Final

2010 Urban Water Management Plan

for the

Central Division – Monterey County District

Prepared for:

California-American Water Company

CALIFORNIA
AMERICAN WATER

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TABLE OF CONTENTS

Table of Contents i
List of Tables v
List of Figures vi
List of Acronyms and Abbreviations viii
1 Plan Preparation 1-1
1.1 Coordination 1-5
1.2 Plan Adoption, Submittal, and Implementation 1-7
1.2.1 Implementation of the 2010 UWMP 1-7
1.2.2 Implementation of the Recycled Water Plan 1-8
1.2.3 Implementation of the Conservation Best Management Practices 1-8
2 System Description 2-1
2.1 Service Area Physical Description 2-1
2.1.1 Climate 2-1
2.2 Service Area Population 2-5
3 System Demands 3-1
3.1 Baseline and Targets 3-1
3.2 Water Demands 3-2
3.2.1 Low-Income Demands 3-6
3.2.2 Sales to Other Water Agencies 3-7
3.2.3 Additional Water Uses and Losses 3-8
3.2.4 Total Water Use 3-9
3.3 Water Reduction Plan 3-9
4 System Supplies 4-1
4.1 Water Sources 4-1
4.2 Carmel River 4-2
4.2.1 Carmel Valley Aquifer 4-2
4.3 Groundwater 4-5
4.3.1 Seaside Groundwater Basin 4-5
4.3.2 Salinas Valley Groundwater Basin 4-9
4.4 Phase I Aquifer Storage and Recovery 4-14

4.5 Sand City Desalination 4-14
4.6 Transfer Opportunities....4-15
4.7 Future Water Projects....4-15
4.7.1 Ocean Desalination/GWR 4-15
4.7.2 Aquifer Storage and Recovery (Phase II)....4-16
4.8 Recycled Water Opportunities....4-18
4.8.1 Wastewater System Description....4-18
4.8.2 Wastewater Disposal and Recycled Water Uses....4-21
4.8.3 Projected Uses of Recycled Water....4-22
4.8.4 Plan to Optimize Use of Recycled Water 4-23
5 Water Supply Reliability and Water Shortage Contingency Planning 5-1
5.1 Water Supply Reliability....5-1
5.1.1 Carmel River Reliability 5-1
5.1.2 Groundwater Reliability 5-1
5.1.3 Aquifer Storage and Recovery Reliability....5-2
5.1.4 Desalination Reliability....5-2
5.1.5 Supply Reliability....5-2
5.1.6 Resource Maximization and Import Minimization 5-5
5.2 Water Shortage Contingency Planning 5-5
5.2.1 Introduction 5-5
5.2.2 Stages of Action, Mandatory Prohibitions and Restrictions, Consumption Reduction Methods, and Penalties for Excessive Use....5-5
5.2.3 Three Year Minimum Water Supply....5-9
5.2.4 Catastrophic Supply Interruption plan....5-9
5.2.5 Revenue and Expenditure Analysis....5-10
5.2.6 Mechanisms for Determining Actual Reductions 5-11
5.2.7 Supply and Demand Comparison....5-11
5.2.8 Draft Ordinance....5-12
5.3 Water Quality....5-13
5.3.1 Carmel Valley Aquifer 5-13
5.3.2 Seaside Groundwater Basin 5-13
5.3.3 Salinas Valley Groundwater Basin....5-13

