in the near future. More information on these programs can be found in the Section 6.

5.2 WATER SHORTAGE CONTINGENCY PLANNING

5.2.1 Water Supply Shortage Stages and Conditions

California American Water is an investor owned utility regulated by the California Public Utilities Commission (CPUC). Accordingly, California American Water must obtain CPUC approval for any water conservation programs, including voluntary and/or mandatory measures. California American Water has the attached Rule 14.1 on file with CPUC (Appendix O) to obtain CPUC approval for a staged water conservation plan for the Los Angeles District, which complies with UWMP Act requirements for a Water Shortage Contingency Plan. Conditions that require stages of action are defined in Section B of Rule 14.1. In the event of a 50% reduction in supply, California American Water would implement the mandatory conservation measures described within Section H. Stage 3 Mandatory Conservation to achieve a 50% reduction in demand. Section H contains a description of the steps to be followed to achieve a 50% reduction as a draft plan to be used if a 50% reduction is required.

5.2.2 Catastrophic Supply Interruption Plan

In the event of a sudden and catastrophic loss of water supply, the Los Angeles County District as Part of California American Water, has written an Emergency Response Plan (ERP,) which is used to guide the Los Angeles County District's employees (25).

The ERP contains detailed action items including an Emergency Response Action Plan (ERAP) to assess and address the following list of events that might result in a catastrophic loss in supply.

1. Bomb Threat
2. Chemical Storage
3. Chemical/ Hazardous Material Release
4. Dam and Levee Failure
5. Destruction/ Failure of any Part of the Water System
6. Evacuation
7. Fire/ Explosion
8. Medical Emergency
9. Power Failure
10. SACDA Attack/ Electronic
11. SCADA Attack/ Physical
12. Severe Weather/ Natural Disasters
13. Sheltering-in-Place
14. Terrorist/ Hostile Attack
15. Threat and Identification of Contamination to the Water System
16. Unauthorized Entry
17. Workplace Violence

In the event of a power outage, the Los Angeles County District's first response task is to activate/check the status of emergency power supply. Emergency generators are available to provide sufficient power for emergency lighting and plant controls. Someone will be assigned to monitor the status of the emergency supply during the incident and report any problems to the Incident Commander. Once the power has been restored, all affected plant equipment will be rested and restarted. The overall strategy is to determine if the reason for the outage is local to the plant or regional and the estimated time to return power. This will provide the Los Angeles County District with the degree of significance of the situation, which will help assess the need to secure additional diesel fuel for generators. The treatment process would also be operated to minimize the effects of the power loss.

The first response in the event of an earthquake is to perform a system audit to determine the extent of damage to utilities, piping, and processes. This audit will allow the District to concentrate staff and resources on issues that need to be addressed immediately. Additional staff will be required for sampling, analysis, equipment repair, manual equipment and process operation, and communication. A report of the damage will be issued to the Incident Commander followed by a list of supplies that are necessary for repairs.

5.2.3 Revenue and Expenditure Analysis

California American Water develops a proposed rate structure and submits it to the CPUC for review and approval as part of each General Rate Case filing. These filings are usually made on a three-year cycle. To assist in revenue stabilization during periods of reduced sales, including mandatory reductions during drought, California American Water has obtained a Water Revenue Adjustment Mechanism (WRAM) in the last General Rate Case. A WRAM is the mechanism through which sales are decoupled from revenues, so that conservation is encouraged without having a negative financial impact. Currently, all of California American Water's districts, except Sacramento, have received CPUC approval for and have set up the WRAM.

A WRAM tracks the differences between total quantity charge revenues authorized by the CPUC ("Total Actual Quantity Revenues") and total quantity charge revenues actually recovered based on recorded water sales. The revenue requirements are the same under conservation rates as they would be under the previous rate structure. Implementation of a surchage/surcredit is determined by considering the net balance of the WRAM account in conjunction with a cost balancing account. The cost balancing account tracks actual variable costs for purchased power, purchased water, and pump taxes compared to CPUC adopted levels.

5.2.4 Mechanisms for Determining Actual Reductions

California American Water's supply sources are metered and records of groundwater produced, surface water diverted, and water purchased are maintained regularly. During water shortages, comparison of use records is carried out to determine if water is being conserved.

5.2.5 Supply and Demand Comparisons

Table 5-5 shows a supply and demand comparison during a normal year scenario. Table 5-6 shows a supply and demand comparison during a single dry year scenario. Table 5-7 shows a supply and demand comparison during a multiple dry years scenario.

Table 5-5. Supply and Demand Comparison- Normal Year, afy

	2015	2020	2025	2030
Supply totals	**23,776**	**22,685**	**23,257**	**23,808**
Demand totals	**23,776**	**22,685**	**23,257**	**23,808**
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 5-6. Supply and Demand Comparison- Single Dry Year, afy

	2015	2020	2025	2030
Supply totals	**23,776**	**22,685**	**23,257**	**23,808**
Demand totals	**23,776**	**22,685**	**23,257**	**23,808**
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 5-7. Supply and Demand Comparison- Multiple Dry-Year Events, afy

		2015	2020	2025	2030
Multiple-dry year first year supply	Supply totals	**23,776**	**22,685**	**23,257**	**23,808**
	Demand totals	**23,776**	**22,685**	**23,257**	**23,808**
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year second year supply	Supply totals	**23,776**	**22,685**	**23,257**	**23,808**
	Demand totals	**23,776**	**22,685**	**23,257**	**23,808**
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year third year supply	Supply totals	**23,776**	**22,685**	**23,257**	**23,808**
	Demand totals	**23,776**	**22,685**	**23,257**	**23,808**
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

5.2.6 Draft Ordinance

California American Water does not have authority to adopt resolutions or ordinances as a public utility company. However, California American Water can support local jurisdictions in developing ordinances or resolutions within the Los Angeles County District's service areas that would be compatible with California American Water's Water Shortage Contingency Plan. For all intents and purposes of this UWMP, the Rule No. 14.1 filed with the CPUC (see Appendix O) serves as the Water Shortage Contingency Plan resolution and anticipated course of action to achieve all necessary requirements of the Water Shortage Contingency Plan if needed.

5.3 WATER QUALITY

There are water quality issues in all of the Los Angeles County District's service areas. In Baldwin Hills and Duarte the water quality issues are treated or water is blended to meet water quality standards. However, in San Marino some water quality issues are not currently treated or blended, resulting in a loss of production capacity due to water quality.

San Marino obtains a significant portion of its water supply from the MSGB. The U.S. Environmental Protection Agency (EPA) declared the entire MSGB a Superfund cleanup site in 1984. Various groundwater cleanup plans have been implemented throughout the Basin by local agencies and water suppliers in conjunction with the EPA and San Gabriel Basin Water Quality Authority. Due to direct and indirect water quality issues, the San Marino service area loses about 533 afy of groundwater production capacity shown in Table 5-8. Figure 5-8 shows the contamination plume in the MSGB.

Table 5-8. San Marino Capacity Loss Due to Water Quality

Well	Capacity	2010 Production (afy)	Capacity Loss Due to Water Quality (afy)	Water Quality Issue
Oak Knoll Circle	229	0	229	Nitrates/ Perchlorate
Richardson	304	0	304	Coliform Bacteria
Total	**533**	**0**	**533**	
% of San Marino Production				**5%**

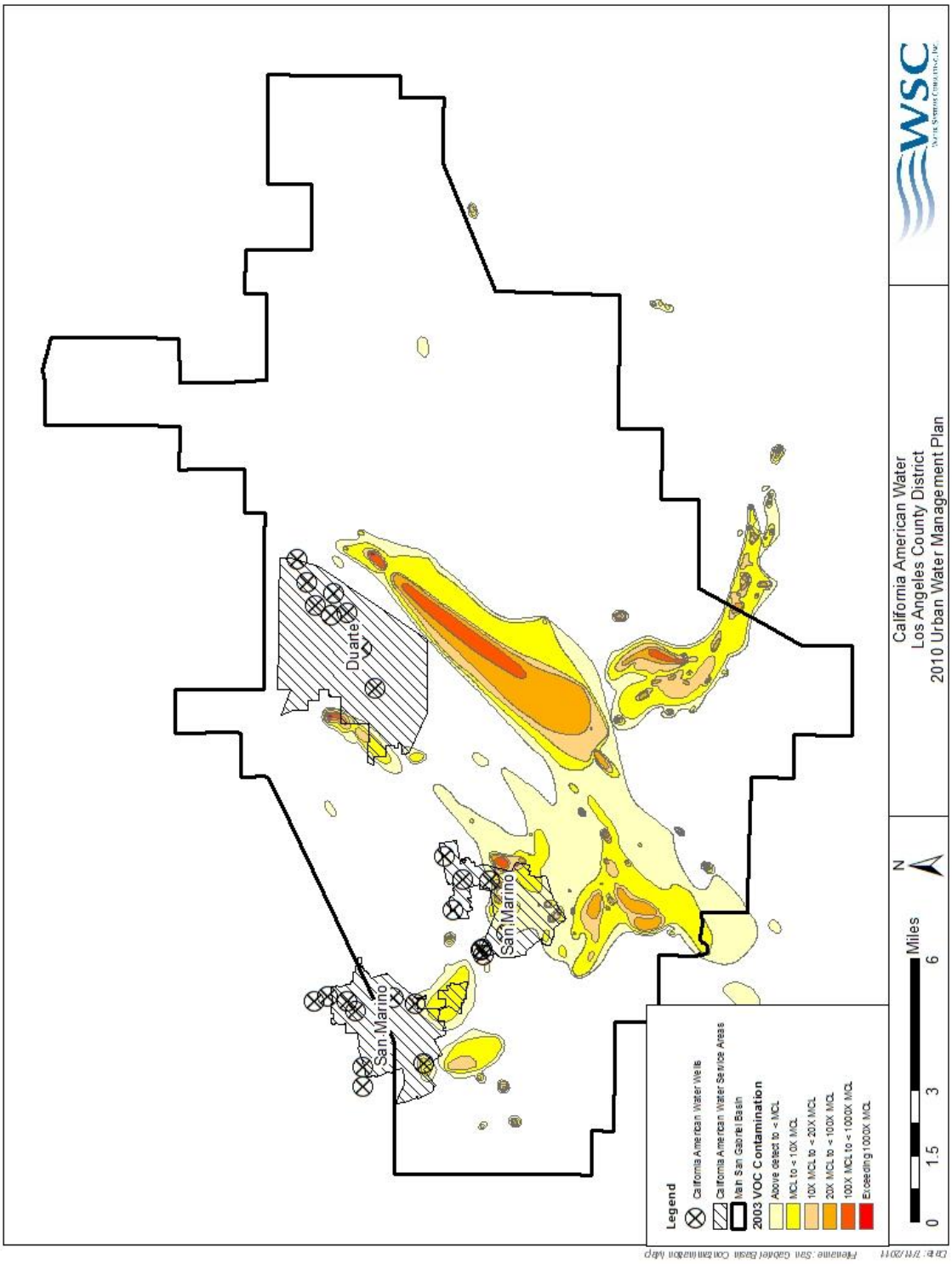

Figure 5-8. MSGB Contamination Plume (26)

6 DEMAND MANAGEMENT MEASURES

The UWMP Act requires a discussion of Demand Management Measures (DMMs), including a description of each of the DMMs currently being implemented or scheduled for implementation through 2015, the schedule of implementation for all DMMs, and the methods, if any, the Los Angeles County District will use to evaluate the effectiveness of DMMs. If a DMM is not being implemented or scheduled for implementation, the UWMP must include an evaluation of economic and noneconomic factors such as environmental, social, health, customer impact, and technological factors; a cost-benefit analysis; a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; and a description of the legal authority of the water supplier to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

The UWMP Act identifies 14 DMMs. These 14 DMMs correspond to the 14 Best Management Practices (BMPs) listed and described in the California Urban Water Conservation Council Memorandum of Understanding (CUWCC MOU). These 14 DMMs also correspond to the DMMs identified in DMM Implementation Compliance (AB 1420). The BMPs and DMMs are examples of sound water management practices that have been found to be cost effective and practicable in most instances throughout California. DWR consulted with CUWCC and determined that DMMs will be equated with BMPs. Therefore, DMMs and BMPs are referred to interchangeably in this Plan. Table 6-1 shows which DMMs and BMPs correspond with each other.

The UWMP Act allows CUWCC members to submit their 2009-2010 approved CUWCC BMP report with their UWMPs in lieu of a DMM section if the water supplier is in full compliance with the CUWCC MOU. The District is a CUWCC member but it is not known if the District is in full compliance since the District has not yet received indication from CUWCC. A copy of the District's 2009-2010 CUWCC BMP report is included in Appendix K to provide a framework for future UWMPs and BMP implementation, and this UWMP includes the required DMM section.

Table 6-1. DMMs and BMPs

CUWCC BMP Organization and Names (2009 MOU)				**UWMP DMMs**	
Type	Category	BMP #	BMP name	DMM #	DMM name
Foundational	Operations Practices	1.1.1	Conservation Coordinator	L	Water conservation coordinator
		1.1.2	Water Waste Prevention	M	Water waste prohibition
		1.1.3	Wholesale Agency Assistance Programs	J	Wholesale agency programs
		1.2	Water Loss Control	C	System water audits, leak detection, and repair
		1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D	Metering with commodity rates for all new connections and retrofit of existing connections
		1.4	Retail Conservation Pricing	K	Conservation pricing
	Education Programs	2.1	Public Information Programs	G	Public information programs
		2.2	School Education Programs	H	School education programs
Programmatic	Residential	3.1	Residential assistance program	A	Water survey programs for single-family residential and multifamily residential customers[1]
				B	Residential plumbing retrofit
		3.2	Landscape water survey	A	Water survey programs for single-family residential and multifamily residential customers[1]
		3.3	High-Efficiency Clothes Washing Machine Financial Incentive Programs	F	High-efficiency washing machine rebate programs
		3.4	WaterSense Specification (WSS) toilets	N	Residential ultra-low-flush toilet replacement programs
	Commercial, Industrial, and Institutional	4	Commercial, Industrial, and Institutional	I	Conservation programs for commercial, industrial, and institutional accounts
	Landscape	5	Landscape	E	Large landscape conservation programs and incentives

[1] Components of DMM A (Water survey programs for single-family residential and multifamily residential customers) apply to both BMP 3.1 (Residential assistance program) and BMP 3.2 (Landscape water survey)

6.1 EVALUATION OF BMP EFFECTIVENESS

The effectiveness of each BMP has an impact on the overall effectiveness of the BMPs. Some BMPs can be quantitatively evaluated independent of the other BMPs; for those BMPs, specific evaluation methodology is presented for the BMP in the appropriate subsection of Section 6.2.

The method used to evaluate the effectiveness of the BMPs as a whole is the calculation of the overall per capita water use (gpcd) reduction from the baseline per capita water use. As shown in Appendix D, the District's 2010 actual water use was 176 gpcd, which reflects a reduction in per capita water use of approximately 18% from the baseline, and is less than the 2020 target water use of 186.5 gpcd. The District believes that these significant reductions make additional savings less likely and therefore does not anticipate further reductions in per capita water use beyond the 2020 target through the horizon of this plan.

Future effectiveness will continue to be measured by calculating reduction from the baseline per capita water use per the requirements of SB7 as described in Appendix D.

6.2 BMPS IMPLEMENTED OR PLANNED TO BE IMPLEMENTED

6.2.1 BMP 1.1.1 CONSERVATION COORDINATOR (DMM L)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27): the

> *Designate a person as the agency's responsible conservation coordinator for program management, tracking, planning, and reporting on BMP implementation* (27).

In 2005, California American Water created and staffed a statewide Water Conservation Coordinator position, now called the Manager of Conservation and Efficiencies. This position is responsible for managing the water conservation activities for all of the California American Water's districts. These responsibilities include preparing and tracking water conservation budgets, overseeing data collection, BMP fulfillment reporting, and communicating with senior management regarding water conservation issues and related water conservation activities.

The Manager is supported by conservation staff in each district, as shown in Table 6-2. In the Los Angeles County District, there is one part-time conservation position, which is described in greater detail below. In addition, there is a full-time position, the Conservation Specialist, for the entire Southern Division, which includes the Ventura County District, the Los Angeles County District, and the San Diego County District.

Table 6-2. California American Water Conservation Team

Conservation Staff	Number of Full-Time Positions	Number of Part-Time Positions
Statewide	1	0
Sacramento District	1.5	2
Larkfield District	0	1
Monterey County District	2.5	1
Ventura County District	0	1
Los Angeles County District	0	1
San Diego County District	0	1
All Southern Division (Los Angeles, Ventura and San Diego County Districts)	1	0
Total	**6**	**7**

In 2010, the District funded one part-time conservation staff position (28). The District's part-time conservation staff helped to administer the Conservation Program by tracking equipment inventory, performing conservation patrols, conducting research, responding to customer questions, and reaching out to customers to publicize conservation programs.

In addition, the Manager of Conservation and Efficiencies and the District's conservation staff work closely with and receive assistance from the staff at each of California American Water's districts. The central call center and local district customer service staff are the primary responders for distributing water conserving devices and processing rebate applications. Operations personnel assist with collecting production and sales data, water loss reduction efforts, staffing local events, and coordinating with staff from cooperating agencies.

Table 6-3 shows the conservation staff through 2010. The District plans to continue implementing this BMP, but does not anticipate hiring any additional dedicated water conservation staff. Table 6-4 shows the planned conservation staff positions through 2014.

The method used to evaluate the effectiveness of the BMPs as a whole, and this BMP in particular, is the calculation of the overall per capita water use (gpcd) reduction from the baseline per capita water use. As shown in Appendix D, the District's 2010 actual water use was 176 gpcd, which reflects a reduction in per capita water use of 15% since the statewide Conservation Coordinator was hired in 2005. The District's 2010 actual water use of 176 gpcd is also less than the 2020 target water use of 186.5 gpcd. The District believes that these significant reductions make additional savings less likely and therefore does not anticipate further reductions in per capita water use beyond the 2020 target through the horizon of this plan.

Table 6-3. Actual Conservation Staff

Actual	2006	2007	2008	2009	2010
Number of full-time positions[1]	1	1	1	1	2
Number of part-time positions	-	-	-	-	1

[1] Includes the statewide Manager of Conservation and Efficiencies and, from 2010 forward, the Southern Division Conservation Specialist.

Table 6-4. Planned Conservation Staff

Planned	2011	2012	2013	2014
Number of full-time positions[1]	2	2	2	2
Number of part-time positions	1	1	1	1

[1] Includes the statewide Manager of Conservation and Efficiencies and the Southern Division Conservation Specialist.

6.2.2 BMP 1.1.2 WATER WASTE PREVENTION (DMM M)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

a) New development

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that (1) prohibit water waste such as, but not limited to: single- pass cooling systems; conveyer and in-bay vehicle wash and commercial laundry systems which do not reuse water; non-recirculating decorative water fountains and (2) address irrigation, landscape, and industrial, commercial, and other design inefficiencies.

b) Existing users

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that prohibit water waste such as, but not limited to: landscape and irrigation inefficiencies, commercial or industrial inefficiencies, and other misuses of water.

c) Water shortage measures

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that facilitate implementation of water shortage response measures.

The District does not have legal authority or ordinances as a public utility company and must obtain approval from the CPUC to implement water conservation programs, including voluntary and/or mandatory measures. In July 2009, California American Water submitted Rule 14.1 to the CPUC to define water conservation measures and the approval process that California American must follow to implement mandatory water conservation (Appendix O).

Section D of Rule 14.1 (Appendix O) defines water conservation requirements that are effective at all times until deactivated by the CPUC. These conservation requirements define non-essential uses of water and limit the water waste from new developments and existing customers. Although these are considered requirements, they are voluntary and serve as the District's Voluntary Water Conservation Program. The District's Voluntary Water Conservation Program pamphlet, shown in Figure 6-1, is available online or from the District.

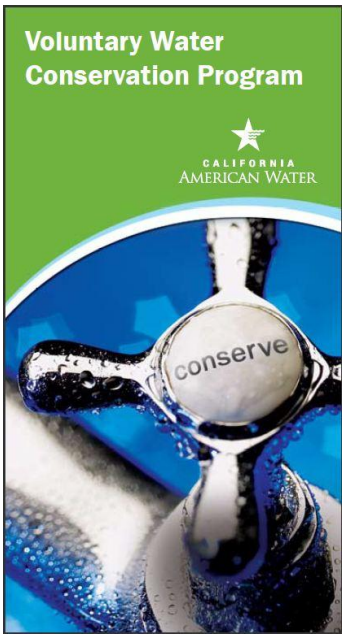

Figure 6-1. Water Conservation Program Pamphlet

Sections E through H of Rule 14.1 (Appendix O) list the specific requirements of the District's 3 mandatory conservation stages. The District must receive authorization from the CPUC before implementing mandatory conservation measures.

The mandatory conservation stages listed in Rule 14.1 shall remain dormant until the District submits a letter to the CPUC and receives authorization to declare mandatory conservation. The mandatory conservation request letter to the CPUC shall include justification for activating the particular mandatory conservation stage, as well as the expected duration the mandatory conservation will be in effect.

6.2.3 BMP 1.1.3 WHOLESALE AGENCY ASSISTANCE PROGRAMS (DMM J)

This BMP is not applicable to retail water suppliers.

6.2.4 BMP 1.2 WATER LOSS CONTROL (DMM C)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *1) Standard Water Audit and Water Balance. All agencies shall quantify their current volume of apparent and real water loss. Agencies shall complete the standard water audit and balance using the AWWA Water Loss software to determine their current volume of apparent and real water loss and the cost impact of these losses on utility operations at no less than annual intervals.*
>
> *2) Validation. Agencies may use up to four years to develop a validated data set for all entries of their water audit and balance. Data validation shall follow the methods suggested by the AWWA Software to improve the accuracy of the quantities for real and apparent losses.*
>
> *3) Economic Values. For purposes of this BMP, the economic value of real loss recovery is based upon the agency's avoided cost of water as calculated by the Council's adopted Avoided Cost Model or other agency model consistent with the Council's Avoided Cost Model.*

4) Component Analysis. A component analysis is required at least once every four years and is defined as a means to analyze apparent and real losses and their causes by quantity and type. The goal is to identify volumes of water loss, the cause of the water loss and the value of the water loss for each component. The component analysis model then provides information needed to support the economic analysis and selection of intervention tools. An example is the Breaks and Background Estimates Model (BABE) which segregates leakage into three components: background losses, reported leaks and unreported leaks.

5) Interventions. Agencies shall reduce real losses to the extent cost-effective. Agencies are encouraged to refer to the AWWA's 3rd Edition M36 Publication, Water Audits and Loss Control Programs (2009) for specific methods to reduce system losses.

6) Customer Leaks. Agencies shall advise customers whenever it appears possible that leaks exist on the customer's side of the meter.

The District maintains production and delivery records. The District records well production and meters the amount of water entering the District's system from each wholesaler, which gives a measure of total production. All customer connections are metered, which allows the District to measure the total customer deliveries. With the total production and the total deliveries, the District is able to calculate the non-revenue water (NRW). In 2010, the District had approximately 1,609 AFY of NRW. As shown in Figure 6-2, the District has unbilled authorized consumption; thus, the total losses are less than the NRW.

The District completed training in the AWWA Water Audit Method and the Component Analysis Process (29). In 2010, the District began using the AWWA Water Loss software to analyze water losses. The District performed the audit for a one-year period beginning March 2009 and ending February 2010. The results of the audit are shown in Figure 6-2, where all volumes reported are in million gallons (MG). According to the AWWA audit results, apparent losses were 120 MG (368 AF) and real losses were 312 MG (957 AF). Thus, the total water losses were 432 MG (1,326 AF) for the audit period (30). The NRW reported was 574 MG (1,763 AF). In addition to the audit, the District completed its most recent Component Analysis in February 2010 (29).

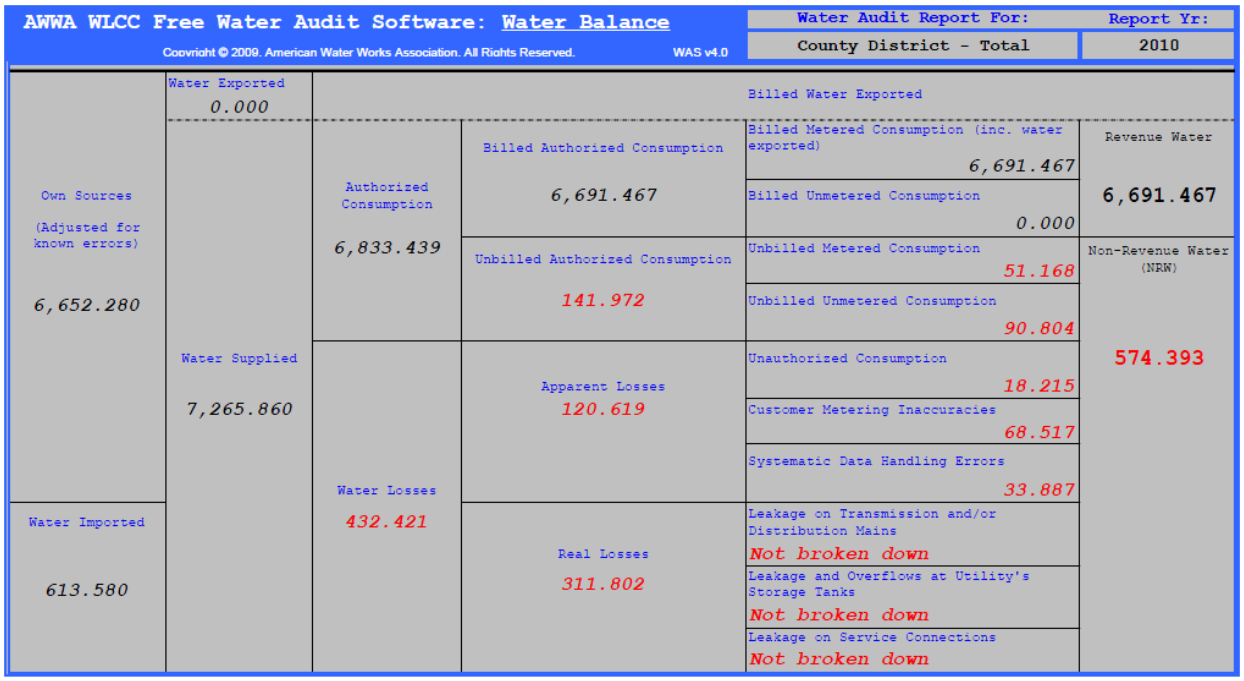

Figure 6-2. AWWA Water Balance for March 2009 through February 2010, Volumes are in Million Gallons (30)

The District repairs all reported leaks to the extent cost-effective and locates and repairs unreported leaks to the extent cost-effective (31). The District is in the process of developing a statewide policy for water loss and leak detection. In addition, the District provides leak detection information and assistance to its customers through providing educational tools and giveaways, such as dye tablets, to detect leaks. This is discussed under BMP 3.1 (Section 6.2.9).

6.2.5 BMP 1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS (DMM D)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

1) Require meters for all new service connections.

2) Establish a program for retrofitting existing unmetered service connections.

3) Read meters and bill customers by volume of use.

a) Establish and maintain billing intervals that are no greater than bi-monthly (every two months) for all customers.

b) For each metered connection, perform at least five actual meter readings (including remotely sensed) per twelve month period.

4) Prepare a written plan, policy or program that includes:

a) A census of all meters, by size, type, year installed, customer class served and manufacturer's warranty accuracy when new;

b) A currently approved schedule of meter testing and repair, by size, type and customer class;

c) A currently approved schedule of meter replacement, by size, type, and customer class; and

5) Identifying intra- and inter-agency disincentives or barriers to retrofitting mixed use commercial accounts with dedicated landscape meters, and conducting a feasibility study(s) to assess the merits of a program to provide incentives to switch mixed use accounts to dedicated landscape meters.

The District is 100% metered. The District performs meter reading on a bi-monthly basis and consequently bills customers on a bi-monthly basis. All customers, with the exception of private fire connections, are billed a service charge and a usage rate/commodity charge for each unit of water consumed. More details on rate structures are provided under BMP 1.4 (Section 6.2.6).

The District maintains a database to track meters and record years in service. The District follows a program to test, repair, and replace water meters. The District replaces 5/8-inch and 1-inch meters on a 15-year cycle. The District tests 1 ½-inch and 2-inch meters on a four-year cycle; meters that do not pass testing requirements are replaced. The number of meters replaced each year varies due to varying installation dates (32).

The District currently has 52 dedicated landscape meters. Currently, the District does not have a program or plan in place to switch mixed-use accounts to dedicated landscape meters. The District will switch mixed-use accounts to dedicated landscape meters upon customer request (costs are paid by the customer).

Figure 6-3. California American Water Meter Reader

The District plans to continue to implement this BMP, but this BMP is not expected to yield additional water savings since all connections in the District are metered.

6.2.6 BMP 1.4 RETAIL CONSERVATION PRICING (DMM K)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

Conservation pricing provides economic incentives (a price signal) to customers to use water efficiently. Because conservation pricing requires a volumetric rate, metered water service is a necessary condition of conservation pricing. Unmetered water service is inconsistent with the definition of conservation pricing.

Conservation pricing requires volumetric rate(s). While this BMP defines a minimum percentage of water sales revenue from volumetric rates, the goal of this BMP is to recover the maximum amount of water sales revenue from volumetric rates that is consistent with utility costs (which may include utility long-run marginal costs), financial stability, revenue sufficiency, and customer equity.

Part I. Retail Water Service Rates

In addition to volumetric rate(s), conservation pricing may also include one or more of the following other charges:

1) Service connection charges designed to recover the separable costs of adding new customers to the water distribution system.

2) Monthly or bimonthly meter/service charges to recover costs unrelated to the volume of water delivered or new service connections and to ensure system revenue sufficiency.

3) Special rates and charges for temporary service, fire protection service, and other irregular services provided by the utility.

The following volumetric rate designs are potentially consistent with the above definition:

1) Uniform rate in which the volumetric rate is constant regardless of the quantity consumed.

2) Seasonal rates in which the volumetric rate reflects seasonal variation in water delivery costs.

3) Tiered rates in which the volumetric rate increases as the quantity used increases.

4) Allocation-based rates in which the consumption tiers and respective volumetric rates are based on water use norms and water delivery costs established by the utility.

Adequacy of Volumetric Rate(s): A retail agency's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing when it satisfies at least one of the following two options.

Option 1: Let V stand for the total annual revenue from the volumetric rate(s) and M stand for total annual revenue from customer meter/service (fixed) charges, then:

$V/(V+M) \geq 70\%$

This calculation shall only include utility revenues from volumetric rates and monthly or bimonthly meter/service charges. It shall not include utility revenues from new service connection charges; revenue from special rates and charges for temporary service, fire protection, or other irregular services; revenue from grants or contributions from external sources in aid of construction or program implementation; or revenue from property or other utility taxes.

Option 2: Use the rate design model included with the Municipal Water and Wastewater Rate Manual published by the Canadian Water & Wastewater Association with the signatory's water system and cost information to calculate V', the uniform volume rate based on the signatory's long-run incremental cost of service, and M', the associated meter charge. [Let HCF be annual water delivery (in hundred cubic feet).] A signatory's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing if:

V/V+M≥ V'/ V' + M'

Part II. Retail Wastewater Service Rates

Conservation pricing of sewer service provides incentives to reduce average or peak use, or both. Such pricing includes: rates designed to recover the cost of providing service, and billing for sewer service based on metered water use. Conservation pricing of sewer service is also characterized by one or more of the following components: rates in which the unit rate is the same across all units of service (uniform rates); rates in which the unit rate increases as the quantity of units purchased increases (increasing block rates); rates in which the unit rate is based upon the long-run marginal cost or the cost of adding the next unit of capacity to the sewer system. Rates that charge customers a fixed amount per billing cycle for sewer service regardless of the units of service consumed do not satisfy the definition of conservation pricing of sewer service. Rates in which the typical bill is determined by high fixed charges and low commodity charges also do not satisfy the definition of conservation pricing of sewer service.

The type of rate structure used by the District for each connection type is shown in Table 6-5 and is described here:

(1) Residential Connections: The District's water rate structure encourages residential customers to conserve water by using tiered rates. Each service area in the District has a three-tiered rate structure, but the tiers and rates differ by service area (33). The tiered rate structure establishes volumetric rates; that is the more water a customer consumes, the more expensive the water becomes. In addition, the District's rates include a monthly service charge per meter depending on the size of the connection.

(2) Non-Residential Connections (except private fire): The District uses a uniform rate for commercial, public authority, and industrial customers, in which the volumetric rate is constant regardless of the amount of water consumed. In addition, the District's rates include a monthly service charge per meter depending on the size of the connection.

(3) Measured Irrigation Service Connections: Measured irrigation service is available in certain areas in the District. The District uses a uniform volumetric rate structure, with different rates for pressure service and gravity service. In addition, the District's rates include a monthly service charge per meter depending on the size of the connection.

(4) Private Fire Connections: Private fire protection systems and private fire hydrants are charged a fixed monthly fee per hydrant or connection, and are not included in the revenue calculation below according to the CUWCC MOU.

Table 6-5. Water Rate Structures

Customer Type	Water Rate Structure
Residential	Three Tier Volumetric Rate
Commercial	Single Tier Volumetric Rate
Industrial	Single Tier Volumetric Rate
Institutional/Government	Single Tier Volumetric Rate
Irrigation	Single Tier Volumetric Rate
Private Fire	Fixed

Option 1 was chosen to analyze the adequacy of volumetric rates and is shown below for 2010:

V/ (V+M)≥ 70%

$18,485,645 / ($18,485,645 +$3,716,803) = .83

83% ≥ 70%

In 2010, the revenue from volumetric charges account for more than 70% of the total annual revenue, thus satisfying option 1.

The District does not provide sewer service; thus, part 2 of this BMP is not applicable.

6.2.7 BMP 2.1 PUBLIC INFORMATION PROGRAMS (DMM G)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *1) The program should include, when possible, but is not limited to, providing speakers to employees, community groups and the media; using paid and public service advertising; using bill inserts; providing information on customers' bills showing use for the last billing period compared to the same period the year before; providing public information to promote water conservation measures; and coordinating with other government agencies, industry groups, public interest groups, and the media.*
>
> *2) The program should include, when possible, social marketing elements which are designed to change attitudes to influence behavior. This includes seeking input from the public to shape the water conservation message; training stakeholders outside the utility staff in water conservation priorities and techniques; and developing partnerships with stakeholders who carry the conservation message to their target markets.*

3) When mutually agreeable and beneficial, the wholesale agency or another lead regional agency may operate all or part of the public information program. If the wholesale agency operates the entire program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting for this BMP. Under this arrangement, a wholesale agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.

The District is an active community partner in the Los Angeles region. The District participates in events including the Chamber of Commerce mixer at the Huntington Gardens and the Summer Concert in the Park in Duarte. District employees attend these events to reinforce the conservation message and answer customer questions. The District is also an active sponsor of a number of charitable events in the community it serves, such as the City of Hope's Walk for Life. District employees further support the community by donating thousands of dollars every year to Water for People (34).

Figure 6-4. City of Bradbury Open House

Figure 6-5. Water Conservation Demonstration Gardens

In addition to the community events described above, the District participates in public meetings and outreach campaigns to reach out to customers and promote water use efficiency and conservation, as shown in Figure 6-4 and Figure 6-5. The District also has a California Friendly Drought Tolerant Demonstration Garden at its Rosemead facility and provides bill messaging and inserts to customers to further encourage efficient water use.

The District plans to continue implementing this BMP and also to expand outreach through other types of events, as shown in Table 6-7.

The effectiveness of this BMP cannot be measured quantitatively. However, it is assumed that educating the public in water conservation increases general awareness of water conservation issues and has contributed to the decline in water use seen in the District through 2010. Public outreach is expected to continue to play an important role in the District's conservation efforts and to help the District meet its 2020 gpcd target.

Table 6-6. Number of Actual Public Outreach Events

Actual	2006	2007	2008	2009	2010
a. Paid advertising	-	-	-	Yes[1]	Yes[1]
b. Public Service Announcement	-	-	-	-	-
c. Bill Inserts / Newsletters / Brochures	-	Yes[1]	2	4	2
d. Bill comparing previous water usage	-	-	-	-	-
e. Demonstration Gardens	1	1	1	1	1
f. Special Events, Media Events	-	Yes[1]	Yes[1]	Yes[1]	Yes[1]
g. Speaker's Bureau	-	-	-	-	-
h. Program to coordinate with other govt agencies, industry and public interest groups and media	-	-	-	-	-
i. Public meetings	-	Yes[1]	3	3	2

[1] Reports do not specify number of events.

Table 6-7. Number of Planned Public Outreach Events

	2011	2012	2013	2014
a. Paid advertising	2	2	2	2
b. Public Service Announcement	4	2	2	2
c. Bill Inserts / Newsletters / Brochures	1	1	1	1
d. Bill comparing previous water usage	-	-	-	-
e. Demonstration Gardens	1	1	1	1
f. Special Events, Media Events	20	20	20	20
g. Speaker's Bureau	-	-	-	-
h. Program to coordinate with other govt agencies, industry and public interest groups and media	-	-	-	-
i. Public meetings	Included in f.			

The District benefits from regional marketing efforts, specifically paid advertising and outreach campaigns sponsored by MWD. MWD promotes water conservation through their theme, Be Water Wise. MWD hosts a webpage, bewaterwise.com, which contains information on water conservation, recent news, and rebate programs. In addition, MWD hosts a website for residential water customers, socalwatersmart.com, and a website for commercial customers, mwdsaveabuck.com; each contains information on their respective rebate programs. Some of MWD's other efforts include: radio, newspaper, and television advertisement; funding of community projects and demonstration gardens; landscape workshops; and educational presentations at community events and distribution of educational materials (35). The District will continue to benefit from MWD's public outreach efforts.

6.2.8 BMP 2.2 SCHOOL EDUCATION PROGRAMS (DMM H)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *1) Implement a school education program to promote water conservation and water conservation-related benefits.*
>
> *2) Programs shall include working with school districts and private schools in the water suppliers' service area to provide instructional assistance, educational materials, and classroom presentations that identify urban, agricultural, and environmental issues and conditions in the local watershed. Educational materials shall meet the state education framework requirements and grade-appropriate materials shall be distributed.*
>
> *3) When mutually agreeable and beneficial, the wholesale agency or another lead regional agency will operate all or part of the education program; if the wholesale agency operates all or part of the retail agency's school education program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting of this BMP; under this arrangement, a wholesale agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.*

Since 2008, the District has contracted Resource Action Programs (RAP) to implement the LivingWise program to educate students on water conservation and energy efficiency. The LivingWise program targets 6th graders in schools in the District's service area. The program includes in-class activities and lectures, at-home audit activities, and a student follow-up report of activities and findings (36).

A summary of the number of students reached through the LivingWise program is shown in Table 6-8. The District plans to continue implementing this BMP. A summary of the number of students expected to be reached is shown in Table 6-9.

The effectiveness of this BMP cannot be measured quantitatively. However, it is expected that educating students in water conservation increases general awareness of water conservation issues and may contribute to long-term water reduction in the District.

Table 6-8. Number of Students Reached Through Various Methods

Actual	2006[1]	2007[1]	2008	2009	2010
Grades K-3rd	-	-	-	-	-
Grades 4th-6th	-	-	1,700	432	781
Grades 7th-8th	-	-	-	-	-
High School	-	-	-	-	-
Unspecified	-	-	-	-	-
Total	**-**	**-**	**1,700**	**432**	**781**

[1] District did not implement programs. The District relied on programs carried out by wholesalers and MWD.

Table 6-9. Number of Students Expected to be Reached

Planned	2011	2012	2013	2014
Grades K-3rd	-	-	-	-
Grades 4th-6th	860	600	600	600
Grades 7th-8th	-	-	-	-
High School	-	-	-	-
Unspecified	-	-	-	-
Total	**860**	**600**	**600**	**600**

In addition to the District's programs, students in the District benefit from various MWD programs and free educational materials developed and provided by MWD (36). MWD also hosts a dynamic and engaging website containing online activities, games and information for students of all ages grouped into the following categories: K-5, 6-8, 9-12, Post Secondary, and Teachers (37).

6.2.9 BMP 3.1 RESIDENTIAL ASSISTANCE PROGRAM (DMM A/ DMM B)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *Provide site-specific leak detection assistance that may include, but is not limited to, the following: a water conservation survey, water efficiency suggestions, and/or inspection. Provide showerheads and faucet-aerators that meet the current water efficiency standard as stipulated in the WaterSense Specifications (WSS) as needed.*

The District has a Residential Water Audits Program and a Residential Plumbing Retrofit Program, which benefit the District's residential customers.

6.2.9.1 Residential Water Audits

The Residential Water Audits Program provides free residential audits for single and multi-family properties. The audits are carried out by the District's staff or by a contractor. The audits include a detailed assessment of the indoor and outdoor usage, an individualized water budget, and recommended monthly irrigation schedule. In addition, the customer receives a comprehensive audit package with applicable water savings devices, water and energy rebate application forms, and educational material. All audit data and information is collected and maintained in an Excel database to allow for easy tracking of water saving opportunities and natural upgrade trends for toilets and other water saving devices.

The historical and projected number of residential audits performed in the District are shown in Table 6-10 and Table 6-11.

Table 6-10. Actual Residential Water Audits

Actual	2006	2007	2008	2009	2010
Number of residential audits	-	-	-	21	22
Actual water savings – AFY[1]	-	-	-	0.76	0.79

[1]Assumes 0.036 AFY of savings per audit based on CUWCC BMP Water Savings Worksheet for residential audits.

Table 6-11. Planned Residential Water Audits

Planned	2011	2012	2013	2014
Number of residential audits	40	22	22	22
Projected water savings - AFY[1]	1.44	0.72	0.72	0.72

[1] Assumes 0.036 AFY of savings per audit based on CUWCC BMP Water Savings Worksheet for residential audits.

6.2.9.2 Residential Plumbing Retrofit

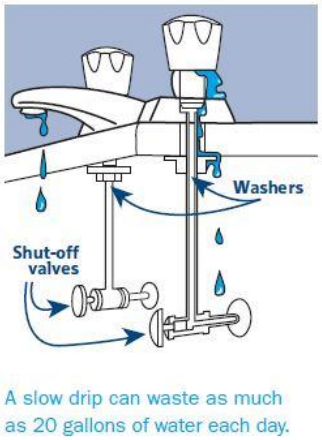

Figure 6-6. Leak Detection Repair Kit

Through the Residential Plumbing Retrofit Program, the District provides customers various water saving devices including showerheads, faucet aerators (kitchen and bathroom), toilet leak detection tablets, garden hose spray nozzles, soil probes, and educational pamphlets (see Figure 6-6). The devices and educational materials are designed to help customers improve indoor and outdoor water use efficiency. The devices and materials are provided to customers upon request at community events and meetings, office walk-ins, customer call-ins, and through the home water survey program. The historical and projected devices distributed the program are shown in Table 6-12 and Table 6-13, respectively.

Table 6-12. Actual Number of Plumbing Retrofit Devices

Actual	2006	2007	2008	2009	2010
Showerhead	700	Yes[1]	Yes[1]	225	138
Faucet Aerator	1,100	Yes[1]	Yes[1]	542	287
Toilet Flapper	-	-	Yes[1]	146	99
Tankbank	-	Yes[1]	Yes[1]	134	126
Drip Gauge	-	-	-	-	138
Leak Detection Tablets	-	Yes[1]	Yes[1]	149	96
Shower Timers	-	-	-	-	138
Hose Spray Nozzle	-	Yes[1]	Yes[1]	223	148
Hose Timer	-	-	Yes[1]	100	-
Soil Probe	-	Yes[1]	Yes[1]	50	138
Rain/Sprinkler Gauge	-	Yes[1]	Yes[1]	60	-
Other	-	-	Yes[1]	-	138
Educational Materials	-	-	Yes[1]	609	-
Total Number of Devices[2]	**1,800**	**unknown**	**unknown**	**1,629**	**1,446**
Actual water savings – AFY[3]	**6.16**	**unknown**	**unknown**	**3.09**	**1.87**

[1] Quantity not tracked.

[2] Does not include educational materials.

[3] Total water savings only includes savings for showerheads (0.0062 AFY/device), faucet aerators (0.0017 AFY/device), toilet flappers (0.0047 AFY/device) and leak detection tablets (0.0007 AFY/device). Water savings assumptions shown are based on CUWCC BMP Water Savings Worksheets for each device.

Table 6-13. Planned Number of Plumbing Retrofit Devices

Planned	2011	2012	2013	2014
Showerhead	450	100	100	100
Faucet Aerator	600	300	300	300
Toilet Flapper	120	80	80	80
Tankbank	80	30	30	30
Drip Gauge	120	50	50	50
Leak Detection Tablets	200	200	200	200
Shower Timers	80	40	40	40
Water Efficiency Measurer Bag	-	-	-	-
Hose Spray Nozzle	110	50	50	50
Soil Probe	60	30	30	30
Rain/Sprinkler Gauge	-	-	-	-
Other	-	-	-	-
Educational Materials	-	-	-	-
Total Number of Devices[1]	**1,820**	**880**	**880**	**880**
Actual water savings – AFY[2]	**4.49**	**1.64**	**1.64**	**1.64**

[1] Does not include educational materials.

[2] Total water savings only includes savings for showerheads (0.0062 AFY/device), faucet aerators (0.0017 AFY/device), toilet flappers (0.0047 AFY/device) and leak detection tablets (0.0007 AFY/device). Water savings assumptions shown are based on CUWCC BMP Water Savings Worksheets for each device.

6.2.10 BMP 3.2 LANDSCAPE WATER SURVEY (DMM A)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *Perform site-specific landscape water surveys that shall include, but are not limited to, the following: check irrigation system and timers for maintenance and repairs needed; estimate or measure landscaped area; develop customer irrigation schedule based on precipitation rate, local climate, irrigation system performance, and landscape conditions; review the scheduling with customer; provide information packet to customer; and provide customer with evaluation results and water savings recommendations.*

Site-specific landscape water surveys for residential customers are included with the Residential Water Audits Program described under BMP 3.1 (Section 6.2.9).

Rebates for landscape-related devices for residential customers are offered through MWD's SoCal Water $mart rebate program. In 2009, the District partnered with its wholesalers, WBMWD, USGVMWD, and MWD, to offer rebates to residential customers through MWD's SoCal Water $mart rebate program. The program requires that residential customers reside in areas served by MWD wholesalers. Rebated devices used to reduce outdoor water use include synthetic turf rebates, rotating nozzles, and smart controllers (also known as weather based irrigation controllers (WBIC)). The SoCal Water $mart program is completely funded by MWD. The past and projected number of devices rebated are summarized in Table 6-14 and Table 6-15, respectively.

Table 6-14. Actual Residential Landscape Rebates- SoCal Water $mart Program

Actual	2006	2007	2008	2009	2010
Rotating Nozzle	-	-	-	1	-
Smart Controller (WBIC)	-	-	-	-	1
Synthetic Turf			-	5	-
Number of rebates paid	-	-	**-**	**6**	**1**
Actual water savings – AFY [1]	-	-	**-**	**unknown**	**0.41**

[1] Assumes 0.0414 AFY savings per smart controller rebate based on 2010 MWD savings reported to District **(38)**.

Table 6-15. Planned Residential Landscape Rebates- SoCal Water $mart Program

Planned	2011	2012	2013	2014
Rotating Nozzle	-	-	-	-
Smart Controller (WBIC)	2	2	2	2
Synthetic Turf	-	-	-	-
Other	-	-	-	-
Number of rebates paid	**2**	**2**	**2**	**2**
Actual water savings – AFY [1]	**0.08**	**0.08**	**0.08**	**0.08**

[1] Assumes 0.0414 AFY savings per smart controller rebate based on 2010 MWD savings reported to District **(38)**.

6.2.11 BMP 3.3 HIGH-EFFICIENCY CLOTHES WASHING MACHINE FINANCIAL INCENTIVES PROGRAMS (DMM F)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *Provide incentives or institute ordinances requiring the purchase of high-efficiency clothes washing machines (HECWs) that meet an average water factor value of 5.0. If the WaterSense Specification is less than 5.0, then the average water factor value will decrease to that amount.*

The District administers rebates for residential customers to purchase high-efficiency clothes washers (HECWs). From January 2007 through May 2007, the District's HECW rebate program was managed by a contracted vendor, View Tech (35). In June 2007, the District partnered with CUWCC to offer the Smart Rebate program which was co-funded by the District and Proposition 50 Water Use Efficiency grant funding through DWR (35). The program continued through 2008 and into January 2009. DWR funding was frozen on January 31, 2009 (36). From January 31, 2009, through June 2010, the District provided in-house rebates for HECWs. In June 2010, the District resumed its partnership with CUWCC to provide rebates for HECWs through CUWCC's grant-funded Smart Rebate program (28).

In 2009, the District partnered with its wholesalers, WBMWD, USGVMWD, and MWD, to offer rebates to residential customers through MWD's SoCal Water $mart rebate program. The program requires that residential customers reside in areas served by MWD wholesalers. Rebated devices include HECWs. The SoCal Water $mart program is completely funded by MWD, although the District has provided additional funding in some years (36).

The rebates paid through each program are summarized in Table 6-16. The District plans to continue implementation of this BMP, as shown in Table 6-17.

Table 6-16. Actual Residential HECW Rebates

Actual	2006[1]	2007	2008	2009	2010
Smart Rebate Program (CUWCC) and In-House Rebate Program					
$ per rebate	-	Up to 150	150[2]	150[2]	100/108[3]
Number of rebates paid	-	14	34	68	34
SoCal Water $mart Rebate Program (MWD)					
$ per rebate	-	-	-	85	85
Number of rebates paid	-	-	-	49	203
Total					
Number of rebates paid	**-**	**14**	**34**	**117**	**237**
Actual water savings – AFY [4]	**-**	**0.44**	**1.07**	**3.67**	**7.44**

[1] HECW's rebated in 2006 had a water factor less than or equal to 6, which was the lowest water use category in the 2006 CUWCC reporting framework.

[2] Rebate amounts are an estimate.

[3] From January 2010 to June 2010, rebates were $100 per HECW (provided through CAW in-house funding and RWA funding). After June 2010, rebates were $108 per HECW (provided through CUWCC's Smart Rebate Program).

[4] Assumes 0.0314 AFY of savings per HECW based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 10 year lifespan **(39)**. Note that MWD's program assumes 0.0312 AFY of savings per HET; to be consistent, these estimates assume 0.0314 AFY of savings per HET regardless of the rebate program.

Table 6-17. Planned Residential HECW Rebates

Planned	2011	2012	2013	2014
Smart Rebate Program (CUWCC)				
$ per rebate	Up to 150	Up to 150	Up to 150	Up to 150
Number of rebates paid	20	20	20	20
SoCal Water $mart Rebate Program (MWD)				
$ per rebate	85	85	85	85
Number of rebates paid	500	200	200	200
Total				
Number of rebates paid	**520**	**220**	**220**	**220**
Projected water savings - AFY [1]	**16.33**	**6.91**	**6.91**	**6.91**

[1] Assumes 0.0314 AFY of savings per HECW based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 10 year lifespan **(39)**. Note that MWD's program assumes 0.0312 AFY of savings per HET; to be consistent, these estimates assume 0.0314 AFY of savings per HET regardless of the rebate program.

6.2.12 BMP 3.4 WATER SENSE SPECIFICATION (WSS) TOILETS (DMM N)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *Provide incentives or ordinances requiring the replacement of existing toilets using 3.5 or more gpf (gallons per flush) with a toilet meeting WSS.*

The current WSS requires that single flush toilets use 1.28 gpf or less, which is 20% less than the federal maximum of 1.6 gpf (40). Consistent with WSS, the CUWCC defines high-efficiency toilets (HETs) as toilets using 1.28 gpf or less. Note that ultra low flush toilets (ULFTs) are defined as toilets that use 1.6 gpf.

6.2.12.1 Residential Rebates

The District administers rebates for residential customers to replace existing toilets with HETs. Prior to June 2007, the District provided in-house rebates for replacing inefficient toilets with ULFTs or HETs. From June 2007 through January 2009, the District partnered with CUWCC to offer the Smart Rebate program which was co-funded by the District and Proposition 50 Water Use Efficiency grant funding through DWR. DWR funding was frozen on January 31, 2009 (36). From January 31, 2009, through June 2010, the District provided in-house rebates for HETs. In June 2010, the District resumed its partnership with CUWCC to provide rebates for HETs through CUWCC's grant-funded Smart Rebate program (28).

In 2009, the District partnered with its wholesalers, WBMWD, USGVMWD, and MWD, to offer rebates to residential customers through MWD's SoCal Water $mart rebate program. The program requires that residential customers reside in areas served by MWD wholesalers. Rebated devices include HETs. The SoCal Water $mart program is completely funded by MWD, although the District has provided additional funding in some years (36).

The rebates paid through each program are summarized in Table 6-18. The District plans to continue implementation of this BMP, as shown in Table 6-19.

Table 6-18. Actual Residential HET Rebates

Actual	2006[1]	2007[2]	2008	2009	2010
Smart Rebate Program (CUWCC) and In-House Rebate Program					
Number of rebates paid	44	-	16	29	14
SoCal Water $mart Rebate Program (MWD)					
Number of rebates paid	-	-	-	34	32
Total					
Number of rebates paid	**44**	**-**	**16**	**63**	**46**
Actual water savings – AFY [3]	**0.99**	**-**	**0.36**	**1.41**	**1.03**

[1] In 2006, rebates were given for replacing inefficient toilets with ULFTs, which use 1.6 gpf.

[2] In 2007, there was no participation in the Smart Rebate Program and the number of toilets rebated through the in-house program were not reported in the 2007 CPUC report **(35)**.

[3] Assumes 0.0224 AFY of savings per HET based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 25 year lifespan **(39)**. Note that MWD's program assumes 0.0425 AFY of savings per HET; to be consistent and conservative, these estimates assume 0.0224 AFY of savings per HET regardless of the rebate program.

Table 6-19. Planned Residential HET Rebates

Planned	2011	2012	2013	2014
Smart Rebate Program (CUWCC)				
Number of rebates paid	25	25	25	25
SoCal Water $mart Rebate Program (MWD)				
Number of rebates paid	10	10	10	10
Total				
Number of rebates paid	**35**	**35**	**35**	**35**
Projected water savings - AFY [1]	**0.78**	**0.78**	**0.78**	**0.78**

[1] Assumes 0.0224 AFY of savings per HET based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 25 year lifespan **(39)**. Note that MWD's program assumes 0.0425 AFY of savings per HET; to be consistent and conservative, these estimates assume 0.0224 AFY of savings per HET regardless of the rebate program.