6 Demand Management Measures 6-1
6.1 Evaluation of BMP Effectiveness 6-3
6.2 BMPs Implemented or Planned to be Implemented 6-3
6.2.1 BMP 1.1.1 Conservation Coordinator (DMM L) 6-3
6.2.2 BMP 1.1.2 Water Waste Prevention (DMM M) 6-5
6.2.3 BMP 1.1.3 Wholesale Agency Assistance Programs (DMM J) 6-6
6.2.4 BMP 1.2 Water Loss Control (DMM C) 6-6
6.2.5 BMP 1.3 Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections (DMM D) 6-8
6.2.6 BMP 1.4 Retail Conservation Pricing (DMM K) 6-9
6.2.7 BMP 2.1 Public Information Programs (DMM G) 6-13
6.2.8 BMP 2.2 School Education Programs (DMM H) 6-17
6.2.9 BMP 3.1 Residential Assistance Programs (DMM A/ DMM B) 6-19
6.2.10 BMP 3.2 Landscape Water Survey (DMM A) 6-22
6.2.11 BMP 3.3 High-Efficiency Clothes Washing Machine Financial Incentives Programs (DMM F) 6-24
6.2.12 BMP 3.4 Water Sense Specification (WSS) Toilets (DMM N) 6-25
6.2.13 BMP 4 Commercial, Industrial, and Institutional (DMM I) 6-26
6.2.14 BMP 5 Landscape (DMM E) 6-29
6.3 BMPs Not Implemented or Not Scheduled to be Implemented 6-31
7 References 7-1
Appendix A. Baseline Daily Per Capita Use Calculation ..... A
Appendix B. CPUC Rule 14.1.1 ..... B
Appendix C. Public Hearing Notice C
Appendix D. CUWCC Best Management Practice Report ..... D
Appendix E. DWR Review Checklist ..... E
Appendix F. Demand Projection Methodology ..... F
Appendix G. Adoption Resolution ..... G
Appendix H. 60 Day Notification Letter ..... H
Appendix I. Order 95-10 I
Appendix J. Final Cease and Desist Order ..... J
Appendix K. Seaside Basin Adjudication ..... K

Appendix L. Carmel River Diversions Reduction Schedule L

Appendix M. Seaside Groundwater Basin Adjudication Allocation ..... M

Appendix N. ASR Dry Year & Multiple Dry Year Simulation ..... N

Appendix O. Wastewater Flows ..... O

Appendix P. MPWMD Regulation XIV ..... P

Appendix Q. CAW/MPWMD Rebate Program – Current Rebates ..... Q

LIST OF TABLES

Table 1-1: Preliminary Schedule for DWR's 2010 UWMP Guidebook Update 1-2
Table 1-2: Summary of Changes in the UWMP Act Since 2005 1-2
Table 1-3: Agency Coordination 1-6
Table 2-1: Precipitation and Evapotranspiration between January and June in Monterey 2-4
Table 2-2: Precipitation and Evapotranspiration between July and December in Monterey 2-5
Table 2-3: Past, Current, and Projected Population of the Monterey County District 2-6
Table 3-1: Baseline, Compliance, Interim Target, and Target Per Capita Water Use 3-1
Table 3-2: Past, Current, and Project Deliveries by Service Area (AFY) 3-3
Table 3-3: Water Deliveries by Customer Category- Actual, 2005 (AFY) 3-4
Table 3-4: Water Deliveries by Customer Category - Actual, 2010 (AFY) 3-4
Table 3-5: Water Deliveries by Customer Category - Projected 2015 (AFY) 3-5
Table 3-6: Water Deliveries by Customer Category - Projected 2020 (AFY) 3-5
Table 3-7: Water Deliveries by Customer Category- Projected, 2025, and 2030 (AFY) 3-6
Table 3-8: Monterey County District Low-Income Water Demands (AFY) 3-7
Table 3-9: Monterey County District Sales to Other Water Agencies (AFY) 3-8
Table 3-10: Monterey County District Non-Revenue Water (AFY) 3-8
Table 3-11: Total Water Use (AFY) 3-9
Table 4-1: Water supply sources for each service area for the Monterey County District 4-1
Table 4-2: Water Supplies – Current and Projected (AFY) 4-2
Table 4-3. Carmel Valley Aquifer Historical Production (AFY) 4-3
Table 4-4. Carmel Valley Aquifer Projected Production Quantities (AFY) 4-3
Table 4-5: Monterey County District – Historical Groundwater Volume Pumped (AFY) 4-5
Table 4-6: Monterey County District Projected Pumping Quantities by Basin (AFY) 4-5
Table 4-7: Projected Supply from Phase 1 ASR (AFY) 4-14
Table 4-8: Projected Supply from Sand City Desalination Plant (AFY) 4-15
Table 4-9: Supply Amounts for New Supply Projects in the Monterey County District 4-17
Table 4-10: Wastewater Collected and treated in California American Water's Monterey District service area (AFY) 4-18
Table 4-11: Volume of Wastewater that Meets Recycled Water Standards for California American Water's Main Monterey service area (AFY) 4-19
Table 4-12: Wastewater disposal methods and treatment level (AFY) 4-21
Table 4-13: Potential uses and quantities of recycled water in California American Water's Main Monterey Service Area (AFY) 4-22
Table 4-14: Projected Uses of Recycled Water (AFY) 4-23
Table 4-15: 2000 UWMP projections of recycled water use in 2005 and actual recycled water use in 2005 in the Main Monterey Service Area (AFY) 4-23
Table 5-1: Monterey County District Supply Reliability Base Years 5-2
Table 5-2: Monterey County District Supply Reliability-Current Water Use 5-3
Table 5-3: Monterey County Water Supply 2010-2012(AFY) 5-4
Table 5-4: Monterey County District Factors Resulting in Inconsistency of Supply 5-5

Table 5-5: Water Rationing Stage Triggers and Reduction Measures 5-8
Table 5-6: Monterey County District Three Year Minimum Water Supply (AFY) 5-9
Table 5-7: Supply and Demand Comparison- Normal Year (AFY) 5-11
Table 5-8: Supply and Demand Comparison- Single Dry Year (AFY) 5-11
Table 5-9: Supply and Demand Comparison- Multiple Dry-Year Events (AFY) 5-12
Table 6-1: DMMs and BMPs....6-2
Table 6-2: California American Water Conservation Team 6-4
Table 6-3: Actual Conservation Staff, Monterey County District....6-4
Table 6-4: Planned Conservation Staff....6-5
Table 6-5: Water Rate Structures by Service Area....6-12
Table 6-6: Number of Actual Public Outreach Events....6-15
Table 6-7: Number of Planned Public Outreach Events....6-15
Table 6-8: Number of Students Reached 6-18
Table 6-9: Number of Students Expected to be Reached 6-18
Table 6-10: Actual Residential Water Audits 6-20
Table 6-11: Planned Residential Water Audits 6-20
Table 6-12: Actual Number of Plumbing Retrofit Devices 6-21
Table 6-13: Planned Number of Plumbing Retrofit Devices[1] 6-22
Table 6-14: Actual Residential Landscape Rebates....6-23
Table 6-15: Planned Residential Landscape Rebates....6-23
Table 6-16: Actual Residential HECW Rebates....6-24
Table 6-17: Planned Residential HECW Rebates....6-24
Table 6-18: Actual Residential HET and UHET Rebates 6-25
Table 6-19: Planned Residential HET and UHET Rebates....6-25
Table 6-20: Actual CII Audits 6-27
Table 6-21: Planned CII Audits 6-27
Table 6-22: Actual Commercial Rebates 6-28
Table 6-23: Planned Commercial Rebates 6-28
Table 6-24: Actual LL Audits....6-30
Table 6-25: Planned LL Audits 6-31

LIST OF FIGURES

Figure 2-1: Map of California American Water's Central Division - Monterey County District 2-3
Figure 2-2: Past, Current, and Projected Population of the Monterey County District....2-7
Figure 3-1: Baseline water use and target water use 3-2
Figure 3-2: Deliveries by Service Area....3-3
Figure 4-1: Carmel Valley Aquifer (11)....4-4
Figure 4-2: Seaside Basin as described by the Department of Water Resources (15)....4-7
Figure 4-3: Seaside Basin as described by the MPWMD and the Seaside Basin Adjudication (16)....4-8
Figure 4-4: 180/400 Foot Aquifer (15) 4-11

Figure 4-5: Corral De Tierra Area sub-basin of the Salinas Valley Groundwater Basin (15) 4-12
Figure 4-6: Langley Area sub-basin (15) 4-13
Figure 4-7: Sand City Desalination Plant (23) 4-15
Figure 6-1: AWWA Water Balance for March 2009 through February 2010, Volumes are in Million Gallons (32) 6-8
Figure 6-2: Earth Day at the Monterey Peninsula College (2009) 6-16
Figure 6-3: Monterey County Fair (2009) 6-16
Figure 6-4: Pacific Grove Middle School Career Day (2009) 6-19

LIST OF ACRONYMS AND ABBREVIATIONS

AB32- California Assembly Bill 32 (Global Warming Solutions Act of 2006)