6.2.12.2 Low-Income Direct Installation

In 2010, the District also offered a Low-Income Direct Installation Program to replace old toilets with HETs. Eligible customers were those enrolled in California American Water's H20 Help to Others program and multi-family customers in disadvantaged areas. The HETs has to replace existing toilets using 3.5 gpf or more (28).

Figure 6-7. California American Water's Help to Others Program

Through the program, 200 HETs were installed, which yielded savings of approximately 4.5 AFY based on unit savings of 0.0224 AFY per HET. The District plans to continue to implement this program, as shown in Table 6-20.

Table 6-20. Planned Low-Income HET Rebates

Planned	2011	2012	2013	2014
Number of HET rebates	25	70	70	70
Projected water savings - AFY [1]	0.56	1.57	1.57	1.57

[1] Assumes 0.0224 AFY of savings per HET based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 25 year lifespan **(39)**.

6.2.13 BMP 4 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (DMM I)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *Implement measures to achieve the water savings goal for CII accounts of 10% of the baseline water use over a 10-year period. Baseline water use is defined as the water consumed by CII accounts in the agency's service area in 2008. Credit for prior activities, as reported through the BMP database, will be given for up to 50% of the goal; in this case, coverage will consist of reducing annual water use by CII accounts by an amount equal to the adjusted percentage goal within 10 years. Implementation shall consist of item 1) or 2) or both in order to reach the agency's water savings goals.*
>
> *1) Implement measures on the CII list with well-documented savings that have been demonstrated for the purpose of documentation and reporting. The full list and their associated savings are included in the "Demonstrated Savings Measure List" in Section E below.*
>
> *2) Implement unique conservation measures to achieve the agency's water savings goals. Sample measures include, but are not limited to: industrial process water use reduction, industrial laundry retrofits, car wash recycling systems, water-efficient commercial dishwashers, and wet cleaning. Water use reduction shall be calculated on a case-by-case basis. Agencies will be required to document how savings were realized and the method and calculations for estimating savings. See the CII Flex Track Menu list in the attachment to Exhibit 1, as updated in the MOU Compliance Policy and BMP Guidebook.*

6.2.13.1 CII Audits

The District offers free water use audits to commercial, industrial, and institutional (CII) customers. The audits are performed by the District's contractor. CII audits are customized and include a detailed onsite audit that evaluates the facility, water use patterns, and indoor water use. After the audit, the customer is provided with detailed report containing the audit findings and a summary of recommendations specific to the property. The District began the program in 2010 and, as shown in Table 6-21, completed 11 CII audits in 2010 (28).

Because the District's CII audits are customized, the water savings differs for each site. The total water savings reported for 2010 is the sum of the savings estimated for each of the audits. The average savings per audit was calculated based on the number of surveys performed and the total estimated savings from all the audits.

The District plans to continue implementation of this BMP by providing CII audits, as shown in Table 6-22.

Table 6-21. Actual CII Audits

Actual	2006	2007	2008	2009	2010
Number of surveys completed	-	-	-	-	11
Were incentives provided?	-	-	-	-	Yes
Number of follow-up visits	-	-	-	-	-
Actual water savings – AFY[1]	-	-	-	-	20.57

[1] Assumes average savings of 1.87 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(28)**.

Table 6-22. Planned CII Audits

Planned	2011	2012	2013	2014
Number of surveys planned	12	5	5	5
Are incentives planned?	Yes	Yes	Yes	yes
Number of follow-up visits	-	-	-	-
Projected water savings - AFY	22.44	9.35	9.35	9.35

[1] Assumes average savings of 1.87 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(28)**.

6.2.13.2 CII Rebates

In addition to CII audits, the District offers a variety of rebates to commercial customers through the CUWCC Smart Rebate program and MWD's Save a Buck Rebate program. Through the CUWCC Smart Rebate program, commercial rebates are available for HETs, HECWs, high-efficiency urinals (HEUs), pressurized waterbrooms, and x-ray film processor re-circulation systems (28). According to available reports, there is no recorded participation in the CUWCC Smart Rebate Program by commercial customers in the District.

Commercial customers have participated in MWD's Save a Buck Program since 2007, which is when the District first began participating in the program. The District's wholesalers act us the liaisons between the District and MWD. The Save a Buck Program offers a variety of rebates for CII customers, including rebates for HETs, ultra low and zero water urinals, HECWs, rotating nozzles (for sprinkler heads), smart controllers (also known as weather based irrigation controllers (WBIC)), pressurized waterbrooms, food equipment, and HVAC equipment. The program is fully funded by MWD.

The historical and projected number of commercial rebates through MWD's Save a Buck Program are shown in Table 6-23 and Table 6-24, respectively.

Table 6-23. Actual Commercial Rebates- Save a Buck Program

Actual	2006	2007[1]	2008	2009	2010
HET Dual Flushometer	-	-	-	2	-
HET Tank	-	-	51	133	4
HECW	-	-	8	6	-
Rotating Nozzle	-	-	-	52	2
Smart Controller (WBIC)	-	-	-	1	2
Zero Water Urinal	-	-	5	18	2
Number of HET rebates	-	-	**64**	**212**	**10**
Actual water savings – AFY [2]	-	-	**3.64**	**8.83**	**0.45**

[1] Quantity of rebates was not reported in 2007 PUC report **(35)**.

[2] Water savings are based on MWD's Save A Buck program documentation **(41)**: HET Dual Flushometer (0.0425 AFY/HET), HET Tank (0.0425 AFY/HET), HECW (0.1075 AFY/HECW), rotating nozzle (0.0044 AFY/nozzle), smart controller (0.0129 AFY/station), and zero water urinal (0.1227 AFY/urinal).

Table 6-24. Planned Commercial Rebates- Save a Buck Program

Planned	2011	2012	2013	2014
HET Dual Flushometer	-	-	-	-
HET Tank	5	5	5	5
HECW	2	4	4	4
Rotating Nozzle	-	5	5	5
Smart Controller (WBIC)	2	2	2	2
Zero Water Urinal	5	5	5	5
Number of HET rebates	**14**	**21**	**21**	**21**
Actual water savings – AFY [1]	**1.07**	**1.30**	**1.30**	**1.30**

[1] Water savings are based on MWD's Save A Buck program documentation **(41)**: HET Dual Flushometer (0.0425 AFY/HET), HET Tank (0.0425 AFY/HET), HECW (0.1075 AFY/HECW), rotating nozzle (0.0044 AFY/nozzle), smart controller (0.0129 AFY/station), and zero water urinal (0.1227 AFY/urinal).

6.2.13.3 CII Direct Installation

In 2010, the District launched a CII Direct Installation Pilot Program. The District partnered with the Duarte Unified School District to install waterless urinals at Mount Olive High School and Northview Intermediate School, which is estimated to save a total of 0.50 AFY (28). The District has expanded the program and plans to implement the program at Andres Duarte, Bearslee, Maxwell, Royal Oaks, and Valley View schools in 2011.

6.2.14 BMP 5 LANDSCAPE (DMM E)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (27):

> *Agencies shall provide non-residential customers with support and incentives to improve their landscape water use efficiency. Credit for prior activities, as reported through the BMP database, will be given for documented water savings achieved through 2008.This support shall include, but not be limited to, the following:*
>
> *1) Accounts with Dedicated Irrigation Meters*
>
> *a) Identify accounts with dedicated irrigation meters and assign ETo-based water use budgets equal to no more than an average of 70% of ETo (reference evapotranspiration) of annual average local ETo per square foot of landscape area in accordance with the schedule below.*
>
> *Recreational areas (portions of parks, playgrounds, sports fields, golf courses, or school yards in public and private projects where turf provides a playing surface or serves other high-use recreational purposes) and areas permanently and solely dedicated to edible plants, such as orchards and vegetable gardens, may require water in addition to the water use budget. (These areas will be referred to as "recreational" below.) The water agency must provide a statement designating those portions of the landscape to be used for such purposes and specifying any additional water needed above the water use budget, which may not exceed 100% of ETo on an annual basis.*
>
> *If the California Model Water Efficient Landscape Ordinance is revised to reduce the water allowance, this BMP will be revised automatically to reflect that change.*
>
> *b) Provide notices each billing cycle to accounts with water use budgets showing the relationship between the budget and actual consumption.*
>
> *c) Offer site-specific technical assistance to reduce water use to those accounts that are 20% over budget in accordance with the schedule given in Section B; agencies may choose not to notify customers whose use is less than their water use budget.*
>
> *2) Commercial/Industrial/Institutional (CII) Accounts without Meters or with Mixed-Use Meters*

a) Develop and implement a strategy targeting and marketing large landscape water use surveys to commercial/industrial/institutional (CII) accounts with mixed-use meters.

b) In un-metered service areas, actively market landscape surveys to existing accounts with large landscapes, or accounts with landscapes which have been determined by the purveyor not to be water efficient.

3) Offer financial incentives to support 1) and 2) above.

The District offers its own programs, as well as leverages programs and advertising offered through MWD. Landscaping rebates offered through MWD's Save a Buck Program were discussed under BMP 4 (Section 6.2.13.2).

The District offers free large landscape (LL) audits to non-residential customers, including commercial, industrial and institutional customers. The audits are performed by the District's contractor. LL audits are customized and include a detailed outdoor audit. After the audit, the customer is given a detailed report with analysis and recommendations, which includes a site-specific water budget and irrigation schedule. In 2010, the District completed 8 LL audits (28).

In 2011, the District is adding a new direct install program to the large landscape audit program. After an LL audit, the customer will receive recommendations and the District will directly install water-saving devices, including irrigation controllers.

Because the District's LL audits are customized, the water savings differs for each site. The total water savings reported for 2010 is the sum of the savings estimated for each of the audits. The average savings per audit was calculated based on the number of surveys performed and the total estimated savings from all the audits.

The LL audits completed are shown in Table 6-25. The District plans to continue implementation of this BMP, as shown in Table 6-26.

Table 6-25. Actual LL Audits

Actual	2006	2007	2008	2009	2010
Number of surveys completed	-	-	-	2	8
Number of budgets developed	-	-	-	2	8
Number of follow-up visits	-	-	-	-	-
Actual water savings – AFY[1]	-	-	-	3.74	14.96

[1] Assumes average savings of 1.87 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(28)**.

Table 6-26. Planned LL Audits

Planned	2011	2012	2013	2014
Number of surveys planned	11	3	3	3
Number of budgets planned	11	3	3	3
Number of follow-up visits	-	-	-	-
Projected water savings – AFY[1]	20.57	5.61	5.61	5.61

[1] Assumes average savings of 1.87 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(28)**.

In addition to LL audits, the District promotes outdoor water conservation through various projects. In 2008, the District assisted the City of San Marino in upgrading their irrigation systems throughout the city to a weather based irrigation system connected to a central controller (42). In 2009, the District installed synthetic turf in the District's California Friendly Drought Tolerant Demonstration Garden at the District's Rosemead facility (36). In 2009, the District also provided the Savannah Cemetery with a new smart irrigation controller, assisted with building a demonstration garden in Baldwin Hills, and provided the City of Bradbury with funds to renovate city medians (36).

The District has dedicated 52 irrigation meters and an irrigation rate schedule, but does not currently assign ETo-based water budgets, except for customers that receive an LL audit.

6.3 BMPS NOT IMPLEMENTED OR NOT SCHEDULED TO BE IMPLEMENTED

Currently BMP 1.1.3 is not being implemented and is not scheduled to be implemented. This BMP is not implemented or scheduled for implementation because it is not applicable to the District as a retail agency.

7 CLIMATE CHANGE

California's Global Warming Solutions Act of 2006 (AB 32) recognized climate change as a "serious threat to the economic well-being, public health, natural resources, and the environment of California" (43). Potential adverse impacts listed include sea level rise and reduced quality and supply of water from the Sierra snowpack (43). Following the passing of AB 32, city and county general plans, California Environmental Quality Act (CEQA) documents, and Integrated Regional Water Management Plans (IRWMPs) must consider climate change. The Greater Los Angeles County (GLAC) IRWMP does not address climate change (44), but the IRWMP Update, which is currently being developed using grant funding from DWR, will include a climate change analysis (45).

The 2010 UWMP Act and 2010 UWMP Guidebook do not require climate change considerations in UWMPs, but do recommend considering IRWMP climate change objectives in the UWMP if applicable and available (2). Because the current GLAC IRWMP does not address climate change, the IRWMP cannot be used as a source for this section of the UWMP at this time. When the IRWMP climate change analysis is complete, this UWMP should be updated.

Recognizing that the impact of climate change on urban water systems is uncertain but potentially significant, mitigation and adaptation strategies are presented here to move towards reducing climate change impacts on the District.

7.1 MITIGATION

In the water sector, reducing energy use is the primary way to mitigate climate change (2). This includes energy efficiency, renewable energy generation, and water conservation. Energy is required to move, treat, use, and discharge water; thus, decreasing water use leads to a reduction in overall energy use.

An estimate of the greenhouse gas (GHG) emissions resulting from electricity use for pumping and treating water is carried out in Section 7.1.1 to illustrate potential GHG reduction strategies. The GHG analysis is provided for illustrative purposes and is not comprehensive. The analysis provides an estimate of the GHGs emitted as a result of pumping, treating, and delivering water to the District's customers, but does not include GHGs associated with treating and discharging wastewater, the fuel use of the vehicle fleet, or the energy use of other District facilities and buildings. For the Los Angeles County District, the analysis incorporates the GHGs associated with electricity use by the District to pump groundwater and distribute water to customers, termed physical energy, and the GHGs associated with the electricity that was used by other agencies to treat and deliver purchased water to the District, termed the embedded energy (46).

(1) Physical Energy: To determine the GHGs associated with the physical energy use, the quantity of electricity (kWh) currently used by the District and the corresponding emission factor for that electricity (lbs CO_2/kWh) must be obtained.

(2) Embedded Energy: Estimating the GHGs associated with the embedded energy of the imported water involves determining the amount of energy (kWh/AF) used to move water from its original source to the District's system, as well as the amount of energy used by other agencies to treat the water. The source of electricity at each location of energy input (e.g. pump station) determines the emissions factor of the electricity that was consumed at that location (lbs CO_2/kWh). The sum of the GHG emissions associated with each location where electricity was consumed yields the total GHG emissions associated with the embedded energy in the water.

The sum of the GHGs associated with the physical energy use and the embedded energy in the water gives a reasonable estimate of the District's GHG emissions associated with pumping and treatment energy. Implementing energy efficiency, renewable energy generation, and/or water conservation has the potential to decrease GHG emissions in the future.

7.1.1 GHG Estimate

The District's supply consists of groundwater, surface water, and imported water (see Table 4-1 in section 4.1). California American Water uses electricity to pump groundwater and to deliver groundwater, surface water, and imported water to customers in the District. The physical energy use by the District in each service area was estimated by multiplying the annual production in each service area by the assumed energy intensity for the service area. The energy intensity for each service area was estimated from electricity and production data provided by California American Water for the years 2006-2008, as shown in Table 7-1.

Table 7-1. Estimated Physical Energy Use in Each Service Area

Service Area	Energy Intensity (kWh/AF)
Baldwin Hills	554
Duarte	874
San Marino	793

The imported water contains embedded energy, which was used by other agencies to treat and deliver the water to the District. While the District purchases water from various agencies, the imported water is ultimately supplied by MWD and treated by MWD. In the Baldwin Hills service area, water is purchased from WBMWD. Although WBMWD's supply includes imported water from MWD and local sources, WBMWD does not supply the District with WBMWD's local supplies. WBMWD supplies the District with water from MWD and does not use any energy to deliver water from MWD to the District. The MWD water is delivered to the District by gravity (47). In the Duarte service area, water is purchased from USGVMWD, which relies on MWD for 100% of its potable supply (48). In the San Marino service area, water is purchased from MWD through the MSGB Watermaster. Like the Baldwin Hills service area, the MWD water delivered to both Duarte and San Marino service areas is assumed to be gravity fed downstream of MWD's treatment plants. Therefore, the agencies moving MWD water to the District are not pumping water to the District, but relying on gravity to move the water. The

embedded energy of the water entering the District's system is the embedded energy of the water as it exits MWD's system.

According to a 2010 study by the California Public Utilities Commission (CPUC), the embedded energy of water delivered by MWD to its customers is 2,473 kWh/AF (46). This only includes the energy for pumping. This value of 2,473 kWh/AF is assumed to be the embedded associated with pumping imported water to the District.

In addition, the imported water is treated by MWD. While the water may be treated at different water treatment plants, a value of 46 kWh/AF is assumed for treatment based on the energy requirements at MWD's Jensen Water Treatment Plant (49). Energy use for the Jensen Water Treatment Plant is for the entire facility, including administration and maintenance services which support the treatment plant. Treatment energy is added to the embedded energy for pumping discussed above to estimate the total embedded energy of the District's imported water. Therefore, the total embedded energy associated with pumping, treating, and delivering imported water to the District is assumed to be 2,519 kWh/AF.

Table 7-2 shows the amount of energy used in terms of physical energy use and embedded energy for each service area. Note that this includes only pumping and treatment energy.

Table 7-2. Physical and Embedded Energy Intensity of Water Delivered to the District

Energy Use	Baldwin Hills Energy Intensity (kWh/AF)	Duarte Energy Intensity (kWh/AF)	San Marino Energy Intensity (kWh/AF)
Physical energy (Applied to total production)	554	874	793
Embedded energy (Applied to imported water)	2,519	2,519	2,519

The electricity is provided by various electric utilities, including wholesale power suppliers, as the water is moved from the Bay-Delta (SWP) and the Colorado River (CRA) to MWD, and, ultimately, to the District. For this UWMP, an estimate of the average emissions factor for electricity consumed in California is used. The emissions factor is estimated to be 0.9 lbs CO_2/kWh based on the electric power emissions and electricity consumed in California from 2000 to 2008 (50). This factor is used to estimate the historical emissions (2005-2010) associated with both physical energy use and embedded energy.

In 2009, the CPUC sponsored a study to forecast future GHG emissions from California's electricity sector through 2020 (51). The accelerated policy case in the report assumes the state's Renewable Portfolio Standard (RPS) of 33% renewable generation by 2020 is achieved and estimates that the emissions factor will drop to 0.507 lbs CO_2/kWh in 2020 (51). For GHG projections, linearly interpolation was used to estimate the emissions factors for years between 2010 and 2020, assuming 0.9 lbs CO_2/kWh for 2010 and 0.507 lbs CO_2/kWh for 2020. The emissions factor for 2020 forward is assumed to be 0.507 lbs CO_2/kWh.

Using the historical water use, along with the estimated emissions factor and energy use described above, historical GHG emissions for the District were estimated.

Figure 7-1 and Figure 7-2 show the estimated GHG emissions of the District from 2005 through 2010. Future GHG emissions assuming SB7 targets are achieved and the electricity emissions factor decreases to 0.507 lbs CO_2/kWh by 2020 are shown in Figure 7-3. Emissions are shown as a percentage of the average calculated annual emissions over the most recent 5-year period, 2006-2010, which is estimated to be approximately 12,000 tons CO_2.

A summary of the assumptions used to generate Figure 7-1, Figure 7-2, and Figure 7-3 are listed below:

(1) For all years shown (1995-2030), the supply in each service area is assumed to be that shown in Table 4-1.
(2) The energy intensity of the imported supply is assumed to be constant at 2,519 kWh/AF (2,473 kWh/AF for pumping and 46 kWh/AF for treatment).
(3) WBWMD and USGVMWD are assumed to add no additional energy for water delivery of MWD water to California American Water, thus relying solely on gravity.
(4) The energy used by California American Water in each of the service areas to pump water is assumed to be constant: 554 kWh/AF for Baldwin Hills, 874 kWh/AF for Duarte, and 793 kWh/AF for San Marino. This does not take into consideration renewable energy generation such as hydropower or solar photovoltaic (PV) systems. These values of energy intensity were applied to the total production in each respective service area to determine the total annual physical energy use.
(5) The emissions factor for all electricity used from 2005-2010, including that used by the SWP, MWD, and the District, is assumed to be constant at 0.9 lbs CO_2/kWh.
(6) The emissions factor for all electricity used is assumed to decrease to 0.507 lbs CO2/kWh by 2020 due to RPS targets. Linear interpolation was used to estimate the emissions factors for years between 2010 and 2020, assuming 0.9 lbs CO2/kWh for 2010 and 0.507 lbs CO2/kWh for 2020. The emissions factor for 2020 forward is assumed to be 0.507 lbs CO2/kWh.
(7) The production for years 2005-2010 is based on data provided by California American Water. The production for years 2011-2030 is calculated based on projected population (shown in Table 2-3) and calculated gpcd based on SB7 requirements (shown in Figure 3-1).
(8) The GHG estimates include those associated with pumping and water treatment energy use only and do not include emissions associated with wastewater treatment and discharge, fuel use of vehicles, or energy use of other facilities and buildings; thus, the GHG estimates do not represent the total GHG footprint for the District.
(9) A value of 100% is equivalent to approximately 12,000 tons CO_2, which represents the average calculated annual emissions over the years 2006-2010.
(10) GHGs were estimated based on available data and are intended to be used for illustrative purposes only.

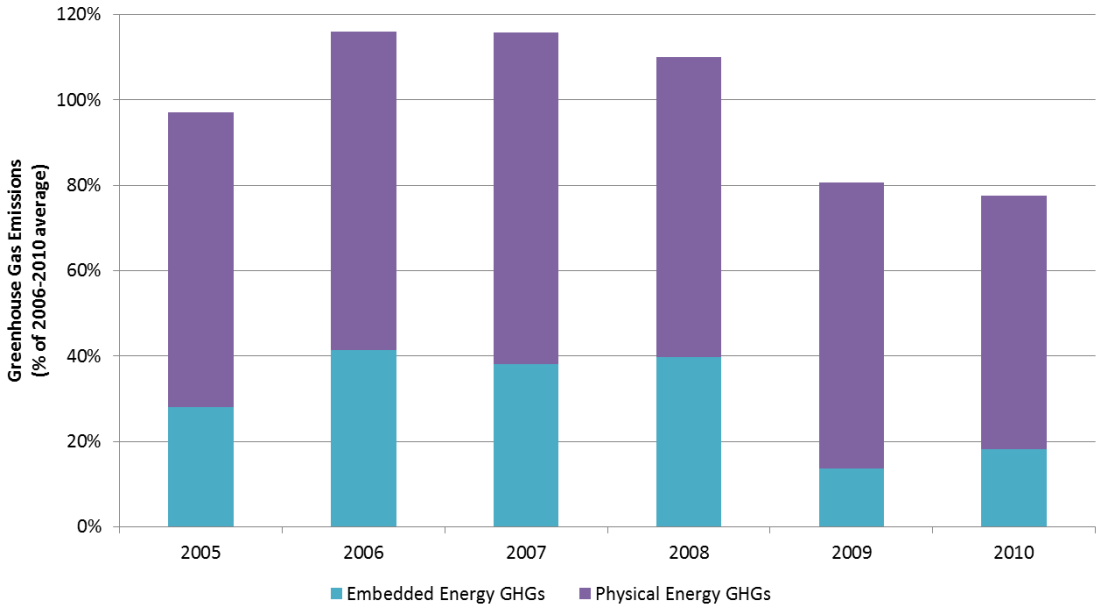

Figure 7-1. Estimated GHG Emissions for 2005-2010

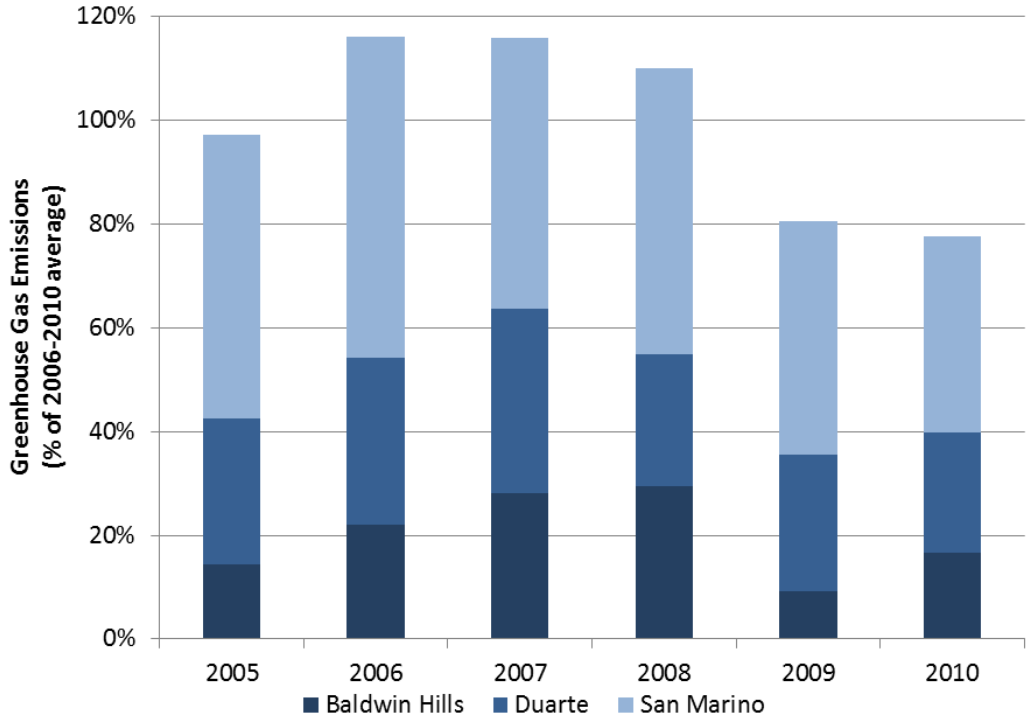

Figure 7-2. Estimated GHG Emissions for 2005-2010 for the District by Service Area

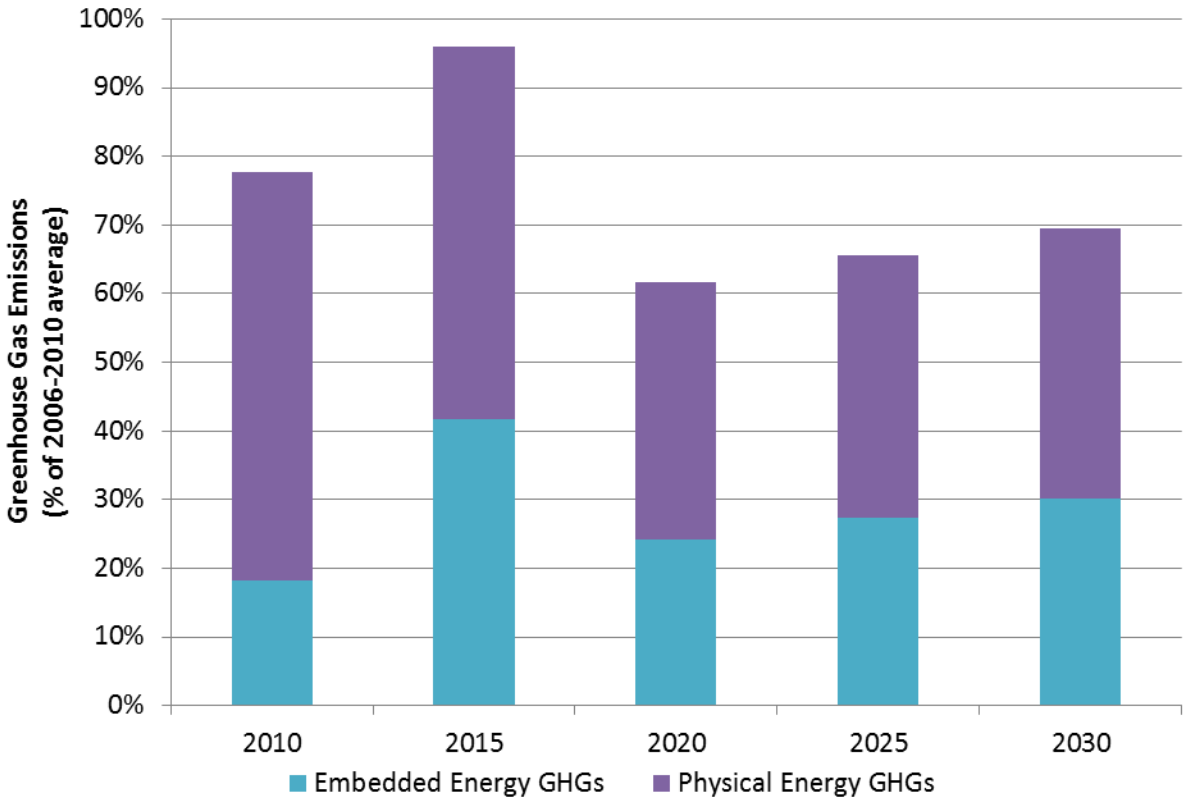

Figure 7-3. Estimated Current and Projected GHG Emissions for 2010-2030 for the District Assuming SB7 Targets and Reduced Emissions Factors due to RPS

Looking ahead at future scenarios provides insight into mitigation strategies. Three scenarios for 2020 are illustrated in Figure 7-4:

(1) Status quo (assumes SB7 targets and reduced electricity emissions factors due to RPS goals (0.507 lbs CO2/kWh by 2020) as described above).
(2) Status quo with 10% increase in energy efficiency by the District and wholesalers by 2020.
(3) Status quo with renewable generation by the District (300 MWh/year from solar PV and 400 MWh/year from in-conduit hydropower by 2020), in addition to 10% increase in energy efficiency by the District and wholesalers by 2020.