AMBAG- Association of Monterey Bay Area Governments

American Water- American Water Company

AMI- Area Mean Income

ASR- Aquifer Storage and Recovery

BMP- Best Management Practice

CAWD - Carmel Area Wastewater District

CDPH- California Department of Public Health

CDO- Cease and Desist Order

CEQA- California Environmental Quality Act

CPS- Comprehensive Planning Study

CPUC- California Public Utilities Commission

CSIP- Castroville Seawater Intrusion Project

CUWCC- California Urban Water Conservation Council

District- California American Water Monterey County District

DMM- Demand Management Measure

DWR- California Department of Water Resources

EIR- Environmental Impact Report

ETo- Evapotranspiration

GHG- Greenhouse Gas

GRC- General Rate Case

IOU- Investor Owned Utility

IRWMP- Integrated Regional Water Management Plan

JSA- Joint Settlement Agreement

kWh- kilowatt-hour

MCL- Maximum Contaminant Level

MCWA- Marina Coast Water Agency

MCWRA - Monterey County Water Resources Agency

MF- Microfiltration

MPWMD- Monterey Peninsula Water Management District

MRWP- Monterey Recycled Water Project

MRWPCA- Monterey Regional Water Pollution Control Agency

NRW- Non-Revenue Water

PBCSD- Pebble Beach Community Services District

PGRWP- Pacific Grove Recycled Water Project RO- Reverse osmosis

RUWAP- Regional Urban Water Augmentation Project

SB7- Senate Bill x7-7

SB7 Guidebook- the California Department of Water Resources' *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*

SGWB- Seaside Groundwater Basin

SVGWB- Salinas Valley Groundwater Basin

SWRCB- State Water Resources Control Board

UAW- Unaccounted-for-water

UWMP Act- Urban Water Management Planning Act

UWMP- Urban Water Management Plan

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

WRAM- Water Revenue Accounting Mechanism

1 PLAN PREPARATION

This plan comprises the 2010 Urban Water Management Plan (UWMP) for California-American Water Company's (California American Water's) Central Division - Monterey County District (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 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)

California American Water is a privately 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 County District, and the Southern Division includes the Ventura County, Los Angeles County and San Diego County Districts.

The Monterey County District in California American Water's Central Division contains eight service areas, with the sum of the service areas exceeding the 3,000 AFY/3,000 connections threshold. California American Water has prepared and submitted to DWR four previous UWMPs for the Monterey County District: December 1990; July 1996; December 2000; and April 2006 (revised final in September 2010).

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) (1), 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) (2), and the 2010 DWR Review Sheets (DWR Review Checklist).

The 2010 UWMPs must be adopted by the 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: Preliminary Schedule for DWR's 2010 UWMP Guidebook Update

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" (3). A DWR Review Sheet checklist is provided in DWR Review Checklist. 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 Monterey 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 it is not known if the District is in full compliance since the District has not yet received indication from CUWCC. However, the 2009-2010 CUWCC BMP Annual Report is attached in Appendix D. A complete DMM section is included in this UWMP.

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 Monterey's 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 and 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

Agency	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was Sent 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)						
Carmel Area Wastewater District				X		
County of Monterey				X		X
Local Agency Formation Commission of Monterey County				X		
Monterey Peninsula Water Management District		X	X	X	X	
Monterey Regional Water Pollution Control Agency				X		
Pebble Beach Community Services District						X
The City of Carmel-by-the-Sea						X
The City of Del Rey Oaks						X
The City of Monterey						X
The City of Pacific Grove						X

Agency	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was Sent a Website Link to Access the Draft Plan	Was sent a notice of intention to adopt
The City of Sand City						X
The City of Seaside						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 Monterey County District service areas 60 days prior to the public hearing. Copies of the 60 day notification letters are attached as Appendix H. 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 July 29, 2012. The public review hearing was noticed on June 15, 2012 and the hearing notice is attached as Appendix C. In addition, California American Water maintained a copy of the draft UWMP in its office and on its website prior to the public hearing.

The Final 2010 Central Division's Monterey County District UWMP was formally adopted by California American Water on August 20, 2012. A copy of the Adoption Resolution is included in Appendix G. A copy of the Final 2010 Central Division's Monterey County District UWMP was sent to the California State Library, DWR, and all cities and the County of Monterey within 30 days of adoption. California American Water made the 2010 UWMP available for public review in its offices during normal hours prior to the public hearing.

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. For more information on implementation of specific sections of this plan see sections 1.2.2 and 1.2.3.

1.2.2 Implementation of the Recycled Water Plan

While not operated by California American Water's Monterey County District, there are seven (7) golf courses in Pebble Beach, Monterey, and Pacific Grove, all within the boundaries of California American Water's service area, that are serviced by Recycled Water from the Carmel Area Wastewater District (CAWD). The Monterey County District is currently investigating two large recycled water projects: The Pacific Grove Recycled Water Project (PGRWP) and the Monterey Recycled Water Project (MRWP). The PGRWP would offset 105 AFY in the Pacific Grove area. The recycled water would originate from the CAWD, which already has a robust recycled water treatment plant and with excess recycled water availability. The MRWP could provide up to 400 AFY, however, the current identified demand is about 288 AFY. The recycled water would originate from the Monterey Regional Water Pollution Control Agency Regional Treatment Plant (4). Section 4.8 provides additional information on recycled water in the Monterey County District.

The Monterey County District views recycled water as a conservation measure that meets the CPUC's Water Action Plan, and further reduces the Monterey County District's dependence on the existing water supply. The reduction in existing water supply is seen as a necessity as the Monterey County Districts current supply, the Carmel Valley Aquifer and the Seaside Groundwater Basin both have reduction schedules to the safe yield, which is significantly less than current production. The Monterey County District plans to implement an ocean Ocean Desalination/Groundwater Replenishment (GWR) supply project by December 31, 2016 which will provide 9,000 AFY. The amount that will come from GWR is targeted to be about 3,500 AFY.

1.2.3 Implementation of the Conservation Best Management Practices

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. Because the District has not received CUWCC BMP final coverage reports from CUWCC, it is not known if the District is in compliance with the CUWCC MOU. A DMM section (Section 6) is included in this UWMP to meet the requirements of the UWMP Act. In addition, the 2009 and 2010 CUWCC BMP reports are included in the plan (Appendix D).

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 D. 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, CA. 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 Central Division includes the Monterey Main service area and seven other unincorporated satellite systems including: Ryan Ranch, Hidden Hills, Ambler, Bishop, Ralph Lane, Chualar, and Toro.

2.1 SERVICE AREA PHYSICAL DESCRIPTION

California American Water Central Division's Monterey County District serves most of population on the Monterey Peninsula, located along the coast of Central California. The Monterey Main system encompasses greater than 90-percent of the Monterey County District service area, and includes the incorporated cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside as well as unincorporated communities of Pebble Beach, Carmel Valley East and West, Carmel Highlands, and the Presidio of Monterey. The total population of the Monterey Main system was approximately 94,081 in 2010. The Monterey Main system encompasses 33,950 acres and can be accessed from Highway 1 or State Route 68 off Highway 101. A Map of the Monterey Main System can be found in Figure 2-1.

The Monterey County District also serves a number of unincorporated satellite systems, including the communities of Hidden Hills, Ryan Ranch, Bishop, Ambler, Ralph Lane, Chualar, and Toro. These satellite systems encompassed an area greater than 7,000 acres and service a total population of 5,313 in 2010. As shown in Figure 2-1, other than Ralph Lane and Chualar, the satellite systems border the Monterey Main system.

2.1.1 Climate

The climate along the Monterey Peninsula and within the Carmel Valley is characterized as Mediterranean with warm summers and mild winters. The Monterey County District's proximity to the Pacific Ocean and geological features result in several climatic zones within the relatively small service area. The average overall temperature for the coastal areas is 56.5° while the overall average temperature for Carmel Valley is 57.5°. The warmest time of the year for both Monterey and the Carmel Valley fall between August and September, averaging 61.6° and 64.2° respectively. The coolest time of the year is between December and January, averaging for 51.7° and 51.1° for Monterey and the Carmel Valley respectively.

The average annual precipitation in Monterey is 19.17 inches per year, while the Carmel Valley experiences 16.69 inches per year on average. Being in a coastal zone, a majority of the precipitation is in the form of rainfall with only a few isolated incidences of snowfall. Most of the rain, between 90-95%, falls between November and April. The lowest three-year period of rainfall in Monterey occurred between 1988 and 1990, when the total precipitation was 37.79 inches, 35% less than the average three-year total of 57.89 inches. Detailed average monthly precipitation, temperature and evapotranspiration data can be found in Table 2-1 and Table 2-2.