Like the figures above, GHG emissions in Figure 7-4 are shown as a percentage of the average calculated annual emissions over the most recent 5-year period, 2006-2010, which is estimated to be approximately 12,000 tons CO_2.

Figure 7-4 shows that in addition to water conservation, energy efficiency is a powerful GHG mitigation strategy. After energy efficiency improvements are made, renewable generation by the District can provide further GHG reductions and new revenue opportunities.

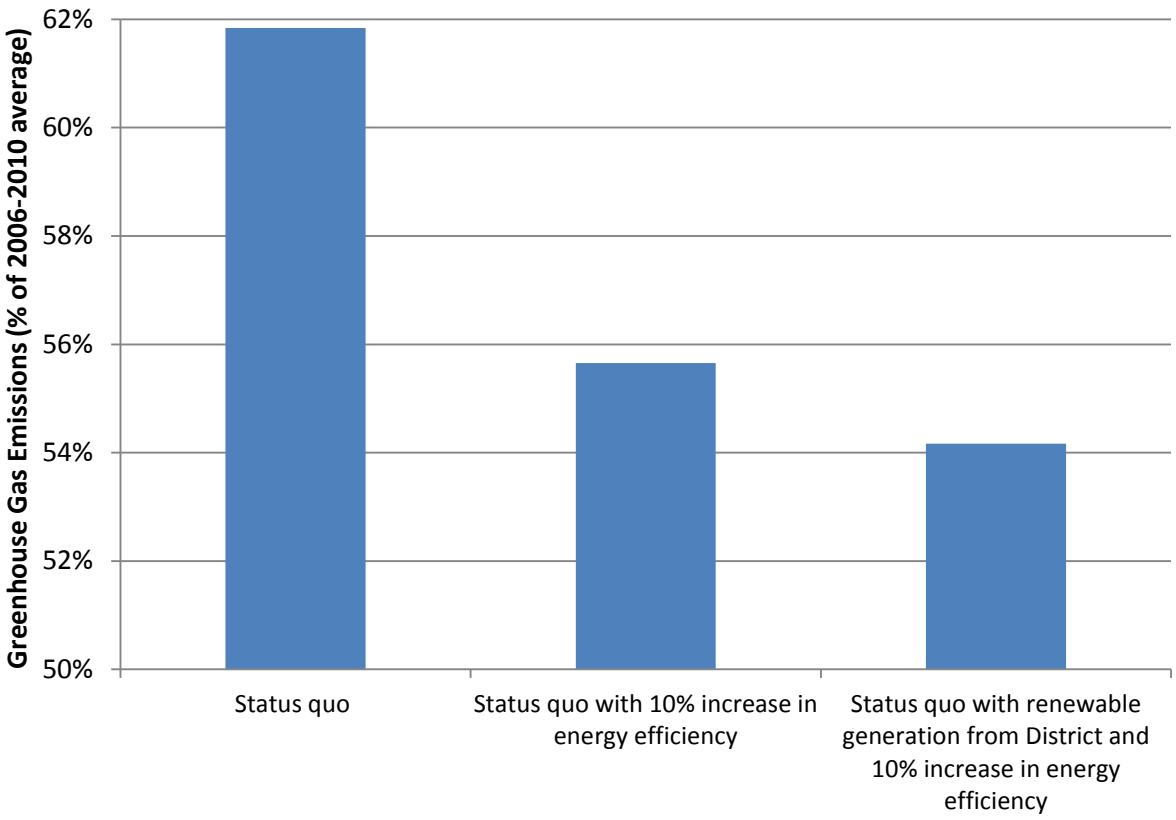

Figure 7-4. GHG Mitigation Scenarios Example (for the year 2020)

7.2 ADAPTATION

While the exact effects of climate change are uncertain, climate change will undoubtedly impact the District over the long term. For example, DWR expects that climate change will affect water demand, water supply and quality, sea level, and frequency of natural disasters statewide (2).

DWR recommends that water agencies consider the following climate change effects when establishing long-term plans, as shown in Table 7-3 (2):

Table 7-3. Potential Effects of Climate Change on Water Systems (2)

Climate Change	Potential Effect on Water System
Hotter days and nights, longer irrigation season, increase in landscaping water needs, increased cooling water needs for power plants and industrial facilities	Increased water demand
Reduced snowpack, earlier spring runoff, increased potential for algal bloom	Reduced or compromised supply (lower water quality)
Sea level rise, more extreme tides	Compromised supply; Stress on levees near sea; increased potential for seawater intrusion
Increased frequency and severity of natural disasters (including droughts, floods, wildfires)	Larger variability in supply; Increased stress on infrastructure

In the California Water Plan Update 2009, DWR considers 12 different climate change scenarios to predict water demand changes for three growth scenarios (52). Each climate change scenario has separate estimates of future precipitation and temperature. When climate change is considered, all three growth scenarios showed higher annual water demands than under a repeat of historical climate (52).

7.2.1 Adaptive Management

The effects of climate change on the District are difficult to predict due the complexity of factors, including the uncertainty in future temperature, the District's historical reliance on groundwater and the District's increasing use of imported water. Dealing with uncertainties like these requires an approach that is both flexible and robust. The recommended method to adapt to climate change effects on water systems is adaptive management. While adaptive management has been used in traditional water supply planning (53), it is also capable of integrating climate change uncertainties into water system management. The goal of adaptive management is to, "embrace uncertainty, accepting partial understanding of processes, and producing policies and designs that are less sensitive to the unexpected" (53).

Adaptive management is a continuous cycle consisting of four steps: (1) plan, (2) act, (3) monitor, and (4) evaluate, as shown in Figure 7-5 (53).

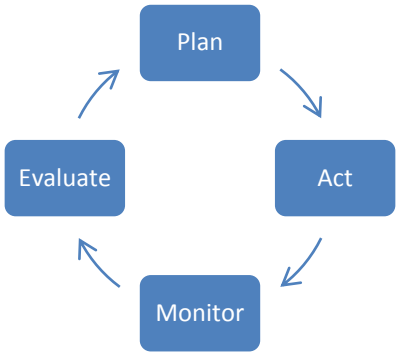

Figure 7-5. Adaptive Management Process

Evaluation results feed back into planning and the iteration process continues, yielding a closed-loop management process. This framework encourages future decisions that are based on actual results.

Table 7-4 shows three possible climate change effects that could impact the District and how the adaptive management process could be used to respond to them.

Table 7-4. Example Adaptive Management Scenarios

Example	Plan	Act	Monitor	Evaluate
Prolonged Drought in Colorado River	Exports from Colorado River Aqueduct may decrease; Identify alternative sources of water supply	Partner with WBMWD to deliver recycled water for irrigation to reduce potable water demand	Evaluate feasibility, reliability and cost-effectiveness of alternative supplies	Determine if recycled water is a cost-effective long-term supply; Use results to plan for future droughts and in long-term supply planning
Flood in Delta	Island flooding could reduce SWP exports; Identify other sources of supply, including water transfers	Pursue water transfers through MWD programs	Evaluate feasibility, reliability and cost-effectiveness of alternative supplies	Determine whether long-term agreements for water transfers are feasible and reliable; Use results to plan future projects/programs
Increased Temperature & Demand	Identify and predict periods of increased temperature; Develop potential alternatives to increase supply and/or decrease demand	Implement potential alternatives (e.g. implement water conservation programs, secure other sources of supply)	Collect data on success of water conservation programs; Monitor cost-effectiveness of chosen alternative supplies	Determine if increased demand was caused by increased temperatures or other factors; Use results to plan for future periods of high temperature

Related to the second scenario discussed in Table 7-4, DWR has recently published the Delta Risk Management Strategy Phase 2 report, which evaluates scenarios to reduce the risk of water export disruption associated with Delta levee failures (54). The report evaluates the impacts of major flood and seismic events in the Delta and identifies three major impacts of such events: (1) in-Delta losses, (2) loss of transportation and utility services, and (3) loss of water for export. The report concludes that reducing the risk to freshwater exports has the greatest statewide economic benefit (54). DWR's efforts to reduce risks to exports from the Delta will benefit the District and will help to mitigate potential climate change impacts, like increased flooding.

As the District encounters climate change impacts, employing the adaptive management process allows the District to manage these impacts on a continuous basis by evaluating alternatives, testing hypotheses, determining causes, and incorporating results into planning.

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APPENDIX A. BALDWIN HILLS

The Baldwin Hills service area is supplied by one groundwater basin; the Central Basin. The Central Basin lies east of the West Coast Basin and is bounded on the north by the La Brea high surface divide and by less permeable Tertiary rocks of the Elysian, Repetto, Merced and Puente Hills to the northeast and east. The total surface area is 277 square miles with a total storage capacity of 4.5 trillion gallons of groundwater[1]. California American Water has a fixed annual water-year allocation of 2,067 acre-feet; however withdrawals may exceed the fixed allocation up to 20% without violating the basin's adjudication. The difference however must be compensated for in the following water year. The basin is monitored by DWR to ensure an overdraft does not occur. The management plan for the Central Basin is the 2008-2009 groundwater monitoring plan. The 2008-2009 groundwater monitoring plan for the Central Basin can be found in Appendix G.

[1] California's Groundwater Bulletin 118, Coastal Plain of Los Angeles Groundwater Basin, Central Subbasin, February 2004

Table 6. Population Past, Current, & Projected (DWR Table 2)

	2005	2010	2015	2020	2025	2030
Baldwin Hills	17,712	17,688	18,099	18,527	18,943	19,345

Table 7. Water Deliveries- Actual, 2005 (DWR Table 3)

	2005				
	Metered	Not Metered			Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	5,578	2,599	0	0	2,599
Multi-family	383	339	0	0	339
Commercial	259	563	0	0	563
Industrial	0	0	0	0	0
Institutional/ governmental	17	100	0	0	100
Landscape	5	10	0	0	10
Agriculture	0	0	0	0	0
Other	1	0	0	0	0
Total	6,243	3,610	0	0	3,610

Table 8. Water Deliveries- Actual, 2010 (DWR Table 4)

	2010				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	5,591	2,347	0	0	2,347
Multi-family	384	297	0	0	297
Commercial	257	490	0	0	490
Industrial	0	0	0	0	0
Institutional/ governmental	19	105	0	0	105
Landscape	6	7	0	0	7
Agriculture	0	0	0	0	0
Other	1	0	0	0	0
Total	6,259	3,247	0	0	3,247

Table 9. Water Deliveries- Projected 2015 (DWR Table 4)

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	5,721	3,219	0	0	3,219
Multi-family	393	221	0	0	221
Commercial	263	148	0	0	148
Industrial	0	0	0	0	0
Institutional/ governmental	20	11	0	0	11
Landscape	6	3	0	0	3
Agriculture	0	0	0	0	0
Other	1	1	0	0	1
Total	6,404	3,603	0	0	3,603

Table 10. Water Deliveries- Projected, 2020 (DWR Table 6)

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	5,857	3,066	0	0	3,066
Multi-family	402	211	0	0	211
Commercial	270	141	0	0	141
Industrial	0	0	0	0	0
Institutional/ governmental	20	10	0	0	10
Landscape	6	3	0	0	3
Agriculture	0	0	0	0	0
Other	1	1	0	0	1
Total	6,556	3,432	0	0	3,432

Table 11. Water Deliveries- Projected, 2025, and 2030 (DWR Table 7)

	2025		2030	
	Metered		Metered	
Water use sectors	# of Accounts	Volume	# of Accounts	Volume
Single family	5,988	3,137	6,115	3,206
Multi-family	411	216	420	220
Commercial	276	144	282	148
Industrial	0	0	0	0
Institutional/ governmental	20	11	21	11
Landscape	6	3	7	3
Agriculture	0	0	0	0
Other	1	1	1	1
Total	6,703	3,512	6,845	3,589

Table 13. Sales to Other Water Agencies (DWR Table 9)

Water distributed	2005	2010	2015	2020	2025	2030
name of agency	0	0	0	0	0	0
name of agency	0	0	0	0	0	0
name of agency	0	0	0	0	0	0
Total	0	0	0	0	0	0

Table 14. Additional Water Uses and Losses (DWR Table 10)

Water use	2005	2010	2015	2020	2025	2030
Non-Revenue Water	118	243	127	127	127	127
Total	118	243	127	127	127	127

Table 15. Total Water Use (DWR Table 11)

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (from DWR Tables 3 to 7)	3,610	3,247	3,603	3,432	3,512	3,589
Sales to other water agencies (from DWR Table 9)	0	0	0	0	0	0
Additional water uses and losses (from DWR Table 10)	118	243	127	127	127	127
Total	3,729	3,489	3,730	3,559	3,639	3,716

Table 19. Retail agency Demand Projections Provided to Wholesale Suppliers (DWR Table 12)

Wholesaler	2010	2015	2020	2025	2030
West Basin Municipal Water District	972	1,663	1,492	1,572	1,649

[1] Assumes the full allocation from the Central Groundwater Basin is used and

Table 20. Wholesale Supplies- Existing and Planned Sources of Water (DWR Table 17)

West Basin Municipal Water District Sources	2010	2015	2020	2025	2030	2035
Groundwater[1]	36,360	45,000	45,000	45,000	45,000	45,000
Imported Water[2]	104,985	114,647	76,797	75,386	70,598	69,761
Recycled Water[3]	14,182	16,368	33,882	33,882	37,382	37,382
Desalination[4]	500	1,000	21,500	21,500	21,500	21,500
Total	156,027	177,015	177,179	175,768	174,480	173,643
Conservation[5]	14,000	15,119	21,039	21,640	22,971	23,632
Total	170,027	192,134	198,218	197,408	197,451	197,275

Source: Table Adapted from WBMWD Draft 2010 UWMP Table 4-2

[1] Groundwater production within West Basin service area only.

[2] Imported retail use only; Does not include replenishment deliveries (i.e. Barrier).

[3] Recycled water does not include replenishment deliveries (i.e. Barrier).and deliveries outside the service area.

[4] Desalination includes both brackish and ocean-water.

[5] Conservation consists of Active and Passive savings according to West Basin's projected estimates.

Table 21. Water Supplies- Current and Projected (DWR Table 16)

Water Supply Sources	2010	2015	2020	2025	2030
West Basin Municipal Water District	972	1,663	1,492	1,572	1,649
Central Groundwater Basin	2,517	2,067	2,067	2,067	2,067
Total	3,489	3,730	3,559	3,639	3,716

Table 26. Groundwater- Volume Pumped (DWR Table 18)

Basin Name(s)	2006	2007	2008	2009	2010
Central Groundwater Basin	2,708	1,944	1,651	3,526	2,517
Groundwater as a percent of total water supply	66%	48%	42%	96%	72%

Table 27. Groundwater- Volume Projected to be Pumped (DWR Table 19)

Basin Name(s)	2015	2020	2025	2030
Central Groundwater Basin	2,067	2,067	2,067	2,067
Percent of total water supply	55%	58%	57%	56%

Table 32. Recycled Water- Wastewater Collection and Treatment (DWR Table 21)

Type of Wastewater	2005	2010	2015	2020	2025	2030
Los Angeles County Sanitation District						
Wastewater collected & treated in service area[1]	1,647	1,644	1,683	1,723	1,761	1,799
Volume that meets recycled water standard[2]	593	592	606	620	634	647
Amount of Recycled Water Actually Reused[3]	261	260	267	273	279	285
[1] Wastewater calculations are based on the population for each service area multiplied by a wastewater flow generation factor of 83 gallons per capita per day provided by Los Angeles County						
[2] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards. Source: LACSD 2008-2009 Water Reuse Summary						
[3] Assumes 44% of the recycled water is actually reused. Source: LACSD 2007-2008 Water Reuse Summary						

Tabl 33. Recycled Water- Non-Recycled Wasewater Disposal (DWR Table22)

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
Ocean Discharge[1]	ıary, Secondary or Tert	1,384	1,416	1,450	1,482	1,514
[1] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards.						

Table 34. Recycled Water- Potential and Future Use (DWR Table 23)

User type	Description	2015	2020	2025	2030
Agricultural irrigation[3]	Potential				
Landscape irrigation[2]	Potential	3	3	3	3
Commercial irrigation	Potential				
Golf course irrigation	Potential				
Wildlife habitat[5]	Potential				
Wetlands	Potential				
Industrial reuse[4]	Potential				
Groundwater recharge[1]	Potential				
Seawater barrier	Potential				
Geothermal/Energy	Potential				
Indirect potable reuse	Potential				
Total		**3**	**3**	**3**	**3**

WBMWD Wholesale Factors resulting in Impacts to Reliability

	Water Sources	Legal	Environmental	Water Quality
Imported Water	X	X	X	X
Groundwater	X		X	X
Recycled Water			X	
Ocean Water Desalination			X	
Source: Adadpted from WBMWD Draft 2010 UWMP Table 5-1				

Table 39. Factors Resulting in Inconsistency of Supply (DWR Table 29)

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
Central Groundwater Basin	X			
WBMWD	X	X		X

Table 40. Wholesale Supply Reliability- Current Water Sources (DWR Table 31)

	Single Dry Year 1	Normal Water	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
	2001	1999	2001	2002	2003
Percent of Normal	4%	0%	4%	4.5%	5.0%
Source: Adadpted from WBMWD Draft 2010 UWMP Table 5-1					

Water Supply Sources	Average / Normal Water Year Supply	Average / Normal Water Year Supply	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Central Groundwater Basin	2,067	2,067	2,067	2,067	2,067
WBMWD	1,732	2,043	2,043	1,952	1,828
Percent of normal year:	100%	100%	100%	100%	100%

Table 55. Basis of Water Year Data (DWR Table 27)

Water Year Type	Base Year(s)
Average Water Year	2000
Single-Dry Water Year	2006
Multiple-Dry Water Years	2006-2009

Table 56. Supply Reliability- Historic Conditions (DWR Table 28)

Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
2009	2006	2006	2007	2008
Central Groundwater Basin	100%	100%	100%	100%
WBMWD	100%	100%	100%	100%

Table 58. Supply and Demand Comparison- Normal Year (DWR Table 32)

	2015	2020	2025	2030
Supply totals (from Table 16)	3,730	3,559	3,639	3,716
Demand totals (From Table	3,730	3,559	3,639	3,716
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 59. Supply and Demand Comparison- Single Dry Year (DWR Table 33)

	2015	2020	2025	2030
Supply totals	3,730	3,559	3,639	3,716
Demand totals	3,730	3,559	3,639	3,716
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 60. Supply and Demand Comparison- Multiple Dry-Year Events (DWR Table 34)

		2015	2020	2025	2030
Multiple-dry year first year supply	Supply totals	3,730	3,559	3,639	3,716
	Demand totals	3,730	3,559	3,639	3,716
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year second year supply	Supply totals	3,730	3,559	3,639	3,716
	Demand totals	3,730	3,559	3,639	3,716
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year third year supply	Supply totals	3,730	3,559	3,639	3,716
	Demand totals	3,730	3,559	3,639	3,716
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

APPENDIX B. DUARTE

The Duarte service area is supplied by the Main San Gabriel Basin (MSGB). The MSGB is an unconfined aquifer which provides up to 90 billion gallons of groundwater annually to San Gabriel Valley's 1.4 million residents. The total surface area of the Main San Gabriel Basin is 167 square miles and contains about 2.8 trillion gallons of groundwater[1]. The San Gabriel Mountains border the north with smaller hills including San Jose, Puente, Merced, and Repetto forming the east, south, and southwest borders. Multiple water agencies pump from the Main San Gabriel Basin, including California American Water which has an adjudicated right to 3.98144% of the annually determined safe yield for the San Marino service area. If California American Water exceeds its allocation, replacement water provided by Upper San Gabriel Valley Municipal Water District (USGVMWD) can be purchased. The replacement water is delivered to spreading grounds from which it percolates back into the MSGB. The management plan for the Main San Gabriel Basin is the 2009 groundwater monitoring plan. The 2009 groundwater monitoring plan for the Main San Gabriel Basin can be found in Appendix F.

A portion of the Duarte service area also overlies the Canyon Basin. The Canyon Basin is a subbasin of the MSGB and is thus governed by the MSGB Watermaster. The Canyon Basin is an unconfined aquifer bounded by the San Gabriel Mountains to the north, west and east. The total water storage capacity of the Canyon Basin is limited to approximately 4.89 billion gallons of groundwater. The basins are monitored by the MSGB Watermaster. The groundwater management plan for the MSGB is the 2009 groundwater monitoring plan (14). The 2009 groundwater monitoring plan for the MSGB can be found in Appendix F.

[1]Main San Gabriel Basin Watermaster, Five Year Water Quality and Supply Plan, November 2009

Table 6. Population Past, Current, & Projected (DWR Table 2)

	2005	2010	2015	2020	2025	2030
Duarte	29,302	29,643	30,369	31,116	31,840	32,538

Table 7. Water Deliveries- Actual, 2005 (DWR Table 3)

	2005				
	Metered	Not Metered			Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	6,556	3,723	0	0	3,723
Multi-family	180	548	0	0	548
Commercial	470	869	0	0	869
Industrial	0	0	0	0	0
Institutional/ governmental	57	545	0	0	545
Landscape	95	459	0	0	459
Agriculture	0	0	0	0	0
Other	3	0	0	0	0
Total	7,361	6,145	0	0	6,145

Table 8. Water Deliveries- Actual, 2010 (DWR Table 4)

	2010				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	6,758	3,148	0	0	3,148
Multi-family	182	395	0	0	395
Commercial	482	1,043	0	0	1,043
Industrial	0	0	0	0	0
Institutional/ governmental	61	434	0	0	434
Landscape	103	429	0	0	429
Agriculture	0	0	0	0	0
Other	7	1	0	0	1
Total	7,594	5,450	0	0	5,450

Table 9. Water Deliveries- Projected 2015 (DWR Table 4)

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	6,924	5,759	0	0	5,759
Multi-family	187	155	0	0	155
Commercial	494	411	0	0	411
Industrial	0	0	0	0	0
Institutional/ governmental	63	52	0	0	52
Landscape	105	87	0	0	87
Agriculture	0	0	0	0	0
Other	7	6	0	0	6
Total	7,780	6,471	0	0	6,471

Table 10. Water Deliveries- Projected, 2020 (DWR Table 6)

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	7,094	5,455	0	0	5,455
Multi-family	192	147	0	0	147
Commercial	506	389	0	0	389
Industrial	0	0	0	0	0
Institutional/ governmental	64	49	0	0	49
Landscape	108	83	0	0	83
Agriculture	0	0	0	0	0
Other	8	6	0	0	6
Total	7,971	6,130	0	0	6,130

Table 11. Water Deliveries- Projected, 2025, and 2030 (DWR Table 7)

	2025		2030	
	Metered		Metered	
Water use sectors	# of Accounts	Volume	# of Accounts	Volume
Single family	7,259	5,601	7,418	5,742
Multi-family	196	151	200	155
Commercial	518	400	529	410
Industrial	0	0	0	0
Institutional/ governmental	66	51	67	52
Landscape	110	85	113	87
Agriculture	0	0	0	0
Other	8	6	8	6
Total	8,157	6,294	8,335	6,452

Table 13. Sales to Other Water Agencies (DWR Table 9)

Water distributed	2005	2010	2015	2020	2025	2030
name of agency	0	0	0	0	0	0
name of agency	0	0	0	0	0	0
name of agency	0	0	0	0	0	0
Total	0	0	0	0	0	0

Table 14. Additional Water Uses and Losses (DWR Table 10)

Water use	2005	2010	2015	2020	2025	2030
Non-Revenue Water	1,149	690	911	911	911	911
Total	1,149	690	911	911	911	911

Table 15. Total Water Use (DWR Table 11)

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (from DWR Tables 3 to 7)	6,145	5,450	6,471	6,130	6,294	6,452
Sales to other water agencies (from DWR Table 9)	0	0	0	0	0	0
Additional water uses and losses (from DWR Table 10)	1,149	690	911	911	911	911
Total	7,294	6,139	7,382	7,041	7,205	7,362

Table 19. Retail agency Demand Projections Provided to Wholesale Suppliers (DWR Table 12)

Wholesaler	2010	2015	2020	2025	2030
USGVMWD	309	1,648	1,307	1,471	1,628

Table 21. Water Supplies- Current and Projected (DWR Table 16)

Water Supply Sources	2010	2015	2020	2025	2030
MSGB[1]	4,158	4,062	4,062	4,062	4,062
Surface Water Recharged to MSGB[2]	1,243	1,585	1,589	1,587	1,585
Surface Water for Irrigation[3]	429	87	83	85	87
USGVMWD Replacement Water[4]	309	1,648	1,307	1,471	1,628
Total	6,139	7,382	7,041	7,205	7,362

[1] Assumes the 1.8634% safe yield allocation from 2000 (normal year), determined by the MSGB

[2] The surface water allocation is fixed at 1,672 afy and the amount not used for irrigation can be

[3] Irrigation demands are assumed to be met entirely by diverted surface water.

[4] Replacement water is purchased from USGVMWD for the amount of water pumped from the

Table 26. Groundwater- Volume Pumped (DWR Table 18)

Basin Name(s)	2006	2007	2008	2009	2010
MSGB	7,896	8,424	7,329	6,897	5,830
Groundwater as a percent of total water supply	94%	93%	99%	96%	95%

Table 27. Groundwater- Volume Projected to be Pumped (DWR Table 19)

Basin Name(s)	2015	2020	2025	2030
MSGB	4,062	4,062	4,062	4,062
Percent of total water supply	55%	58%	56%	55%

Table 32. Recycled Water- Wastewater Collection and Treatment (DWR Table 21)

Type of Wastewater	2005	2010	2015	2020	2025	2030
Los Angeles County Sanitation District						
Wastewater collected & treated in service area[1]	2,724	2,756	2,823	2,893	2,960	3,025
Volume that meets recycled water standard[2]	981	992	1,016	1,041	1,066	1,089
Amount of Recycled Water Actually Reused[3]	432	437	447	458	469	479
[1] Wastewater calculations are based on the population for each service area multiplied by a wastewater flow generation factor of 83 gallons per capita per day provided by Los Angeles County						
[2] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards. Source: LACSD 2008-2009 Water Reuse Summary						
[3] Assumes 44% of the recycled water is actually reused. Source: LACSD 2007-2008 Water Reuse Summary						

Tabl 33. Recycled Water- Non-Recycled Wasewater Disposal (DWR Table22)

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
Ocean Discharge[1]	ıary, Secondary or Tert	2,319	2,376	2,435	2,491	2,546
[1] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards.						

Table 34. Recycled Water- Potential and Future Use (DWR Table 23)

User type	Description	2015	2020	2025	2030
Agricultural irrigation[3]	Potential				
Landscape irrigation[2]	Potential	87	83	85	87
Commercial irrigation	Potential				
Golf course irrigation	Potential				
Wildlife habitat[5]	Potential				
Wetlands	Potential				
Industrial reuse[4]	Potential				
Groundwater recharge[1]	Potential				
Seawater barrier	Potential				
Geothermal/Energy	Potential				
Indirect potable reuse	Potential				
Total		87	83	85	87

Table 39. Factors Resulting in Inconsistency of Supply (DWR Table 29)

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
MSGB	X			
USGVMWD		X		X

Table 40. Supply Reliability- Current Water Sources (DWR Table 31)

Water Supply Sources	Average / Normal Water Year Supply	Single Dry Water Year Supply	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year3
MSGB	4,062	4,431	4,431	3,877	3,323
MSGB Surface Water Allocation	1,672	1,672	1,672	1,672	1,672
USGVMWD MSGB Replacement	1,629	2,274	2,274	3,478	2,422
Percent of normal year:	100%	114%	114%	123%	101%

[1] The multiple dry years are based on the dry years conditions in 2006, 2007, and 2008, th

Table 55. Basis of Water Year Data (DWR Table 27)

Water Year Type	Base Year(s)
Average Water Year	2000
Single-Dry Water Year	2006
Multiple-Dry Water Years	2006-2009

Table 56. Supply Reliability- Historic Conditions (DWR Table 28)

	Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
MSGB	4,062	4,431	4,431	3,877	3,323
MSGB Surface Water Allocation	1,672	1,672	1,672	1,672	1,672
USGVMWD MSGB Replacement	1,629	2,274	2,274	3,478	2,422
Percent of normal year:	100%	114%	114%	123%	101%
[1] The multiple dry years are based on the dry years conditions in 2006, 2007, and 2008, th					
[2] Available fixed surface water allocation of 1,672 afy minus irrigation supply.					
[3] The amount of demand in each year not met by the allocations of the MSGB is assumed					

Table 58. Supply and Demand Comparison- Normal Year (DWR Table 32)

	2015	2020	2025	2030
Supply totals (from Table 16)	7,382	7,041	7,205	7,362
Demand totals (From Table	7,382	7,041	7,205	7,362
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 59. Supply and Demand Comparison- Single Dry Year (DWR Table 33)

	2015	2020	2025	2030
Supply totals	7,382	7,041	7,205	7,362
Demand totals	7,382	7,041	7,205	7,362
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 60. Supply and Demand Comparison- Multiple Dry-Year Events (DWR Table 34)

		2015	2020	2025	2030
Multiple-dry year first year supply	Supply totals	7,382	7,041	7,205	7,362
	Demand totals	7,382	7,041	7,205	7,362
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year second year supply	Supply totals	7,382	7,041	7,205	7,362
	Demand totals	7,382	7,041	7,205	7,362
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year third year supply	Supply totals	7,382	7,041	7,205	7,362
	Demand totals	7,382	7,041	7,205	7,362
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

APPENDIX C. SAN MARINO

The San Marino service area is supplied by two groundwater basins: 1) the Main San Gabriel Basin and 2) the Raymond Basin. The Main San Gabriel Basin is an unconfined aquifer which provides up to 90 billion gallons of groundwater annually to San Gabriel Valley's 1.4 million residents. The total surface area of the Main San Gabriel Basin is 167 square miles and contains about 2.8 trillion gallons of groundwater[1]. The San Gabriel Mountains border the north with smaller hills including San Jose, Puente, Merced, and Repetto forming the east, south, and southwest borders. Multiple water agencies pump from the Main San Gabriel Basin, including California American Water which has an adjudicated right to 3.98144% of the annually determined safe yield for the San Marino service area. If California American Water exceeds its allocation, potable water provided by MWD can be purchased.

The Raymond Basin is separated from the Main San Gabriel Basin by the Raymond fault which lies to the north of the Main San Gabriel Basin. The Raymond Basin covers about 40.9 square miles and was estimated to store a maximum of approximately 472 billion gallons of groundwater[2]. California American Water has a fixed legal right to 2,299 Acre-feet per year; however withdrawals may exceed the fixed allocation up to 10% without violating the basin's adjudication. The difference however must be compensated for in the following water year. In January 2009, the Raymond Basin Management board adopted a resolution that imposed a 30 percent reduction in water rights over a five-year period. The purpose of this resolution was to address declining water levels in the basin. For California American Water what this means is that its annual decreed rights of 2,299 acre-feet will ultimately be reduced to 1,609 acre-feet by July 2014.

The basins are carefully monitored by the MSGB Watermaster and Raymond Basin Management Board to ensure an overdraft does not occur. The groundwater management plan for the Main San Gabriel Basin is the 2009 groundwater monitoring plan and the management plan for the Raymond Basin is the 2008-2009 annual report. The 2009 groundwater monitoring plan for the Main San Gabriel Basin can be found in Appendix F and the 2008-2009 annual report for the Raymond Basin can be found in Appendix H.

[1]Main San Gabriel Basin Watermaster, Five Year Water Quality and Supply Plan, November 2009
[2]California's Groundwater Bulletin 118, Raymond Groundwater Basin, February 2004

Table 6. Population Past, Current, & Projected (DWR Table 2)

	2005	2010	2015	2020	2025	2030
San Marino	54,808	55,558	57,329	58,954	60,556	62,103

Table 7. Water Deliveries- Actual, 2005 (DWR Table 3)

	2005				
	Metered	Not Metered			Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	12,344	8,363	0	0	8,363
Multi-family	439	1,196	0	0	1,196
Commercial	1,159	1,607	0	0	1,607
Industrial	0	0	0	0	0
Institutional/ governmental	62	611	0	0	611
Landscape	24	72	0	0	72
Agriculture	0	0	0	0	0
Other	3	2	0	0	2
Total	14,031	11,851	0	0	11,851

Table 8. Water Deliveries- Actual, 2010 (DWR Table 4)

	2010				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	12,538	7,367	0	0	7,367
Multi-family	460	966	0	0	966
Commercial	1,177	1,355	0	0	1,355
Industrial	0	0	0	0	0
Institutional/ governmental	64	311	0	0	311
Landscape	26	65	0	0	65
Agriculture	0	0	0	0	0
Other	11	1	0	0	1
Total	14,275	10,064	0	0	10,064

Table 9. Water Deliveries- Projected 2015 (DWR Table 4)

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	12,937	10,486	0	0	10,486
Multi-family	475	385	0	0	385
Commercial	1,214	984	0	0	984
Industrial	0	0	0	0	0
Institutional/ governmental	66	53	0	0	53
Landscape	26	21	0	0	21
Agriculture	0	0	0	0	0
Other	12	9	0	0	9
Total	14,730	11,939	0	0	11,939

Table 10. Water Deliveries- Projected, 2020 (DWR Table 6)

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Accounts	Volume	# of Accounts	Volume	Volume
Single family	13,304	9,977	0	0	9,977
Multi-family	488	366	0	0	366
Commercial	1,248	936	0	0	936
Industrial	0	0	0	0	0
Institutional/ governmental	68	51	0	0	51
Landscape	27	20	0	0	20
Agriculture	0	0	0	0	0
Other	12	9	0	0	9
Total	15,148	11,360	0	0	11,360

Table 11. Water Deliveries- Projected, 2025, and 2030 (DWR Table 7)

	2025		2030	
	Metered		Metered	
Water use sectors	# of Accounts	Volume	# of Accounts	Volume
Single family	13,666	10,266	14,015	10,544
Multi-family	501	377	514	387
Commercial	1,282	963	1,315	989
Industrial	0	0	0	0
Institutional/ governmental	69	52	71	54
Landscape	28	21	29	22
Agriculture	0	0	0	0
Other	12	9	13	9
Total	15,559	11,688	15,957	12,005

Table 13. Sales to Other Water Agencies (DWR Table 9)

Water distributed	2005	2010	2015	2020	2025	2030
name of agency	0	0	0	0	0	0
name of agency	0	0	0	0	0	0
name of agency	0	0	0	0	0	0
Total	0	0	0	0	0	0

Table 14. Additional Water Uses and Losses (DWR Table 10)

Water use	2005	2010	2015	2020	2025	2030
Non-Revenue Water	576	620	725	725	725	725
Total	576	620	725	725	725	725

Table 15. Total Water Use (DWR Table 11)

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (from DWR Tables 3 to 7)	11,851	10,064	11,939	11,360	11,688	12,005
Sales to other water agencies (from DWR Table 9)	0	0	0	0	0	0
Additional water uses and losses (from DWR Table 10)	576	620	725	725	725	725
Total	12,428	10,684	12,664	12,085	12,413	12,730

Table 19. Retail agency Demand Projections Provided to Wholesale Suppliers (DWR Table 12)

Wholesaler	2010	2015	2020	2025	2030
MWD	628	2,296	1,717	2,045	2,362

Table 21. Water Supplies- Current and Projected (DWR Table 16)

Water Supply Sources	2010 [1]	2015	2020	2025	2030
MSGB[2]	8,436	8,759	8,759	8,759	8,759
Raymond Basin[3]	1,620	1,609	1,609	1,609	1,609
MWD[4]	628	2,296	1,717	2,045	2,362
Total	10,684	12,664	12,085	12,413	12,730

[1] The allocations for 2010 are based on actual production and purchases.

[2] The allocations for 2015-2030 are assumed to be the same as the allocations in a historical normal year (2000).

[3] Based on California American Water's allocation of 1,609 afy.

[4] The amount of demand in each year not met by the allocations in the Raymond and MSGB basins are assumed to be pumped from the MSGB and replacement water will be purchased from MWD. In 2010, California American purchased 3 acre feet from City of Pasadena and 36 acre feet from the City of South Pasadena.

Table 26. Groundwater- Volume Pumped (DWR Table 18)

Basin Name(s)	2006	2007	2008	2009	2010
MSGB	8,512	10,051	8,810	8,948	8,436
Raymond	1,839	1,844	1,870	1,905	1,620
Groundwater as a percent of total water supply	81%	90%	85%	92%	94%

Table 27. Groundwater- Volume Projected to be Pumped (DWR Table 19)

Basin Name(s)	2015	2020	2025	2030
MSGB	8,759	8,759	8,759	8,759
Raymond	1,609	1,609	1,609	1,609
Percent of total water supply	82%	86%	84%	81%

Table 32. Recycled Water- Wastewater Collection and Treatment (DWR Table 21)

Type of Wastewater	2005	2010	2015	2020	2025	2030
Los Angeles County Sanitation District						
Wastewater collected & treated in service area[1]	5,096	5,165	5,330	5,481	5,630	5,774
Volume that meets recycled water standard[2]	1,834	1,860	1,919	1,973	2,027	2,079
Amount of Recycled Water Actually Reused[3]	807	818	844	868	892	915

[1] Wastewater calculations are based on the population for each service area multiplied by a wastewater flow generation factor of 83 gallons per capita per day provided by Los Angeles County

[2] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards. Source: LACSD 2008-2009 Water Reuse Summary

[3] Assumes 44% of the recycled water is actually reused. Source: LACSD 2007-2008 Water Reuse Summary

Tabl 33. Recycled Water- Non-Recycled Wasewater Disposal (DWR Table22)

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
Ocean Discharge[1]	ıary, Secondary or Tert	4,347	4,486	4,613	4,738	4,859

[1] Assumes 36% of the water collected by LACSD is treated to meet recycled water standards.

Table 34. Recycled Water- Potential and Future Use (DWR Table 23)

User type	Description	2015	2020	2025	2030
Agricultural irrigation[3]	Potential				
Landscape irrigation[2]	Potential	21	20	21	22
Commercial irrigation	Potential				
Golf course irrigation	Potential				
Wildlife habitat[5]	Potential				
Wetlands	Potential				
Industrial reuse[4]	Potential				
Groundwater recharge[1]	Potential				
Seawater barrier	Potential				
Geothermal/Energy	Potential				
Indirect potable reuse	Potential				
	Total	**21**	**20**	**21**	**22**

Table 39. Factors Resulting in Inconsistency of Supply (DWR Table 29)

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
MSGB	X			
Raymond Basin	X			
MWD		X		X

Table 40. Supply Reliability- Current Water Sources (DWR Table 31)

Water Supply Sources	Average / Normal Water Year Supply	Single Dry Water Year Supply	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year3
MSGB[1]	8,759	9,555	8,512	10,051	8,810
Raymond Basin[2]	2,299	1,609	1,609	1,609	1,609
MWD[3]	2,743	503	2,695	1,564	2,120
Percent of normal year:	100%	85%	93%	96%	91%

[1] The multiple dry years are based on historical production during 2006, 2007, and 2008. The single dry year is based on the 3.98144% of the 2006 MSGB safe yield and the average year is based on 3.98144% of the 2000 MSGB safe yield.

[2] It is assumed that average supply is the current allocation of 2,299 afy, but the allocation will be reduced to 1,609 afy by 2015 and in dry years.

[3] It is assumed that all demand not met by the allocations in the MSGB and Raymond Basin will be met by purchasing replacement water from MWD.

Table 55. Basis of Water Year Data (DWR Table 27)

Water Year Type	Base Year(s)
Average Water Year	2000
Single-Dry Water Year	2006
Multiple-Dry Water Years	2006-2009

Table 56. Supply Reliability- Historic Conditions (DWR Table 28)

Water Supply Sources	Average / Normal Water Year Supply	Single Dry Water Year Supply	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year3
MSGB[1]	8,759	9,555	8,512	10,051	8,810
Raymond Basin[2]	2,299	1,839	1,839	1,844	1,870
MWD[3]	2,743	503	2,465	1,329	1,859
Percent of normal year:	100%	86%	93%	96%	91%

[1] The multiple dry years are based on historical production during 2006, 2007, and 2008. The single dry year is based on the 3.98144% of the 2006 MSGB safe yield and the average year is based on 3.98144% of the 2000 MSGB safe yield.

[2] It is assumed that average supply is the current allocation of 2,299 afy, but the allocation will be reduced to 1,609 afy by July 2014.

[3] It is assumed that all demand not met by the allocations in the MSGB and Raymond Basin willl be met by purchasing replacement water from MWD.

Table 58. Supply and Demand Comparison- Normal Year (DWR Table 32)

	2015	2020	2025	2030
Supply totals (from Table 16)	12,664	12,085	12,413	12,730
Demand totals (From Table 11)	12,664	12,085	12,413	12,730
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 59. Supply and Demand Comparison- Single Dry Year (DWR Table 33)

	2015	2020	2025	2030
Supply totals	12,664	12,085	12,413	12,730
Demand totals	12,664	12,085	12,413	12,730
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 60. Supply and Demand Comparison- Multiple Dry-Year Events (DWR Table 34)

		2015	2020	2025	2030
Multiple-dry year first year supply	Supply totals	12,664	12,085	12,413	12,730
	Demand totals	12,664	12,085	12,413	12,730
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year second year supply	Supply totals	12,664	12,085	12,413	12,730
	Demand totals	12,664	12,085	12,413	12,730
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year third year supply	Supply totals	12,664	12,085	12,413	12,730
	Demand totals	12,664	12,085	12,413	12,730
	Difference	0	0	0	0
	Difference as % of	0%	0%	0%	0%
	Difference as % of	0%	0%	0%	0%

APPENDIX D. PER CAPITA WATER USE MEMO

Technical Memorandum

Date: 7/11/2011

To: Mark Reifer, P.E.
California American Water
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CC: Fred Feizollahi; Garry Hofer; Monica Na; Patrick Pilz

Prepared by: Spencer Waterman

Reviewed by: Jeffery Szytel, P.E.

Project: 2010 Urban Water Management Plan for the Southern Division- Los Angeles County District

SUBJECT: **BASELINE DAILY PER CAPITA WATER USE AND TARGET WATER USE**

This memorandum presents the procedure used by California American Water's Southern Division Los Angeles County District to meet the requirements of Senate Bill x 7-7 (SB7) as defined in the Water Conservation Act of 2009 and incorporated into Division 6 of the California Water Code, commencing with Section 10608 of Part 2.55.

Background

On November 10, 2009, Governor Arnold Schwarzenegger signed Senate Bill x 7-7 into law. The legislation requires all water suppliers to achieve a reduction in per capita water use of 20% by December 31, 2020, with an interim target of 10% reduction by December 31, 2015. The legislation requires each urban water supplier to develop, and include in its Urban Water Management Plans (UWMPs), estimates of: 1) *baseline* daily per capita water use; 2) daily per capita water use *target*; 3) daily per capita water use *interim target*; 4) *compliance* daily per capita water use; and 5) confirmation that the target meets the minimum water use reduction requirement. The UWMP must also include bases for determining the estimates, with references to supporting data. However, SB 7 did not include a detailed description of the allowable methodologies for determining the required values. Instead, it required California Department of Water Resources (DWR) to develop appropriate methodologies and criteria, and to make them available to water suppliers no later than October 1, 2010. In consideration of this delay, the bill extended the deadline for adoption of the 2010 UWMP to July 1, 2011.

In connection with preparation of California American Water's Los Angeles County District 2010 UWMP update, California American Water hired Water Systems Consulting, Inc. (WSC) to develop the required estimates described by SB 7. The service areas being examined by WSC are Baldwin Hills, Duarte, and San Marino. Consistent with the requirements outlined in DWR's Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan, compliance of all three service areas will be evaluated for the Los Angeles County District as a whole. To facilitate completion of the 2010 UWMP project California American Water directed WSC to apply methodologies consistent with those described in the *Methodologies for Calculating*

Baseline and Compliance Urban Per Capita Water Use guidebook (Methodologies Guidebook). The procedure used to develop the required SB7 estimates includes the following basic steps:

1. Calculate baseline water use, which is the average gross daily water use per capita, reported in gallons per capita per day, based on gross water use and District population for a continuous 10-year period ending no earlier than December 31, 2004.
2. Calculate the urban water use target using one of the four methods described below
3. Check and confirm targets using a selected five-year running average
4. Calculate the interim urban water use target (equal to the average of the baseline and confirmed urban water use target)
5. Calculate the compliance daily per capita water use (equal to the gross daily water use per capita during the final year of the reporting period (i.e. 2010))

DWR allows the urban water supplier to choose one of four different methods to calculate the urban water use target in Step 2 above.

- Method 1 involves calculating the target based on 80% of baseline daily per capita water use and the interim target based on 90% of the baseline daily per capita water use.
- Method 2 involves calculating the per capita daily water use by using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses.
- Method 3 calculates the water use target as 95% of the applicable state hydrologic region target as stated in the draft 20x2020 Water Conservation Plan. California American Water's service areas are located in the South Coast hydrologic region number 4 as defined in the State's 20x2020 Water Conservation Plan.
- Method 4 is an approach developed by DWR to estimate water savings factors associated with implementation of various conservation measures. The water savings factors are used to calculate water use targets. Appendix A and Appendix B show the input and calculation spreadsheets for Method 4.

Gross Water Use

SB 7 defines gross water use as:

> *"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."*

Groundwater and surface water are the only sources of water in California American Water's Los Angeles County District. From 1995 through present, California American Water has not stored any water long-term or sold any water to other agencies[1]. Therefore, gross water use is calculated as the sum of California American Water's total surface water purchases and groundwater production.

Populations

GIS shapefiles with populations by census block were obtained from the United States Census Bureau for 1990, 2000, and 2010. These GIS shapefiles contained census populations separated into census blocks covering the Los Angeles County. In 2000, there were approximately 1,379 census blocks overlaying some part of California American Water's service areas. In 2010 there were approximately 1,730 census blocks overlaying some part of California American Water's service areas. Figure 1 through Figure 4 show the 2010 census blocks in relation to California American Water's service area boundaries.

[1] The exception to this is in 2000 California American Water sold less than half an acre foot to Adams Ranch Mutual Water Company. Because the water sold is such a small amount it does not affect the overall per capita water use calculation.

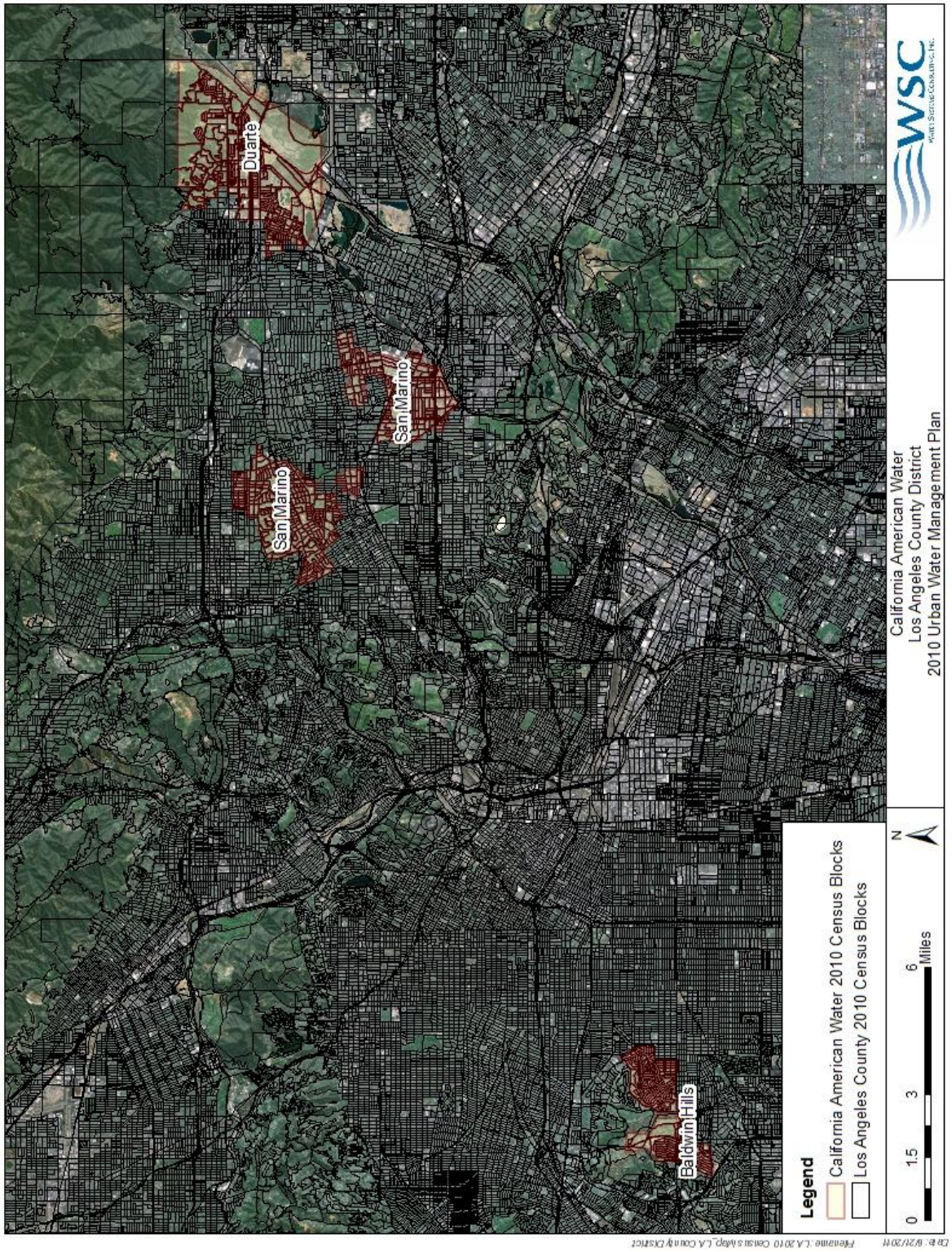

Figure 1. California American Water Service Area Boundaries with 2000 Census Blocks