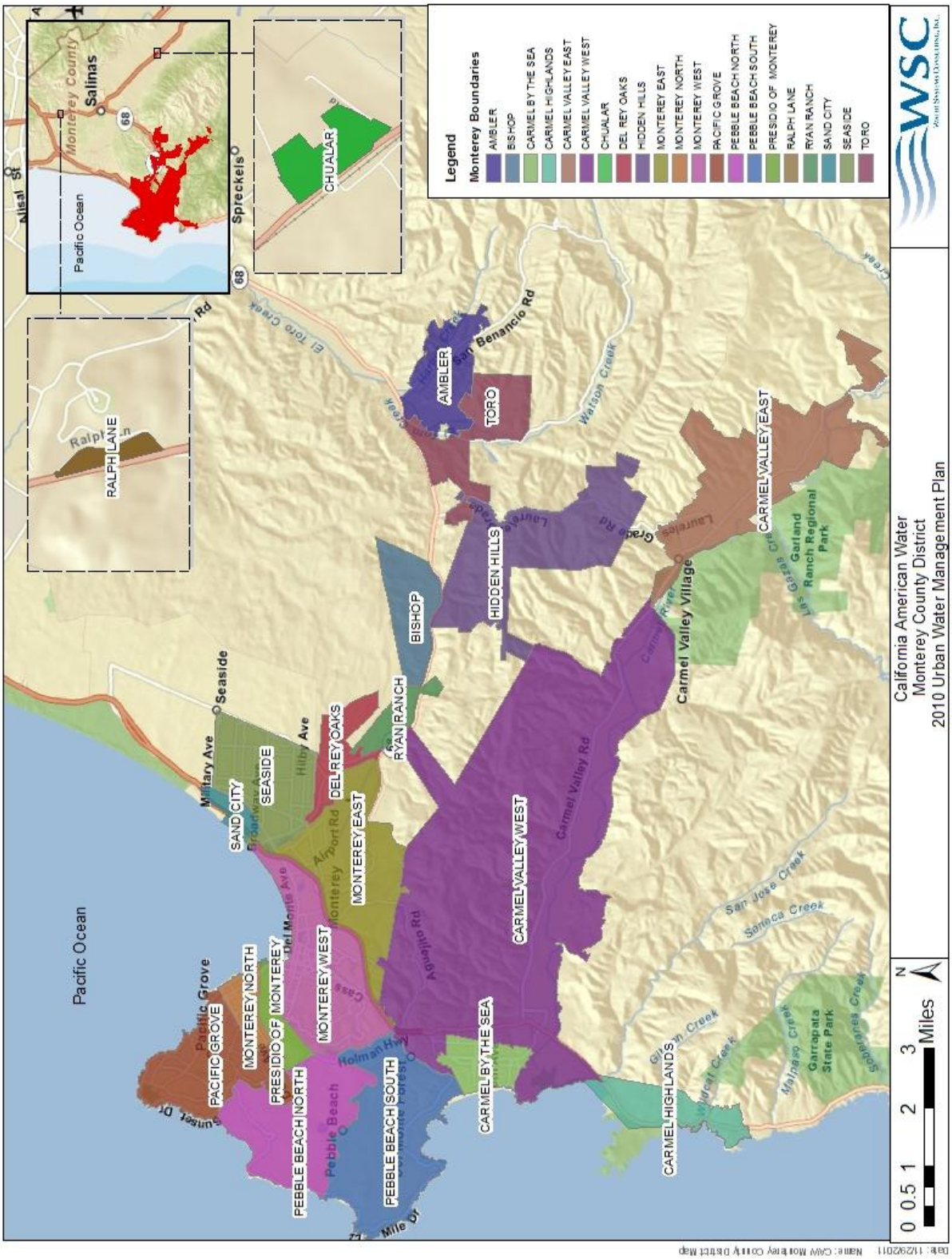

Figure 2-1: Map of California American Water's Central Division - Monterey County District

Table 2-1: Precipitation and Evapotranspiration between January and June in Monterey