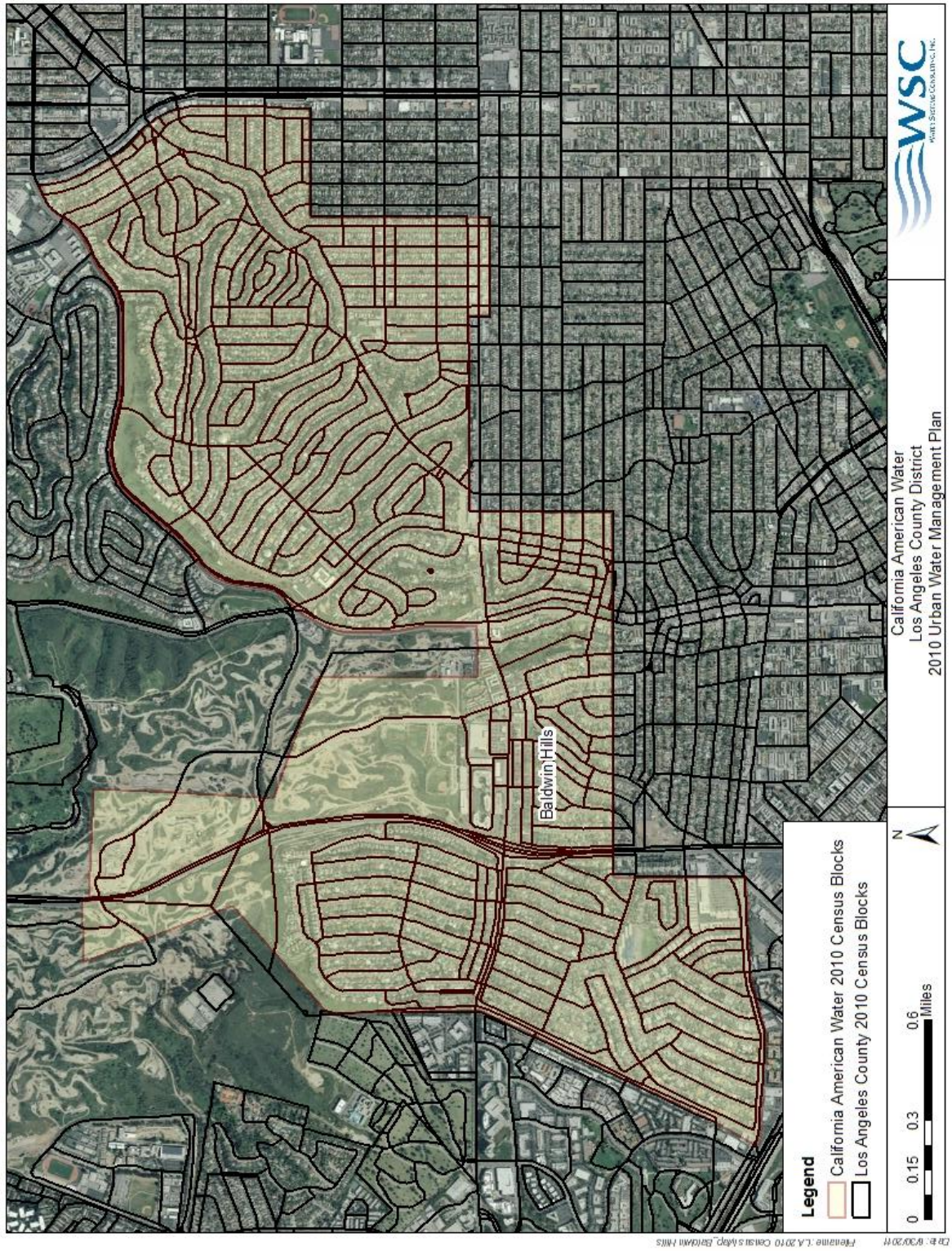

Figure 2. Baldwin Hills 2000 Census Blocks

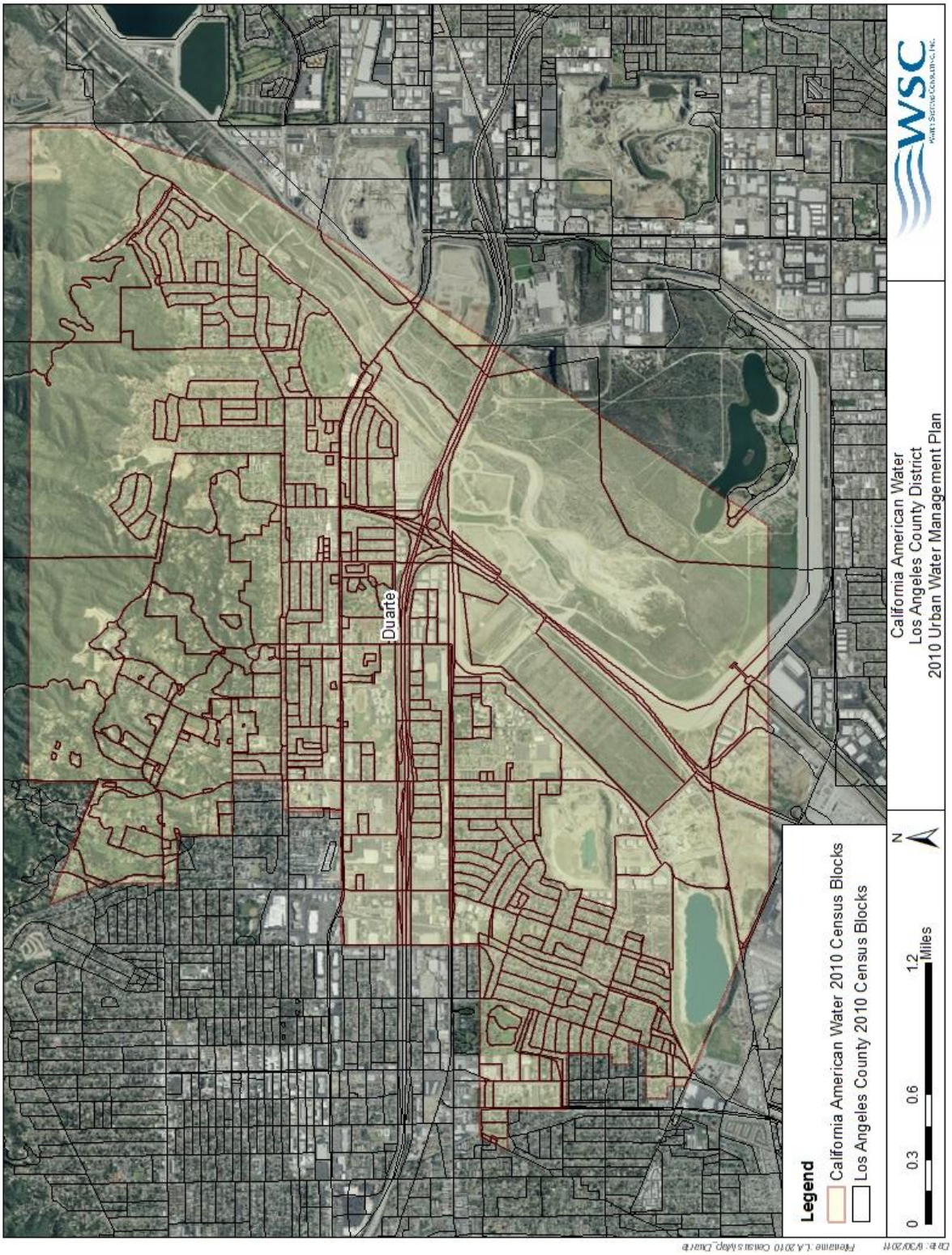

Figure 3. Duarte 2000 Census Blocks

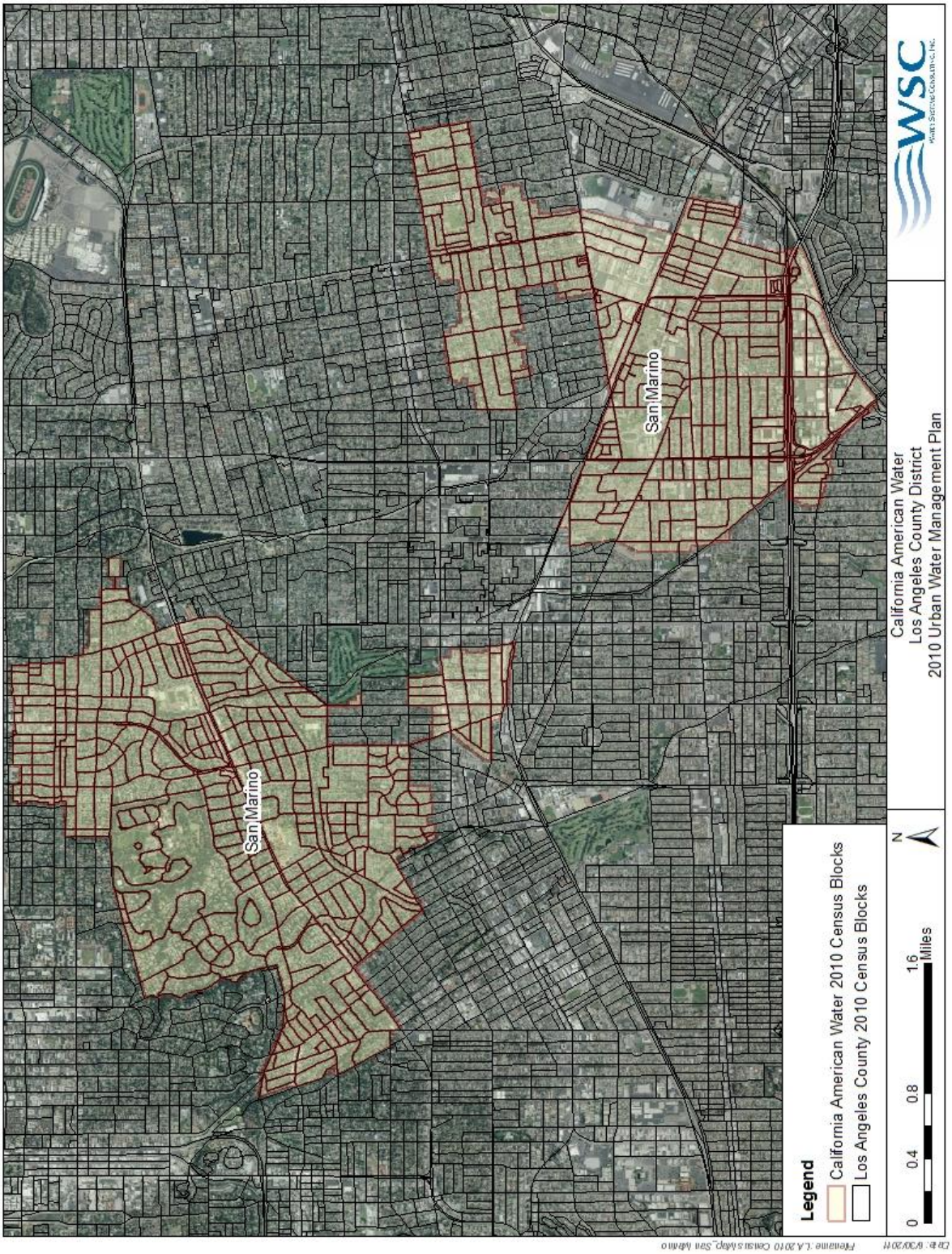

Figure 4. San Marino 2000 Census Blocks

Although spatial population distribution within each census block can vary based on development and land use patterns, WSC assumed that the distribution of population within each census block was uniform. The California American Water service area boundaries were intersected with the census block boundaries to calculate the area of each block within California American Water's service areas. WSC then applied a persons per acre factor, determined from the relevant Census, to each intersecting block. Finally, the calculated population of each block within California American Water's service area was summed up to provide populations by service area for 1990, 2000, and 2010. Interim years were calculated through linear interpolation between census years.

Baseline Per Capita Water Use

WSC calculated per capita water use using gross water use values and the population estimates shown in Table 1. The annual per capita water use value was averaged across 10-year periods ranging from 1995-2004 through 2001-2010. Figure 5 shows the historical population estimates, along with the annual per capita water use for the years 1995 through 2010

Table 1. Baseline Daily Per Capita Water Use

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	10 year running average (gpcd)
1994	98,758	n/a	n/a	
1995	99,091	20	202	
1996	99,424	21	214	
1997	99,757	22	222	
1998	100,090	20	196	
1999	100,423	21	214	
2000	100,756	22	222	
2001	100,969	21	211	
2002	101,182	22	220	
2003	101,396	21	203	n/a
2004	101,609	22	213	211.6
2005	101,822	21	206	212.0
2006	102,036	23	221	212.8
2007	102,249	23	229	213.5
2008	102,463	21	208	214.7
2009	102,676	20	198	213.1
2010	102,889	18	176	208.6
Baseline Daily Per Capita Water Use				**214.7**

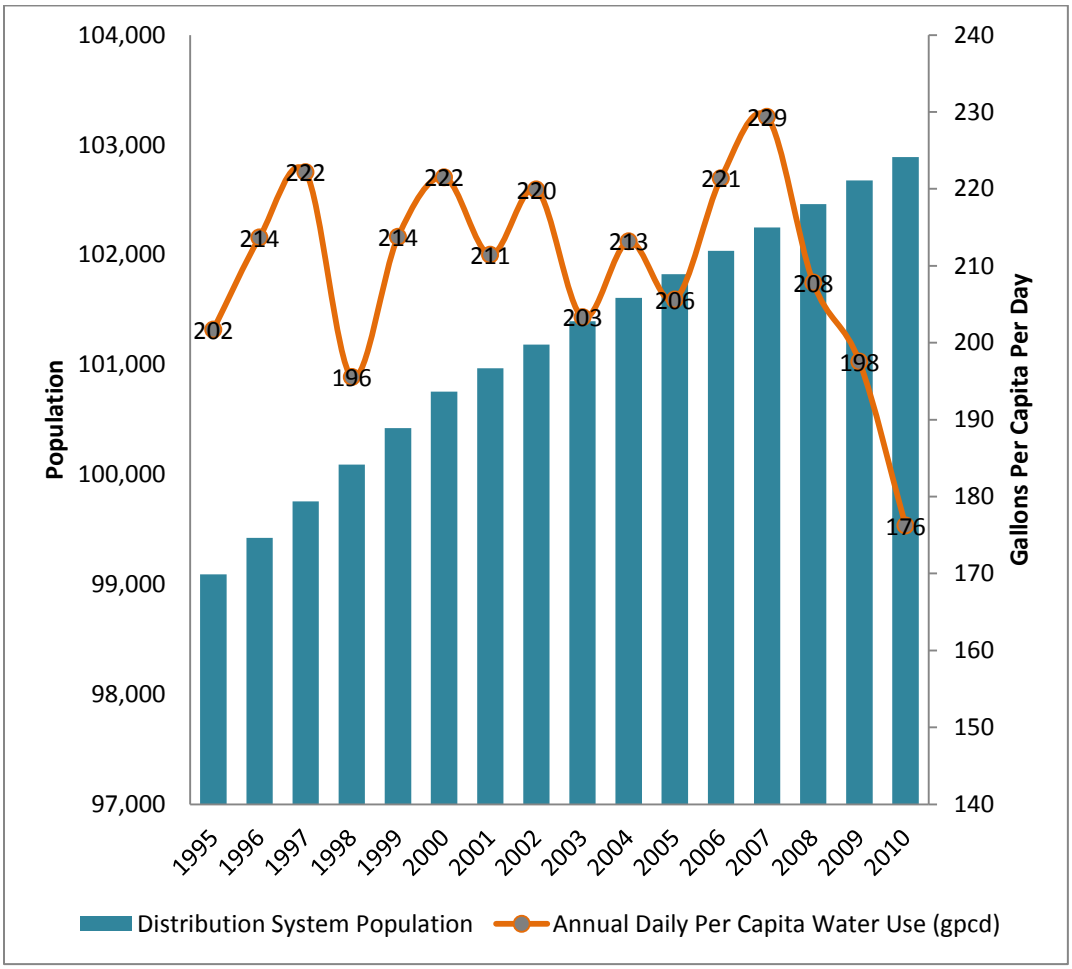

Figure 5. Population and Historical Per Capita Water Use

Water Use Targets

The baseline daily per capita water use is used to calculate the urban water use target and the interim urban water use target. The per capita water use target and interim target estimates are calculated using Method 1, Method 3, and Method 4 from the Methodologies Report. Method 2 was not used due to a lack of available data. Table 2 shows the estimated daily per capita water use targets for each method analyzed.

Table 2. Daily Per Capita Water Use Targets

Calculation Method	Water Use Target (gpcd)
Method 1: 80% of Baseline Per Capita Water Use	171.8
Method 2: Performance Standards	Not calculated
Method 3: 95% of Regional Target	142.0
Method 4: DWR Approach	186.5
Selected Urban Water Use Target	**186.5**

Minimum Water Use Reduction Requirements

The selected target must be less than 95% of a selected five-year running average ending no earlier than December 31, 2007 and ending no later than December 31, 2010 per the requirements of California Water Code Section 10608.22. Table 3 shows the minimum water use reduction based on five-year running averages. Table 4 shows the confirmation that the selected target meets the minimum water use reduction. Therefore, the target is adjusted to the minimum water use reduction number. Table 5 shows the final baseline, compliance, interim target, and target per capita water use. Table 6 shows the status of meeting the interim target and target based on current compliance per capita water use. Figure 6 shows the past, current and projected per capita water use for the Los Angeles County District.

The projected gpcd for interim years between 2010 and 2015 was calculated uniquely. It is assumed that the low gpcd experienced in 2010 is a result of multiple temporary factors, such as the economy, wet year hydrologic conditions and others. To account for this artificially low gpcd it is assumed that the 2011 gpcd will be equal to the five-year historical average gpcd from 2006-2010. The interim years between 2011 and 2015 were calculated through linear interpolation between the five-year historical average gpcd and the interim target water use. Lastly, the interim years between 2015 and 2020 were calculated through linear interpolation between the interim target water use and target water use. The values shown will be reported in California American Water's 2010 Los Angeles County District UWMP.

Table 3. Minimum Water Use Reduction

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	5 year running average
2003	101,396	21	203	
2004	101,609	22	213	
2005	101,822	21	206	
2006	102,036	23	221	
2007	102,249	23	229	214.6
2008	102,463	21	208	215.5
2009	102,676	20	198	212.3
2010	102,889	18	176	206.5
5-yr Baseline Daily Per Capita Water Use				**215.5**

Table 4. Target Confirmation

Selected Urban Water Use Target (gpcd)	**186.5**
95% of 5-year Base Daily Per Capita Water Use (gpcd)	204.7
Selected Urban Water Use Target < 95% of 5-year Base GPCD	Yes
Confirmed Urban Water Use Target, 2020 (gpcd)	186.5

Table 5. Baseline, Compliance, Interim Target, and Target Water Use

Parameter	Water Use (gpcd)
Baseline Daily Per Capita Water Use	214.7
2010 Daily Per Capita Water Use	176.2
2015 Interim Urban Water Use Target	200.6
2020 Urban Water Use Target	**186.5**

Table 6. Water Use Reduction Status

Water Use Reduction (on gpcd basis)	% Reduction[1]
Achieved by 2010	17.9%
Needed to meet 2015 target	-13.8%
Needed to meet 2020 target	-5.8%
[1] A negative % means the compliance is currently lower than the target.	

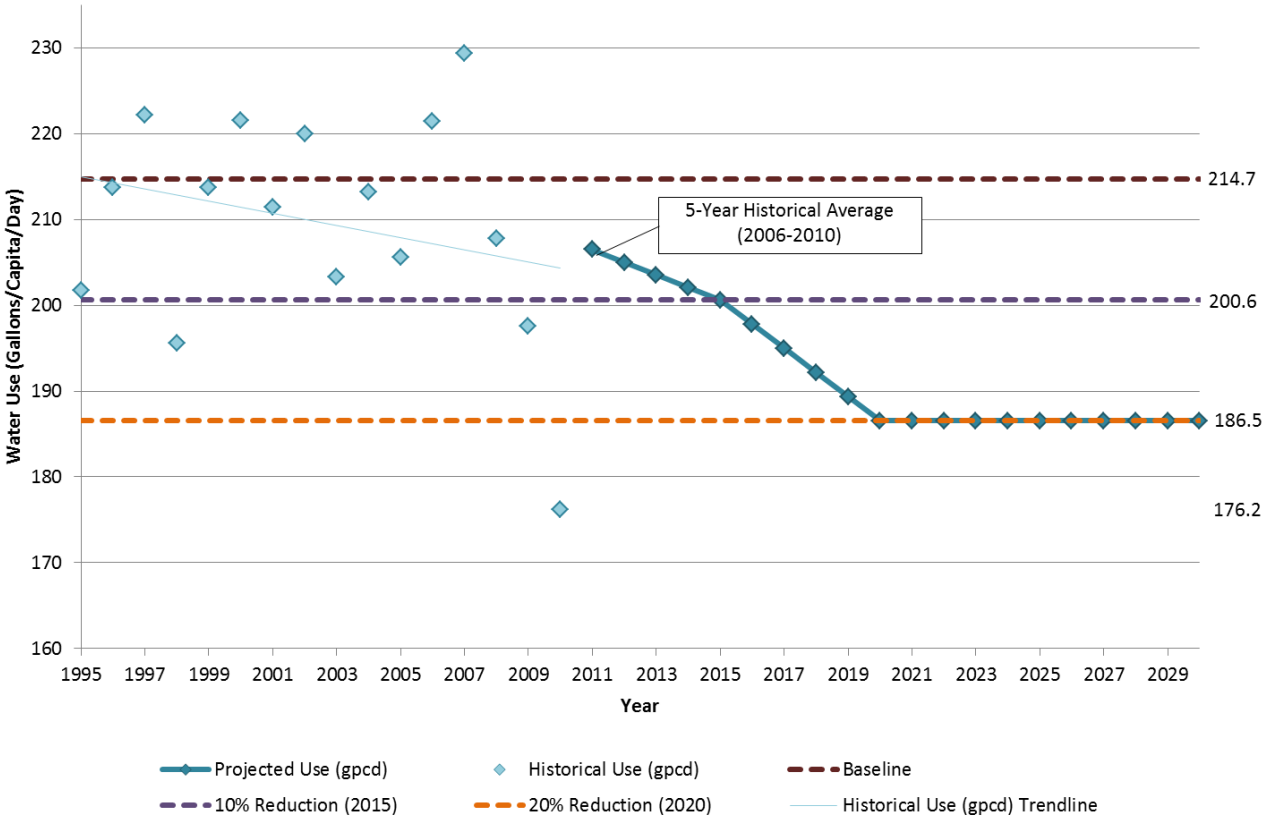

Figure 6. Historical, Current, and Project Per Capita Water Use

Appendix A. User Input- Method 4

User Input -- Provisional Method 4 Target

Target Calculation Option (select one): * Calculate Targets Using Indoor Residential Savings Calculators

* = Required Data

Water Supplier Name: * California American Water

10-15 Year Baseline Water Use Information

Baseline Period: * 1999-2008

Midpoint of Baseline Period: 2003

Baseline Water Use GPCD: * 214.7

Population in Midpoint Year: * 101,396

5 Year Baseline Water Use Information

Baseline Period: * 2004-2008

Baseline Water Use GPCD: * 215.5

95% of 5-Year Baseline GPCD: 204.7

Unmetered Connections

Number of Unmetered Connections in 2003: * 0

Water Use By Unmetered Connections In 2003: * 0 Acre-Feet

Baseline CII Water Use[1]

CII Water Use in 2003: * 3,001 Acre-Feet

Per Capita Use: 26.4 GPCD

[1]CII = Commercial, Industrial, Institutional.

If you have chosen to calculate targets using the Default Indoor Residential Savings, you do not need to complete the remaining tables.
Go to the "Calculated Targets" worksheet.

Appendix B. Calculator-Method 4

Target Calculation -- Provisional Method 4 Target

Step 1. Calculation of Landscape Water Use and System Water Loss

Urban Supplier	1999-2008 Baseline GPCD	—	Assumed Indoor Residential per Capita Water Use GPCD	—	CII per Capita Water Use GPCD	=	Estimated Landscape Water Use and System Water Loss GPCD
California American Water	214.7		70.0		26.4		118.3

Step 2. Calculation of Savings Using BMP Calculators

Urban Supplier	Indoor Residential Savings Calculators					+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Landscape + Water Loss Savings 21.6%	=	Total Savings GPCD
	Single Family Toilets	Multi Family Toilets	Residential Washers	Residential Showers	Total IR Savings								
California American Water			0.0	0.0	0.0		0.0		2.6		25.6		28.2

(Alternate) Step 2. Calculation of Savings Using Default Indoor Residential Savings (Alternate) STEP 2 NOT BEING USED TO CALC

Urban Supplier	Default Residential Indoor Savings	+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Landscape + Water Loss Savings 21.6%	=	(alt) Total Savings GPCD
California American Water	15.0		XXXX		XXXX		XXXX		XXXX

Step 3. Calculation of Urban Water Use Targets

Urban Supplier	1999-2008 Baseline GPCD	—	Total Savings GPCD	=	Computed 2020 Target GPCD	⇒	Less Than 95% of 5-Year Baseline	⇒	Final 2020 Target	⇒	Final 2015 Target
California American Water	214.7		28.2		186.5		TRUE		186.5		200.6

APPENDIX E. DEMAND PROJECTION METHODOLOGY

Demand Methodology

Demand projections were developed by applying the following methodology:

1. **Calculate SB7 Baseline and Targets.** WSC calculated the baseline, compliance, interim target, and target per capita water use for the entire Los Angeles County District in compliance with SB7 requirements. The *Baseline Daily Per Capita Water Use and Target Water Use Technical Memorandum* describes how these per capita numbers were calculated.
2. **Estimate population growth rates for each service area.** WSC calculated population projections and annual growth rates for each service area based on Southern California Association of Governments (SCAG) projections:
    a. SCAG provided a database of population projections up to 2035 in Excel format. The population projections years were 2003, 2005, 2010, 2015, 2020, 2025, 2030, and 2035. The database assigns population projections to each unique Census Tract. There are approximately 3,477 Census Tracts in the database. California American Water's service areas overlie approximately 59 Census Tracts. The Census Tracts were intersected with California American Water's service area boundaries using GIS.
    b. The next step involved calculating the population per area for each Census Tract area and calculating the amount of acres in each Census Tract that were overlapped by a California American Water service area boundary. The Census Tract population per area factor calculated for each Census Tract was applied to the amount of area in each Census Tract overlapped by a California American Water service area.
    c. Then, the projections for each service area were interpolated to provide a population projection for every year between 2005 and 2035.
    d. Lastly, an annual growth rate was calculated for each year for each service area.
3. **Estimate 2010 population.** WSC utilized population data from the 2010 census, to the block level, and intersected these data with California American Water service area boundaries to calculate population in each service area.
4. **Develop population projections through 2030.** WSC applied the growth rates calculated in step 2 to the 2010 population to calculate annual population estimates through 2030 for each service area.
5. **Develop total demand projections.** WSC applied the Interim Target gpcd to the projected population in 2015 in each service area to estimate demand. WSC applied the Target gpcd to the estimated projected population in 2020, 2025 and 2030 to estimate demand.

The expected gpcd for each service area was estimated based on historical gpcd and projected future conservation influences including such factors as distribution of population and types of use in each service area. Figure 1 shows the historical gpcd for each service area, which was used to estimate the projected gpcd patterns for each service area. To calculate projected per capita water use for each service area and the entire district, the following steps were implemented:

1. The projected gpcd for each service area was estimated based on historical gpcd and projected future conservation influences including such factors as distribution of population and types of use in each service area.
2. Each service area's population was multiplied by the estimated gpcd for each respective year, shown in Table 1, to project the total District-wide water use, shown in Table 2.
3. The District-wide water use was divided by the District-wide population to yield the District wide gpcd for each year.

The interim targets and targets for each service area sum up to a Los Angeles County District-wide gpcd, which SB 7 compliance is based on. Table 1 shows the current and projected gpcd for each service area and the Los Angeles County District.

Figure 1. Historical gpcd for all Service Areas

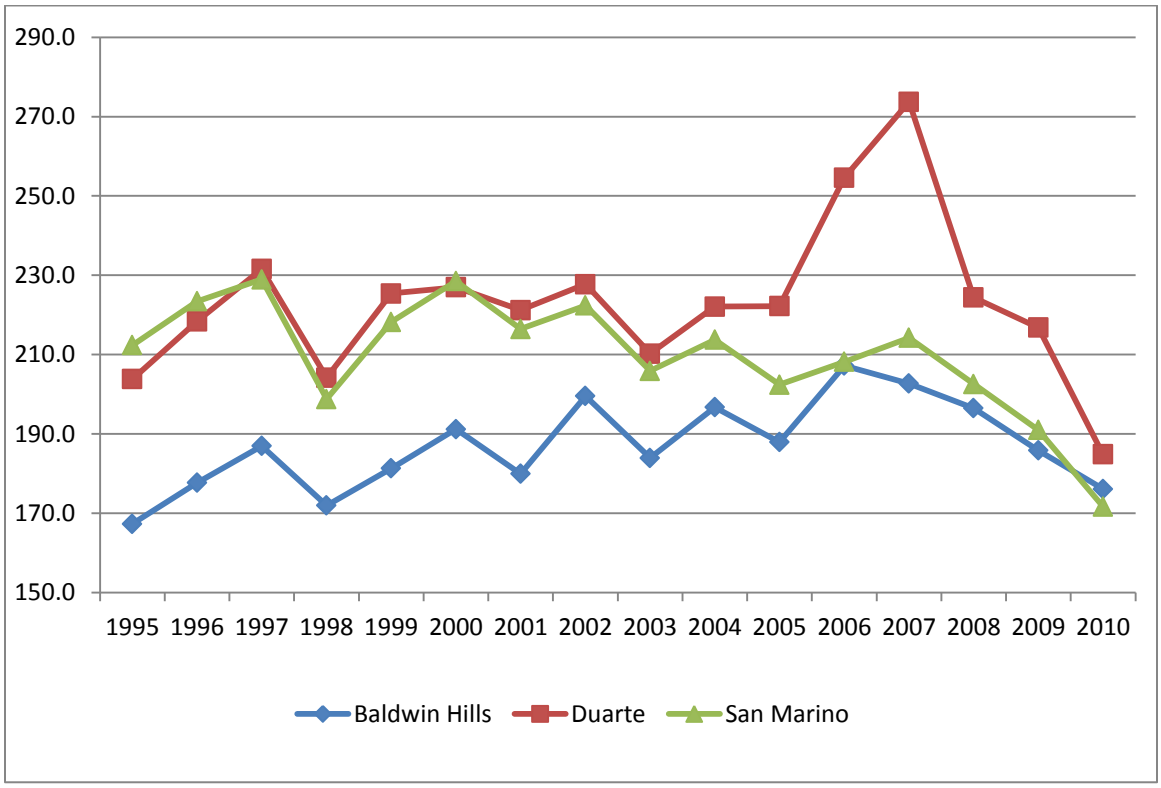

Table 1. Actual and Projected GPCD by Service Areas and District

	Actual GPCD	Projected GPCD			
Service Area	**2010**	**2015**	**2020**	**2025**	**2030**
Baldwin Hills	176	204	189	189	189
Duarte	185	208	195	195	195
San Marino	172	196	182	182	182
District Total	**176**	**201**	**187**	**187**	**187**

Table 2. Projected Population, Gross Water Use, and Per Capita Water Use

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)
2010	102,889	18.1	176
2015	105,797	21.2	201
2020	108,597	20.2	187
2025	111,339	20.7	187
2030	113,985	21.2	187

6. **Apportion total demand to DWR customer categories.** WSC established the amount of connections per type of use and deliveries per type of use in 2010 based on California American Water records. The total number of connections for 2015-2030 were estimated by applying the annual population growth rates. For 2015-2030, all accounts were assumed to be metered. The number of connections and water use by customer category was estimated based upon the same percentage distribution as in 2010.

APPENDIX F. MSGB FIVE-YEAR WATER QUALITY AND SUPPLY PLAN

Appendices F, G, H, L, M, and N are on a CD attached to the back cover of this UWMP.

APPENDIX G. CENTRAL BASIN GROUNDWATER MONITORING REPORT

Appendices F, G, H, L, M, and N are on a CD attached to the back cover of this UWMP.

APPENDIX H. RAYMOND BASIN ANNUAL REPORT 2008-2009

Appendices F, G, H, L, M, and N are on a CD attached to the back cover of this UWMP.

APPENDIX I. DWR REVIEW CHECKLIST

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	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.	10620(d)(2)		Section 1.1; Appendix J
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1.2; Appendix J
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Section 1.2; Appendix J
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Section 1.2; Appendix J
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1.1; Appendix J
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1.2; Appendix J
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Section 1.2; Appendix J
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1.2

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to 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. This also includes amendments or changes.	10644(a)		Section 1.2; Appendix J
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1.2; Appendix J
8	Describe the water supplier service area.	10631(a)		Section 2.1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2.1.1; 2.2.1
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 2.2
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2.2
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.2.1
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 3.1; Appendix D
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	N/A

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		No standardized form available in section 10608.40
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (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, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.2
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 3.3; Appendix J
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 3.2.1
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 4
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.2
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Section 4.2.1
16	Describe the groundwater basin.	10631(b)(2)		Section 4.2.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.2.1
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Section 4.2.1
19	For groundwater basins that are not adjudicated, provide information as to whether DWR 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. If the basin is adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		N/A
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Section 4.2
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Section 4.2
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.5
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.6
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.7
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Section 4.8
45	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.	10633(a)		Section 4.8.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
46	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.	10633(b)		Section 4.8.2
47	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.	10633(c)		Section 4.8.2
48	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.	10633(d)		Section 4.8.2
49	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.	10633(e)		Section 4.8.2
50	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.	10633(f)		Section 4.8.2
51	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.	10633(g)		Section 4.8.2

5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 5.1.2
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5.1
23	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.	10631(c)(2)		Section 5.1
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 5.2

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 5.2
37	Identify 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.	10632(c)		Section 5.2.2
38	Identify 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.	10632(d)		Section 5.2
39	Specify 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.	10632(e)		Section 5.2.1
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.2.1
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), 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.	10632(g)		
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Section 5.2.6
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.2.4
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 5.3

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5.2.5
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Section6
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Section 6
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Section 6; Appendix K

APPENDIX J. PUBLIC NOTIFICATION, ADOPTION, AND AGENCY COORDINATION

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Alhambra
Mary Chavez, Director of Public Works
111 South First Street
Alhambra, CA 91801

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Ms. Chavez:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

This letter serves as your official notice of preparation and intent to adopt the UWMP. A draft of the UWMP will be available for review in mid-June 2011. Until that time, if you have any questions or comments regarding the Los Angeles County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Spencer Waterman
Staff Planner
Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Azusa
Carl Hassel, City Engineer/ Assistant Director of Public Works
213 E. Foothill Blvd.
Azusa, CA 91702

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Mr. Hassel:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Bradbury
Michelle Keith, City Manager
600 Winston Ave.
Bradbury, CA 91008

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Michelle:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Duarte
Karen Herrera, Asst. City Manager
1600 Huntington Drive
Duarte, CA 91010

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Karen:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of El Monte
Water Department
City Hall East
11333 Valley Boulevard
El Monte, CA 91731-3293

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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San Luis Obispo California 93401
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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Inglewood
One Manchester Blvd..
Inglewood, CA 90301

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Irwindale
5050 North Irwindale Avenue
Irwindale, CA 91706

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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San Luis Obispo California 93401
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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

Los Angeles County Sanitation District
P.O. Box 4998
Whittier, CA 90607-4998

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

County of Los Angeles
Gail Farber, Director of Public Works
P.O. Box 1460
Alhambra, CA 91802-1460

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Ms. Farber:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

Metropolitan Water District of Southern California
Engineering Department
P.O. Box 54153
Los Angeles, CA 90054-0153

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Rosemead
Chris Marcarello, Deputy Public Works Director
8838 East Valley Boulevard
Rosemead, CA 91770

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Chris:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of San Gabriel
425 S. Mission Drive
San Gabriel, CA 91776

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of San Marino
Matt Ballantyne, City Manager
2200 Huntington Drive
San Marino, CA 91108

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Matt:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Swaterman@wsc-inc.com

Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

City of Temple City
9701 Las Tunas Dr.
Temple City, CA 91780

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Sincerely,

Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

May 18, 2011

Upper San Gabriel Valley Municipal Water District
Shane Chapman, General Manager
11310 Valley Blvd.
El Monte, CA 91731

Subject: California American Water Los Angeles County District 2010 Urban Water Management Plan

Dear Shane:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

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Sincerely,

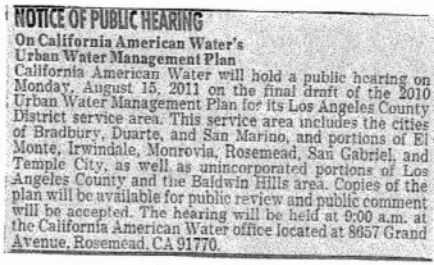
Garry M. Hofer
Operations Manager
California American Water
8657 Grand Ave.
Rosemead, CA 91770

cc: Spencer Waterman (Water Systems Consulting, Inc.)

RECORDING/FILING REQUESTED BY AND MAIL TO:
Bob Nelson Associates
P.O. Box 632940
San Diego, CA 92163

PROOF OF PUBLICATION
(California Code of Civil Procedure 2010, 2015.5)

STATE OF CALIFORNIA
County of Los Angeles



NOTICE OF PUBLIC HEARING
On California American Water's Urban Water Management Plan
California American Water will hold a public hearing on Monday, August 15, 2011 on the final draft of the 2010 Urban Water Management Plan for its Los Angeles County District service area. This service area includes the cities of Bradbury, Duarte, and San Marino, and portions of El Monte, Irwindale, Monrovia, Rosemead, San Gabriel, and Temple City, as well as unincorporated portions of Los Angeles County and the Baldwin Hills area. Copies of the plan will be available for public review and public comment will be accepted. The hearing will be held at 9:00 a.m. at the California American Water office located at 8657 Grand Avenue, Rosemead, CA 91770.

I am a citizen of the United States and a resident of the aforesaid County. I am over the age of eighteen years (18) years, and not a party to or interested in the above-entitled matter. I am the Principal Clerk of the printer of the **LOS ANGELES TIMES,** a newspaper of general circulation, printed and published DAILY in the City of Los Angeles, County of Los Angeles and which newspaper was adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of April 28, 1952, Case Number 598599. The notice, a true and correct copy of which is annexed, has been published in each regular and entire issue of said newspaper on the following dates, to wit:

WEDNESDAY; AUGUST 3, 2011; WEDNESDAY AUGUST 10, 2011

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated at Los Angeles, California,

This 16th day of AUGUST 2011

Signature

Angelina de Cordova

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Mary Swink
Director of Utilities
City of Alhambra
111 South First Street
Alhambra, CA 91801

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear. Ms. Swink

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

In addition, a portion of the agenda will focus on our tiered-rate structure, conservation programs and the effectiveness of our water conservation program. On a periodic basis California American Water is required to share that information with community leaders and other interested parties to and solicit their opinions and expertise on how to improve the program.

Your expertise and interest in these matters is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Los Angeles County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Carl Hassel
City Engineer/Assistant Director of Public Works
City of Azusa
213 East Foothill Boulevard
Azusa, CA 91702

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Hassel:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Dominic Milano
City Engineer
City of Bradbury
600 Winston Avenue
Bradbury, CA 91008

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Milano:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mrs. Karen Herrera
Deputy City Manager
City of Duarte
1600 Huntington Drive
Duarte, CA 91010

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mrs. Herrera:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Water Department
City of El Monte
City Hall East
11333 Valley Boulevard
El Monte, CA 91731

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear City of El Monte Water Department:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Glen W. C. Kau
Pubic Works Director
City of Inglewood
One Manchester Boulevard
Inglewood, CA 90301

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Kau:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Kwok Tam
City Engineer
City of Irwindale
5050 North Irwindale Avenue
Irwindale, CA 91706

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Tam:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Scott Ochoa
City Manager
City of Monrovia
415 South Ivy Avenue
Monrovia, CA 91016

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Ochoa:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Chris Marcarello
Deputy Pubic Works Director
City of Rosemead
8838 East Valley Boulevard
Rosemead, CA 91770

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Marcarello:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Bob Bustos
Public Works Director
City of San Gabriel
425 South Mission Drive
San Gabriel, CA 91776

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Bustos:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. David Saldana
City of San Marino
2200 Huntington Drive
San Marino, CA 91108

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Saldana:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Jose Pulido
City Manager
City of Temple City
9701 Las Tunas Drive
Temple City, CA 91780

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Pulido:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Gail Farber
Director of Public Works
County of Los Angeles
P.O. Box 1460
Los Angeles, CA 91802

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Farber:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Christine M. Walwyn – ALJ
California Public Utility Commission
505 Van Ness Avenue, Room 5008
San Francisco, CA 94102-3214

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Walwyn:

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Planning Engineer
California American Water

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CALIFORNIA
AMERICAN WATER

August 4, 2011

B. Tilden Kim
Attorney At Law
Richards Watson & Gershon
355 South Grand Avenue, 40th Floor
Los Angeles, CA 90071

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Kim:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Cary Reisman
Wallin, Kress, Reisman & Kranitz, LLP
2800 28th Street, Suite 315
Santa Monica, CA 90405

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Reisman:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. James L. Markman
Richards, Watson & Gershon
355 South Grand Avenue, 40th Floor
Los Angeles, CA 90071-3101

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Markman:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

City of Arcadia Water Department
240 West Huntington Drive
Arcadia, CA 91006

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear City of Arcadia Water Department:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Los Angeles Docket Office
California Public Utilities Commission
320 West 4th Street, Suite 500
Los Angeles, CA 90013

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Los Angeles Docket Office:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Lisa Bilir
California Public Utilities Commission
Division of Ratepayer Advocates
505 Van Ness Avenue
San Francisco, CA 94102

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Bilir:

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Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Danilo E. Sanchez
California Public Utility Commission
Room 3200
505 Van Ness Avenue
San Francisco, CA 94102-3214

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Sanchez:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Kenneth D. Rozell
Wallin, Kress, Reisman & Krantiz, LLP
2800 28TH Street, Suite 315
Santa Monica, CA 90405

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Rozell:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Patricia A. Schmiege
Law Office of Patricia A. Schmiege
705 Mission Avenue, Suite 200
San Rafael, CA 94901

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Schmiege:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

City of Los Angeles
Department of Water and Power
111 North Hope Street
Los Angeles, CA 90012
Attn: City Attorney

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear City Attorney:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Hatties Stewart
4725 S. Victoria Avenue
Los Angeles, CA 90043

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Stewart:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Maxine Harrison
California Public Utilities Commission
Executive Division
320 West 4th Street Suite 500
Los Angeles, CA 90013

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Harrison:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. William M. Marticorena
Rutan & Tucker, LLP
611 Anton Blvd., 14th Floor
Costa Mesa, CA 92626-1931

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Marticorena:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Lenard G. Weiss
Manatt
One Embarcadero Center, 30th Floor
San Francisco, CA 94111

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Weiss:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Rex Ball
SR/WA, Senior Real Property MGMT
County of Los Angeles
222 South Hill Street, 3rd Floor
Los Angeles, CA 90012

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Ball:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Marcus Nixon
Asst. Public Advisor
320 W. 4th Street, Suite 500
Los Angeles, CA 90013

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Nixon:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Barbara Delory
4030 Bartlett Avenue
Rosemead, CA 91770-1332

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Delory:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Audrey Jackson
Golden State Water Company
630 E. Foothill Blvd.
San Dimas, CA 91773

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Jackson:

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Planning Engineer
California American Water

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CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Jame Polanco
Rates Clerk
California Water Service Company
1720 North First Street
San Jose, CA 95112

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Polanco:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

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CALIFORNIA
AMERICAN WATER

August 4, 2011

San Gabriel Valley Water Company
11142 Garvey Blvd.
El Monte, CA 91734

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear San Gabriel Water Company:

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Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. David E. Morse
1411 W. Covell Blvd., Suite 106-292
Davis, CA 95616-5934

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Morse:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

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CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Bernardo R. Garcia
PO Box 37
San Clemente, CA 92674-0037

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Garcia:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Kristen Winters
Utility Services of Alaska
3691 Cameron Street, Suite 201
Fairbanks, AK 99709

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Winters:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Laura L. Krannawitter
California Public Utilities Commission
Executive Division, Rm 5303
505 Van Ness Avenue
San Francisco, CA 94102

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Krannawitter:

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CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Joyce Steingass
California Public Utilities Commission
DRA - Water Branch, Rm 4209
505 Van Ness Ave
San Francisco, CA 94102

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

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For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Mary Martin
4611 Brynhurst Ave.
Los Angeles, CA 90043

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Martin:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Diana Brooks
California Public Utility Commission
Room 4102
505 Van Ness Avenue
San Francisco, CA 94102-3214

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Brooks:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Lori Ann Dolqueist
Manatt
One Embarcadero Center, 30th Floor
San Francisco, CA 94111-3719

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Dolequeist:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. John K. Hawks
Executive Director
California Water Association
601 Van Ness Avenue, Suite 2047
San Francisco, CA 94102-3200

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Hawks:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

East Pasadena Water Company
3725 Mountain View
Pasadena, CA 91107

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear East Pasadena Water Company:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA AMERICAN WATER

August 4, 2011

Ms. Wendy La
Engineer
Main San Gabriel Basin Watermaster
725 N. Azusa Avenue
Azusa, CA 91702

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. La:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). California American Water is required by the Act to provide its demand projections to wholesale suppliers. The table shown below from the 2010 UWMP provides California American Water's projected demands for Main San Gabriel Basin Watermaster from 2010 through 2030.

Table 3-13. Demand Projections Provided to Wholesale Suppliers[1], afy

Wholesaler	2010	2015	2020	2025	2030
MWD (via City of San Marino)	628	2,186	1,618	1,943	2,258
USGVMWD (via MSGB Watermaster)	309	1,350	1,045	1,203	1,355
WBMWD	972	2,064	1,855	1,943	2,029
Total	**1,909**	**5,600**	**4,518**	**5,090**	**5,641**

[1] **For more information on how these numbers are calculated see Section** Error! Reference source not found..

A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770. This letter serves as your official notice of the UWMP public hearing and demand projections. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

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For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Gordon Johnson
Engineering
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Johnson:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). California American Water is required by the Act to provide its demand projections to wholesale suppliers. The table shown below from the 2010 UWMP provides California American Water's projected demands for Metropolitan Water District of Southern California from 2010 through 2030.

Table 3-13. Demand Projections Provided to Wholesale Suppliers[1], afy

Wholesaler	2010	2015	2020	2025	2030
MWD (via City of San Marino)	628	2,186	1,618	1,943	2,258
USGVMWD (via MSGB Watermaster)	309	1,350	1,045	1,203	1,355
WBMWD	972	2,064	1,855	1,943	2,029
Total	**1,909**	**5,600**	**4,518**	**5,090**	**5,641**

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A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770. This letter serves as your official notice of the UWMP public hearing and demand projections. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Shane Chapman
General Manager
Upper San Gabriel Valley Municipal Water District
11310 Valley Blvd.
El Monte, CA 91731

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Chapman:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). California American Water is required by the Act to provide its demand projections to wholesale suppliers. The table shown below from the 2010 UWMP provides California American Water's projected demands for Upper San Gabriel Valley Municipal Water District from 2010 through 2030.

Table 3-13. Demand Projections Provided to Wholesale Suppliers[1], afy

Wholesaler	2010	2015	2020	2025	2030
MWD (via City of San Marino)	628	2,186	1,618	1,943	2,258
USGVMWD (via MSGB Watermaster)	309	1,350	1,045	1,203	1,355
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Total	**1,909**	**5,600**	**4,518**	**5,090**	**5,641**

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For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Marc Serna
Engineering Manager
West Basin Municipal Water District
17140 South Avalon Blvd, Ste 210
Carson, CA 90746-1296

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Serna:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). California American Water is required by the Act to provide its demand projections to wholesale suppliers. The table shown below from the 2010 UWMP provides California American Water's projected demands for West Basin Municipal Water District from 2010 through 2030.

Table 3-13. Demand Projections Provided to Wholesale Suppliers[1], afy

Wholesaler	2010	2015	2020	2025	2030
MWD (via City of San Marino)	628	2,186	1,618	1,943	2,258
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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Los Angeles County Sanitation District
P.O. Box 4998
Whittier, CA 90607-4998

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Los Angeles County Sanitation District:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). California American Water is required by the Act to provide its demand projections to wholesale suppliers. The table shown below from the 2010 UWMP provides California American Water's projected demands for Los Angeles County Sanitation District from 2010 through 2030.

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Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Diana Brooks
California Public Utility Commission
Room 4102
505 Van Ness Avenue
San Francisco, CA 94102-3214

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Brooks:

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Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

East Pasadena Water Company
3725 Mountain View
Pasadena, CA 91107

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

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Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Bernardo R. Garcia
PO Box 37
San Clemente, CA 92674-0037

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Garcia:

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California American Water

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CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. John K. Hawks
Executive Director
California Water Association
601 Van Ness Avenue, Suite 2047
San Francisco, CA 94102-3200

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Audrey Jackson
Golden State Water Company
630 E. Foothill Blvd.
San Dimas, CA 91773

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Jackson:

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Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Laura L. Krannawitter
California Public Utilities Commission
Executive Division, Rm 5303
505 Van Ness Avenue
San Francisco, CA 94102

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Krannawitter:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. David E. Morse
1411 W. Covell Blvd., Suite 106-292
Davis, CA 95616-5934

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Morse:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

In addition, a portion of the agenda will focus on our tiered-rate structure, conservation programs and the effectiveness of our water conservation program. On a periodic basis California American Water is required to share that information with community leaders and other interested parties to and solicit their opinions and expertise on how to improve the program.

Your expertise and interest in these matters is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Los Angeles County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Jame Polanco
Rates Clerk
California Water Service Company
1720 North First Street
San Jose, CA 95112

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Mr. Polanco:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

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For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

San Gabriel Valley Water Company
11142 Garvey Blvd.
El Monte, CA 91734

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear San Gabriel Water Company:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

In addition, a portion of the agenda will focus on our tiered-rate structure, conservation programs and the effectiveness of our water conservation program. On a periodic basis California American Water is required to share that information with community leaders and other interested parties to and solicit their opinions and expertise on how to improve the program.

Your expertise and interest in these matters is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Los Angeles County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Joyce Steingass
California Public Utilities Commission
DRA - Water Branch, Rm 4209
505 Van Ness Ave
San Francisco, CA 94102

Subject: **California American Water Los Angeles County District 2010 Urban Water Management Plan**

Dear Ms. Steingass:

California American Water is in the process of preparing its Los Angeles County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Monday, August 15, 2011 at 8657 Grand Avenue, Rosemead, CA 91770.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

In addition, a portion of the agenda will focus on our tiered-rate structure, conservation programs and the effectiveness of our water conservation program. On a periodic basis California American Water is required to share that information with community leaders and other interested parties to and solicit their opinions and expertise on how to improve the program.

Your expertise and interest in these matters is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Los Angeles County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12 to attend. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For additional information regarding the Los Angeles County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

January 9, 2012

Attention: Coordinator, Urban Water Management Plans
Department of Water Resources
Statewide Integrated Water Management
Water Use and Efficiency Branch
901 P Street
Sacramento, CA 95814

Subject: Adoption of California American Water's Southern Division - Los Angeles County District 2010 Urban Water Management Plan

To Whom It May Concern:

This letter shall confirm that California American Water Company ("California American Water") has adopted its 2010 Urban Water Management Plan for the Southern Division - Los Angeles County District. The Urban Water Management Planning Act ("Act"), codified in California Water Code Sections 10610 through 10656, requires an urban water supplier, such as California American Water, to prepare and adopt an urban water management plan ("UWMP"). In accordance with the Act, California American Water is proud to submit its 2010 UWMP to the California Department of Water Resources ("DWR") for review.

Sincerely,

Richard C. Svindland
Vice President - Engineering
California American Water

APPENDIX K. 2009-2010 BMP REPORT

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

Base Year: 2008

What is your reporting period? Calendar

BMP 1.3 Metering

Number of unmetered accounts in Base Year: 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year: 24,282

Number of Multi Family Units in Base Year: 0

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992:

Number of Multi Family Units prior to 1992:

Average number of toilets per single family household: 2.5

Average number of toilets per multi family household: 1.3

Five year average resale rate of single family households: 4.46%

Five-year average resale rate of multi family households: 9.02%

Average number of persons per single family household: 3.6

Average number of persons per multi family household: 2.1

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts: 4677.94

Number of accounts with dedicated irrigation meters: 66

Number of CII accounts without meters or with Mixed Use Meters: 2,984

Number of CII accounts: 3,050

Comments: Our Multi Family accounts are coded under Commercial

version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

WATER SOURCES

2009

Service Area Population: 102676 Census

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
SURFACE/IRRIGATION	284.76	Surface	SURFACE/IRRIGATION
BALDWIN HILLS	3,526.00	Groundwater	GROUNDWATER WELLS
DUARTE	6,898.00	Groundwater	GROUND WATER WELLS
SAN MARINO	10,854.00	Groundwater	GROUNDWATER WELLS
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
PURCHASED	1,158.20	Other	PURCHASED WATER
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
N/A		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

2009

Service Area Population: 102676

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
N/A		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
N/A		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,
N/A		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	24,357.00	14,305.02			RESIDENTIAL - AF
Commercial	2,601.00	4,494.46			INCLUDES MULTI-FAMILY
Industrial	65.00	490.76			
Dedicated Irrigation	66.00	363.09			
Fire Lines			2,891.00	0.48	INCLUDES FIRE PROTECTION & HYD
Institutional	287.00	383.09			PUBLIC AUTHORITIES
Select a Customer Typ					
Select a Customer Typ					
Select a Customer Typ					
Select a Customer Typ					
Select a Customer Typ					
Select a Customer Typ					
Select a Customer Typ					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

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You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009

BMP 1.1
Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name: PATRICK

Last Name: PILZ

Title: MANAGER, CONSERVATION & E

Phone: 619-435-7459

Email: patrick.pilz@amwater.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Enter a description: Rule 14.1 is a voluntary ordinance that establishes a water conservation program that will reduce water consumption, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within California American Water Company's Southern Division's service area to avoid and minimize the effect and hardship of water

version 1.0 2009

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

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Email: patrick.pilz@amwater.com

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Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes (•) No ( )

If yes, answer the following:

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

Determine metered sales in AF: 20,472.61

Determine system verifiable uses AF: 1,999.76

Determine total supply into the system in AF: 22,472.37

Does your agency keep necessary data on file to verify the answers above? Yes (•) No ( )

Did your agency complete a full-scale system water audit during 2009? Yes (•) No ( )

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes (•) No ( )

Did your agency operate a system leak detection program? Yes (•) No ( )

Comments:

version 1.0 2009

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	24,357	24,357	24,357	Bi-monthly	847
Commericial	2,601	2,601	2,601	Bi-monthly	159
Industrial	65	65	65	Bi-monthly	17
Fire Lines	698	698	698	Bi-monthly	0
Other	287	287	287	Bi-monthly	46
Other	75	75	75	Bi-monthly	55
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 2,601

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinan

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3:

2009 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

2009

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Bloc		11,119,550.00	2,521,304.00
Uniform		3,174,516.00	624,076.00
Uniform		649,729.00	133,293.00
Uniform		395,137.00	29,730.00
Select a Rate S			
Select a Rate S			
Select a Rate S			

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			

Comments:

2009 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
1	Newsletter articles on conservation
3	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
3	Landscape water conservation media campaigns
2	General water conservation information
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☐

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.amwater.com

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Updated Smart Rebate Information.
Added conservation rebate applications when Smart Rebates stopped due to Prop 50 allocations being put on hold. Added leak prevention kit info to website.
Updated contact phone numbers.

Did at least one Website Update take place during each quarter of the reporting year? ◉ Yes ○ No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Budget	$0		☐		
			☐		
			☐		
			☐		
			☐		
			☐		

Comments:

version 1.0 2009

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
Public Outreach Exenses	$13,509	

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ◉ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

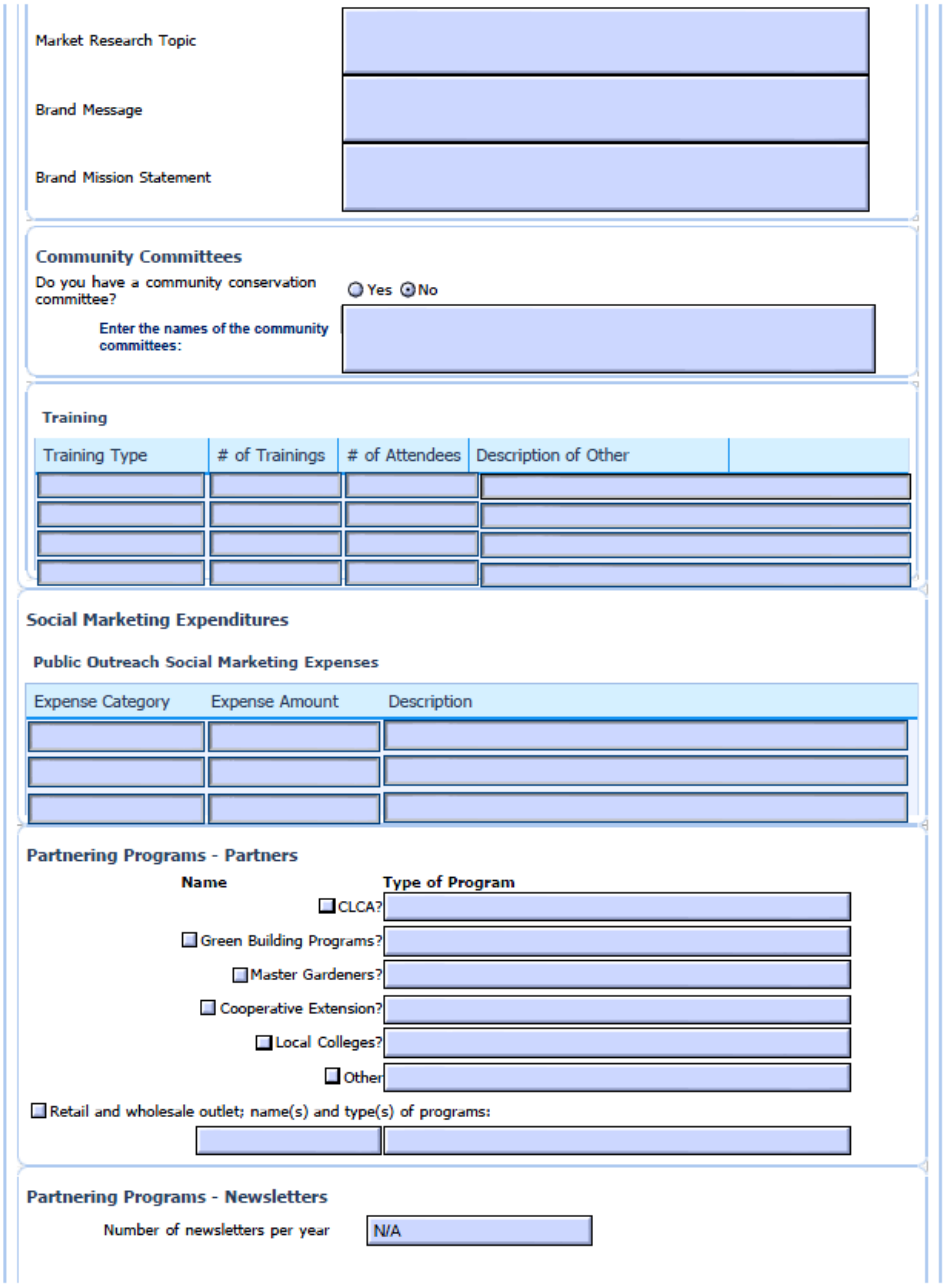
Branding

Does your agency have a water conservation "brand," "theme" or mascot? ○ Yes ◉ No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ◉ No



Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? ○ Yes ◉ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year: N/A

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5021

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP? (•) Yes ( ) No

Enter Wholesaler Names, separated by commas:

[x] Materials meet state education framework requirements?

Description of Materials: California American Water's Los Angeles District participates in several programs to promote conservation within the schools in the service area. This includes the various MWD funded programs including assemblies and outreach campaigns, as well as other outreach campaigns targeting an audience between ages 4 to 18. In addition, California American Water contracted with Resource Action Programs (RAP) to provide the LivingWise school education program targeting 6th graderes in 6 schools in the service area. Action that included curriculum and activities on water and energy efficiency.

[x] Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: The "LivingWise" program by Resource Action includes in class activities and lecture, at home audit activities, and student follow up report of activities and findings.

Number of students reached: 432

[ ] Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students:

Number of Distribution:

Annual budget for school education program: $0.00

Description of all other water supplier education programs: Resource Action Program (RAP) was unable to launch in 2009 but is expected to launch in 2010.

School Program Activities

Classroom presentations:

Number of presentations: Number of attendees:

Large group assemblies:

Number of presentations: Number of attendees:

Children's water festivals or other events:

Number of presentations: Number of attendees:

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: Number of attendees:

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths | Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered | Total Funding

Teacher training workshops:

Number of presentations | Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips | Number of participants

College internships in water conservation offered:

Number of internships | Total funding

Career fairs/workshops:

Number of presentations | Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs):

Comments

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

WATER SOURCES

2010

Service Area Population: 102,889 Census

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Baldwin Hills District	2,517.30	Groundwater	
Duarte District	5,830.04	Groundwater	
San Marino District	10,056.78	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
West Basin MWD	971.80	Other	Imported
South Pasadena	36.28	Other	Imported
Pasadena-OKC(west)	2.74	Other	Imported
M.W.D	896.18	Other	Imported
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
N/A		

The fields in red are required.

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2010

Service Area Population: 102,889

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
Surface/Agricultural	390.00	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
N/A		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,
N/A		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	24,888.00	12,906.00	0.00	0.00	
Multi-Family	1,027.00	1,664.00	0.00	0.00	
Commercial	1,916.00	2,868.00	0.00	0.00	
Institutional	161.00	833.00	0.00	0.00	
Dedicated Irrigation	135.00	477.00			
Other	1.00	0.00			
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Agricultural	66.00	390.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010

BMP 1.1 Operations Practices

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Comments:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name: Patrick

Last Name: Pilz

Title: Manager, Conservation & Efficienc

Phone: 619-435-7459

Email: patrick.pilz@amwater.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org: CPUC Rule 14.1 - Voluntary Water Conservation.

Web address(s) URL: comma-separated list: http://www.amwater.com/caaw/Customer-Service/voluntary-water-conservation-program.html

Enter a description: CPUC Rule 14.1 is a voluntary ordinance that establishes a water conservation program that will reduce water consumption, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within California American Water Company's Southern Division's service area to avoid and minimize the effect and hardship of water

version 1.0 2010

The fields in red are required.

Primary contact:

Agency name: CALIFORNIA AMERICAN WATER

First name: PATRICK

Reporting unit name (District name): LOS ANGELES

Last name: PILZ

Reporting unit number: 5121

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ◉ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

AWWA Water Loss Audit 2010 - LA

Water Audit Validity Score from AWWA spreadsheet: 91

Agency Completed Training In The AWWA Water Audit Method ◉ Yes ○ No

Agency Completed Training In The Component Analysis Process ◉ Yes ○ No

Completed/Updated the Component Analysis (at least every 4 years)? ◉ Yes ○ No

Component Analysis Completed/Updated Date: 2/2010

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ◉ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ◉ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

California American Water Los Angeles monitors water production and sales on a monthly basis and completes an annual report identifying the total percent of unaccounted water loss

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

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2010

The fields in red are required.

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Reporting unit number: 5121

Primary contact:

First name: PATRICK

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Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	24,888	24,888	24,888	Bi-monthly	513
Multi-Family	1,027	1,027	1,027	Bi-monthly	0
Commericial	1,916	1,916	1,916	Bi-monthly	134
Institutional	161	161	161	Bi-monthly	29
Dedicated Irri	135	135	135	Bi-monthly	0
Fire Lines	706	706	706	Bi-monthly	0
Other				Bi-monthly	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 1,916

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

2010 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2010

BMP 1.4 Retail Conservation Pricing

Link to FAQs

View MOU

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Bloc		11,710,230.00	2,832,544.00
Uniform		3,622,796.00	701,113.00
Uniform		691,325.00	149,748.00
Uniform		2,461,293.00	33,399.00
Select a Rate S			
Select a Rate S			
Select a Rate S			

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			

Comments:

2010 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

View MOU

2010

BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
5	Landscape water conservation media campaigns
5	General water conservation information
4	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
4		News releases
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Did at least one Website Update take place during each quarter of the reporting year? ○ Yes ◉ No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Ependiture	$27,234		✓	Annual Expenditures	

Comments:

California American Water implements a public outreach and education effort to promote water conservation through the External Affairs Department. California Ar

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The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): LOS ANGELES

Reporting unit number: 5121

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
Expenditure	$27,234	✓

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ◉ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ○ Yes ◉ No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ◉ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? ○ Yes ◉ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description	

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER
Reporting unit name (District name): LOS ANGELES
Reporting unit number: 5121

Primary contact:
First name: PATRICK
Last name: PILZ
Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ○ Yes ◉ No

Enter Wholesaler Names, separated by commas:

☑ Materials meet state education framework requirements?

Description of Materials

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students

Number of students reached: 97

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students

Number of Distribution

Annual budget for school education program: $17,816.00

Description of all other water supplier education programs: Resource Action Program

School Program Activities

Classroom presentations:
Number of presentations: 1 Number of attendees

Large group assemblies:
Number of presentations: N/A Number of attendees

Children's water festivals or other events:
Number of presentations: 1 Number of attendees

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:
Number of presentations: N/A Number of attendees

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths N/A Number of attendees

Water conservation contests such as poster and photo:

Description N/A

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered N/A Total Funding

Teacher training workshops:

Number of presentations N/A Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips N/A Number of participants

College internships in water conservation offered:

Number of internships N/A Total funding

Career fairs/workshops:

Number of presentations N/A Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs):

Comments

APPENDIX L. RAYMOND BASIN ADJUDICATION

Appendices F, G, H, L, M, and N are on a CD attached to the back cover of this UWMP.

APPENDIX M. MSGB ADJUDICATION

Appendices F, G, H, L, M, and N are on a CD attached to the back cover of this UWMP.

APPENDIX N. CENTRAL BASIN ADJUDICATION

Appendices F, G, H, L, M, and N are on a CD attached to the back cover of this UWMP.

APPENDIX O. CPUC RULE 14.1

Schedule No. 14.1-BH

STAGED WATER CONSERVATION PLAN
BALDWIN HILLS SERVICE AREA OF LOS ANGELES DISTRICT

A. APPLICABILITY (N)

1. This schedule applies to all water customers served under all tariff rate schedules authorized by the Commission for the Baldwin Hills Service Area of Los Angeles District of California-American Water Company. It is only effective in times of mandatory conservation, as required by Rule No. 14.1-SD, and only for the period noted in the Special Conditions section below.
2. This schedule shall remain dormant until a specific stage is activated by Commission authorization of a Tier 1 advice letter.
3. When a particular stage of this schedule is activated, the period over which it shall be effective will be added to tariff language.

B. TERRITORY

This rule is applicable within the Baldwin Hills Service Area of Los Angeles District of California-American Water Company. All others served by California-American Water Company are excluded from this particular tariff, but are included in separate and distinct Water Conservation Plans.

C. STAGES

1. The Permanent water conservation requirements established in Rule 14.1-SD Section D are in effect at all times and reinforcement of them will be the initial response when water supplied to the utility is reduced by 0%-10%.
2. Stage 1 – Mandatory Water Conservation - Water supply is reduced 10.01%-20% or water restrictions under Permanent water conservation have not been effective in reducing water usage to prescribed level.
3. Stage 2 – Mandatory Water Conservation - Water supply is reduced 20.01%-30% or water restrictions at Stage 1 have not been effective in reducing water usage to prescribed level.
4. Stage 3 – Mandatory Water Conservation - Water supply is reduced 30.01% or more or water restrictions at Stage 2 have not been effective in reducing water usage to prescribed level.

D. WATER USE VIOLATION FINE

1. When a stage of this schedule has been activated by Commission authorization, the water use restrictions of the conservation program in Sections D, F, G and H of Rule 14.1-SD as applicable for each Stage become mandatory and are listed in the Special Condition of this tariff. If the Utility determines that a customer is violating the water usage restrictions, as outlined in Rule No. 14.1-SD and the Special Conditions below, the customer will be subject to the following fine structure:

a. First offense:	Written warning, including explanation of penalty for subsequent offense.
b. Second offense (of the same restriction):	Written warning, including explanation of penalty for subsequent offense and $100 fine.
c. Third offense (of the same restriction):	Installation of flow restrictor, and written warning, including explanation of penalty for subsequent offense.

(N)

(continued)

Schedule No. 14.1-BH (Continued)

STAGED WATER CONSERVATION PLAN
BALDWIN HILLS SERVICE AREA OF LOS ANGELES DISTRICT

D. WATER USE VIOLATION FINE (Continued) (N)

2. Offenses for separate water use restrictions will each start at the warning stage.

3. The water use violation fine is in addition to the regular rate schedule charges.

E. FLOW RESTRICTOR REMOVAL CHARGE

The charge for removal of a flow-restricting device shall be:

Connection Size	Removal Charges
5/8" to 1"	$150.00
1-1/2" to 2	$200.00
3" and larger	Actual Cost

F. SPECIAL CONDITIONS

1. The Tier 1 advice letter requesting activation of any stage of Schedule 14.1 shall include documentation of the overall water shortage justifying activation of that particular stage.

2. This tariff schedule shall remain in effect until the utility files a Tier 1 advice letter to deactivate specific stage of mandatory conservation and such is authorized by Commission.

3. Water use violation fines must be separately identified on each bill.

4. All bills are subject to the reimbursement fee set forth on Schedule No. UF.

5. All monies collected by the utility through water use violation fines shall not be accounted for as income. All expenses incurred by utility to implement Rule 14.1-SD and Schedule 14.1-BH that have not been considered in a General Rate Case or other proceeding, shall be recoverable by utility if determined to be reasonable by Commission. These monies shall be accumulated by the utility in a separate memorandum account for disposition as directed or authorized from time to time by the Commission.

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to:

   a. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard. (N)

(continued)

Schedule No. 14.1-BH (Continued)

STAGED WATER CONSERVATION PLAN
BALDWIN HILLS SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

c. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

d. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

e. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

f. Re-circulating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

g. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

h. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. Establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

i. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

j. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

(N)

(continued)

Schedule No. 14.1-BH (Continued)

STAGED WATER CONSERVATION PLAN
BALDWIN HILLS SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

   k. No Installation of Non-re-circulating Water Systems in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

   l. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, including but not limited to restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

   m. Use of potable water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public is prohibited;

   n. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used is prohibited.

   o. Use of potable water for construction purposes unless no other source of water or other method can be used is prohibited;

   p. Use of potable water for street cleaning is prohibited;

   q. Operation of commercial car washes without recycling at least 50% of the potable water used per cycle is prohibited; and

   r. Use of potable water to flush hydrants, except where required for public health or safety is prohibited.

   s. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week on a schedule established and posted by the California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

(N)

(continued)

Schedule No. 14.1-BH (Continued)

STAGED WATER CONSERVATION PLAN
BALDWIN HILLS SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

7. No customer shall use utility-supplied water in Stage 2 Mandatory Conservation for non-essential or unauthorized uses, including but not limited to those above in Stage 1 and the following:

   a. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on a schedule established and posted by California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the California-American Water Company unless other arrangements are made with the California-American Water Company.

   c. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, and have been actively managed within the water feature prior to declaration of a supply shortage level under this Rule.

   d. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

   e. Limits on Filling Residential Swimming Pools & Spas: Re-filling and initial filling of residential swimming pools or outdoor spas with potable water is prohibited, except to maintain required operating levels of existing pools and spas. (N)

(continued)

Schedule No. 14.1-BH (Continued)

STAGED WATER CONSERVATION PLAN
BALDWIN HILLS SERVICE AREA OF LOS ANGELES DISTRICT

F. SPECIAL CONDITIONS (Continued) (N)

8. No customer shall use utility-supplied water in Stage 3 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to those above in Stages 1 and 2 and the following:

   a. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless California-American Water Company has determined that recycled water is available and may be applied to the use:

      i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      ii. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      iii. Maintenance of existing landscape necessary for fire protection;

      iv. Maintenance of existing landscape for soil erosion control;

      v. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

      vi. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Section G. 2. a. and time restrictions in Section D. 1. of Rule 14.1-SD;

      vii. Actively irrigated environmental mitigation projects.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

(N)

Schedule No. 14.1-DT

STAGED WATER CONSERVATION PLAN
DUARTE SERVICE AREA OF LOS ANGELES DISTRICT

A. APPLICABILITY (N)

1. This schedule applies to all water customers served under all tariff rate schedules authorized by the Commission for the Duarte Service Area of Los Angeles District of California-American Water Company. It is only effective in times of mandatory conservation, as required by Rule No. 14.1-SD, and only for the period noted in the Special Conditions section below.
2. This schedule shall remain dormant until a specific stage is activated by Commission authorization of a Tier 1 advice letter.
3. When a particular stage of this schedule is activated, the period over which it shall be effective will be added to tariff language.

B. TERRITORY

This rule is applicable within the Duarte Service Area of Los Angeles District of California-American Water Company. All others served by California-American Water Company are excluded from this particular tariff, but are included in separate and distinct Water Conservation Plans.

C. STAGES

1. The Permanent water conservation requirements established in Rule 14.1-SD Section D are in effect at all times and reinforcement of them will be the initial response when water supplied to the utility is reduced by 0%-10%.
2. Stage 1 – Mandatory Water Conservation - Water supply is reduced 10.01%-20% or water restrictions under Permanent water conservation have not been effective in reducing water usage to prescribed level.
3. Stage 2 – Mandatory Water Conservation - Water supply is reduced 20.01%-30% or water restrictions at Stage 1 have not been effective in reducing water usage to prescribed level.
4. Stage 3 – Mandatory Water Conservation - Water supply is reduced 30.01% or more or water restrictions at Stage 2 have not been effective in reducing water usage to prescribed level.

D. WATER USE VIOLATION FINE

1. When a stage of this schedule has been activated by Commission authorization, the water use restrictions of the conservation program in Sections D, F, G and H of Rule 14.1-SD as applicable for each Stage become mandatory and are listed in the Special Condition of this tariff. If the Utility determines that a customer is violating the water usage restrictions, as outlined in Rule No. 14.1-SD and the Special Conditions below, the customer will be subject to the following fine structure:

a. First offense:	Written warning, including explanation of penalty for subsequent offense.
b. Second offense (of the same restriction):	Written warning, including explanation of penalty for subsequent offense and $100 fine.
c. Third offense (of the same restriction):	Installation of flow restrictor, and written warning, including explanation of penalty for subsequent offense. (N)

(continued)

Schedule No. 14.1-DT (Continued)

STAGED WATER CONSERVATION PLAN
DUARTE SERVICE AREA OF LOS ANGELES DISTRICT

D. WATER USE VIOLATION FINE (Continued) (N)

2. Offenses for separate water use restrictions will each start at the warning stage.

3. The water use violation fine is in addition to the regular rate schedule charges.

E. FLOW RESTRICTOR REMOVAL CHARGE

The charge for removal of a flow-restricting device shall be:

Connection Size	Removal Charges
5/8" to 1"	$150.00
1-1/2" to 2	$200.00
3" and larger	Actual Cost

F. SPECIAL CONDITIONS

1. The Tier 1 advice letter requesting activation of any stage of Schedule 14.1 shall include documentation of the overall water shortage justifying activation of that particular stage.

2. This tariff schedule shall remain in effect until the utility files a Tier 1 advice letter to deactivate specific stage of mandatory conservation and such is authorized by Commission.

3. Water use violation fines must be separately identified on each bill.

4. All bills are subject to the reimbursement fee set forth on Schedule No. UF.

5. All monies collected by the utility through water use violation fines shall not be accounted for as income. All expenses incurred by utility to implement Rule 14.1-SD and Schedule 14.1-DT that have not been considered in a General Rate Case or other proceeding, shall be recoverable by utility if determined to be reasonable by Commission. These monies shall be accumulated by the utility in a separate memorandum account for disposition as directed or authorized from time to time by the Commission.

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to:

   a. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard. (N)

(continued)

Schedule No. 14.1-DT (Continued)

STAGED WATER CONSERVATION PLAN
DUARTE SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

c. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

d. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

e. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

f. Re-circulating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

g. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

h. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. Establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

i. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

j. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

(N)

(continued)

Schedule No. 14.1-DT (Continued)

STAGED WATER CONSERVATION PLAN
DUARTE SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

   k. No Installation of Non-re-circulating Water Systems in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

   l. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, including but not limited to restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

   m. Use of potable water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public is prohibited;

   n. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used is prohibited.

   o. Use of potable water for construction purposes unless no other source of water or other method can be used is prohibited;

   p. Use of potable water for street cleaning is prohibited;

   q. Operation of commercial car washes without recycling at least 50% of the potable water used per cycle is prohibited; and

   r. Use of potable water to flush hydrants, except where required for public health or safety is prohibited.

   s. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week on a schedule established and posted by the California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

(N)

(continued)

Schedule No. 14.1-DT (Continued)

STAGED WATER CONSERVATION PLAN
DUARTE SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

7. No customer shall use utility-supplied water in Stage 2 Mandatory Conservation for non-essential or unauthorized uses, including but not limited to those above in Stage 1 and the following:

   a. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on a schedule established and posted by California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the California-American Water Company unless other arrangements are made with the California-American Water Company.

   c. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, and have been actively managed within the water feature prior to declaration of a supply shortage level under this Rule.

   d. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

   e. Limits on Filling Residential Swimming Pools & Spas: Re-filling and initial filling of residential swimming pools or outdoor spas with potable water is prohibited, except to maintain required operating levels of existing pools and spas. (N)

(continued)

Schedule No. 14.1-DT (Continued)

STAGED WATER CONSERVATION PLAN
DUARTE SERVICE AREA OF LOS ANGELES DISTRICT

F. SPECIAL CONDITIONS (Continued) (N)

8. No customer shall use utility-supplied water in Stage 3 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to those above in Stages 1 and 2 and the following:

   a. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless California-American Water Company has determined that recycled water is available and may be applied to the use:

      i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      ii. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      iii. Maintenance of existing landscape necessary for fire protection;

      iv. Maintenance of existing landscape for soil erosion control;

      v. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

      vi. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Section G. 2. a. and time restrictions in Section D. 1. of Rule 14.1-SD;

      vii. Actively irrigated environmental mitigation projects.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

(N)

Schedule No. 14.1-SM

STAGED WATER CONSERVATION PLAN
SAN MARINO SERVICE AREA OF LOS ANGELES DISTRICT

(N)

A. APPLICABILITY

1. This schedule applies to all water customers served under all tariff rate schedules authorized by the Commission for the San Marino Service Area of Los Angeles District of California-American Water Company. It is only effective in times of mandatory conservation, as required by Rule No. 14.1-SD, and only for the period noted in the Special Conditions section below.
2. This schedule shall remain dormant until a specific stage is activated by Commission authorization of a Tier 1 advice letter.
3. When a particular stage of this schedule is activated, the period over which it shall be effective will be added to tariff language.

B. TERRITORY

This rule is applicable within the San Marino Service Area of Los Angeles District of California-American Water Company. All others served by California-American Water Company are excluded from this particular tariff, but are included in separate and distinct Water Conservation Plans.

C. STAGES

1. The Permanent water conservation requirements established in Rule 14.1-SD Section D are in effect at all times and reinforcement of them will be the initial response when water supplied to the utility is reduced by 0%-10%.
2. Stage 1 – Mandatory Water Conservation - Water supply is reduced 10.01%-20% or water restrictions under Permanent water conservation have not been effective in reducing water usage to prescribed level.
3. Stage 2 – Mandatory Water Conservation - Water supply is reduced 20.01%-30% or water restrictions at Stage 1 have not been effective in reducing water usage to prescribed level.
4. Stage 3 – Mandatory Water Conservation - Water supply is reduced 30.01% or more or water restrictions at Stage 2 have not been effective in reducing water usage to prescribed level.

D. WATER USE VIOLATION FINE

1. When a stage of this schedule has been activated by Commission authorization, the water use restrictions of the conservation program in Sections D, F, G and H of Rule 14.1-SD as applicable for each Stage become mandatory and are listed in the Special Condition of this tariff. If the Utility determines that a customer is violating the water usage restrictions, as outlined in Rule No. 14.1-SD and the Special Conditions below, the customer will be subject to the following fine structure:

a. First offense:	Written warning, including explanation of penalty for subsequent offense.
b. Second offense (of the same restriction):	Written warning, including explanation of penalty for subsequent offense and $100 fine.
c. Third offense (of the same restriction):	Installation of flow restrictor, and written warning, including explanation of penalty for subsequent offense.

(N)

(continued)

Schedule No. 14.1-SM (Continued)

STAGED WATER CONSERVATION PLAN
SAN MARINO SERVICE AREA OF LOS ANGELES DISTRICT

D. WATER USE VIOLATION FINE (Continued) (N)

2. Offenses for separate water use restrictions will each start at the warning stage.

3. The water use violation fine is in addition to the regular rate schedule charges.

E. FLOW RESTRICTOR REMOVAL CHARGE

The charge for removal of a flow-restricting device shall be:

Connection Size	Removal Charges
5/8" to 1"	$150.00
1-1/2" to 2	$200.00
3" and larger	Actual Cost

F. SPECIAL CONDITIONS

1. The Tier 1 advice letter requesting activation of any stage of Schedule 14.1 shall include documentation of the overall water shortage justifying activation of that particular stage.

2. This tariff schedule shall remain in effect until the utility files a Tier 1 advice letter to deactivate specific stage of mandatory conservation and such is authorized by Commission.

3. Water use violation fines must be separately identified on each bill.

4. All bills are subject to the reimbursement fee set forth on Schedule No. UF.

5. All monies collected by the utility through water use violation fines shall not be accounted for as income. All expenses incurred by utility to implement Rule 14.1-SD and Schedule 14.1-SM that have not been considered in a General Rate Case or other proceeding, shall be recoverable by utility if determined to be reasonable by Commission. These monies shall be accumulated by the utility in a separate memorandum account for disposition as directed or authorized from time to time by the Commission.

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to:

   a. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard. (N)

(continued)

Schedule No. 14.1-SM (Continued)

STAGED WATER CONSERVATION PLAN
SAN MARINO SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

c. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

d. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

e. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

f. Re-circulating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

g. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

h. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. Establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

i. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

j. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

(N)

(continued)

Schedule No. 14.1-SM (Continued)

STAGED WATER CONSERVATION PLAN
SAN MARINO SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

k. No Installation of Non-re-circulating Water Systems in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

l. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, including but not limited to restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

m. Use of potable water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public is prohibited;

n. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used is prohibited.

o. Use of potable water for construction purposes unless no other source of water or other method can be used is prohibited;

p. Use of potable water for street cleaning is prohibited;

q. Operation of commercial car washes without recycling at least 50% of the potable water used per cycle is prohibited; and

r. Use of potable water to flush hydrants, except where required for public health or safety is prohibited.

s. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week on a schedule established and posted by the California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

(N)

(continued)

Schedule No. 14.1-SM (Continued)

STAGED WATER CONSERVATION PLAN
SAN MARINO SERVICE AREA OF LOS ANGELES DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

7. No customer shall use utility-supplied water in Stage 2 Mandatory Conservation for non-essential or unauthorized uses, including but not limited to those above in Stage 1 and the following:

   a. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on a schedule established and posted by California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the California-American Water Company unless other arrangements are made with the California-American Water Company.

   c. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, and have been actively managed within the water feature prior to declaration of a supply shortage level under this Rule.

   d. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

   e. Limits on Filling Residential Swimming Pools & Spas: Re-filling and initial filling of residential swimming pools or outdoor spas with potable water is prohibited, except to maintain required operating levels of existing pools and spas. (N)

(continued)

Schedule No. 14.1-SM (Continued)

STAGED WATER CONSERVATION PLAN
SAN MARINO SERVICE AREA OF LOS ANGELES DISTRICT

F. SPECIAL CONDITIONS (Continued) (N)

8. No customer shall use utility-supplied water in Stage 3 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to those above in Stages 1 and 2 and the following:

   a. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless California-American Water Company has determined that recycled water is available and may be applied to the use:

      i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      ii. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      iii. Maintenance of existing landscape necessary for fire protection;

      iv. Maintenance of existing landscape for soil erosion control;

      v. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

      vi. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Section G. 2. a. and time restrictions in Section D. 1. of Rule 14.1-SD;

      vii. Actively irrigated environmental mitigation projects.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

(N)

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