	January	February	March	April	May	June
Average Rainfall (Monterey), in[1]	4.15	3.33	3.02	1.50	0.47	0.19
Average Rainfall (Carmel Valley), in[2]	3.64	3.18	2.52	1.51	0.33	0.09
Average Temperature (Monterey), °F[1]	51.4	52.9	53.5	54.6	56.2	58.4
Average Temperature (Carmel Valley), °F[2]	51.2	52.1	52.9	54.3	57.5	61.4
Average ETo (Zone 1), in[3]	0.93	1.40	2.48	3.3	4.03	4.50
Average ETo (Zone 2), in[3]	1.24	1.68	3.10	3.9	4.65	4.65
Average ETo (Zone 3), in[3]	1.86	2.24	3.72	4.8	5.27	5.27

[1]Data from Western Regional Climate Center, Station:(045795-4) Monterey 1949-2010 http://www.wrcc.dri.edu/CLIMATEDATA.html

[2]Data from Western Regional Climate Center, Station:(041534-4) Carmel Valley 1959-1977 & 2002-2010 http://www.wrcc.dri.edu/CLIMATEDATA.html

[3]Reference EvapoTranspiration (ETo) Zones Map, California Irrigation Management Information System (CIMIS), 1999 , http://wwwcimis.water.ca.gov/cimis/data.jsp

Table 2-2: Precipitation and Evapotranspiration between July and December in Monterey

	July	August	September	October	November	December
Average Rainfall (Monterey), in[2]	0.07	0.09	0.24	0.86	2.17	3.13
Average Rainfall (Carmel Valley), in[2]	0.02	0.06	0.16	0.76	1.94	3.15
Average Temperature (Monterey), °F[2]	59.8	60.9	62.2	60.5	56.2	51.9
Average Temperature (Carmel Valley), °F[2]	63.5	64.0	64.5	61.7	55.6	51.0
Average ETo (Zone 1), in[1]	4.65	4.03	3.30	2.48	1.20	0.62
Average ETo (Zone 2), in[1]	4.96	4.65	3.90	2.79	1.80	1.24
Average ETo (Zone 3), in[1]	5.58	5.27	4.20	3.41	2.40	1.86

[1]Data from Western Regional Climate Center, Station:(045795-4) Monterey 1949-2010 http://www.wrcc.dri.edu/CLIMATEDATA.html

[2]Data from Western Regional Climate Center, Station:(041534-4) Carmel Valley 1959-1977 & 2002-2010 http://www.wrcc.dri.edu/CLIMATEDATA.html

[3]Reference EvapoTranspiration (ETo) Zones Map, California Irrigation Management Information System (CIMIS), 1999 , http://wwwcimis.water.ca.gov/cimis/data.jsp

2.2 SERVICE AREA POPULATION

The 2010 population served by the Monterey County District was estimated to be 99,394 using 2010 census data. Most of the areas served have been built out; however there is expected growth in a few of the unincorporated service areas including Ambler and Hidden Hills. The estimated past, current, and projected future populations served by the Monterey County District are shown in Table 2-3 and illustrated in Figure 2-2.

Table 2-3: Past, Current, and Projected Population of the Monterey County District

System Name	2005[1]	2010	2015	2020	2025	2030
Monterey Main	94,869	94,081	96,623	99,165	101,707	104,249
Ambler	1,022	1,024	1,025	1,027	1,028	1,029
Bishop	452	735	681	627	574	520
Chualar	1,138	1,190	1,070	950	831	711
Hidden Hills	1,001	1,155	1,241	1,328	1,414	1,500
Ralph Lane	81	97	90	84	77	71
Ryan Ranch	3	1	1	1	1	1
Toro		1,112	992	872	752	632
Total	**98,567**	**99,396**	**101,725**	**104,055**	**106,384**	**108,713**

[1] Population shown includes the population of systems regardless of availability of water usage data for 2005; thus, the 2005 population here does not match the population utilized to calculate per capita water use as described in Appendix A.

The population projections for California American Water's service areas are based on 2000 and 2010 census data and Transportation Analysis Zones (TAZ) growth rates from the Association of Monterey Bay Area Governments (AMBAG)'s 2008 population projections (5). Appendix F provides additional detail regarding the methodology used to establish population projections.

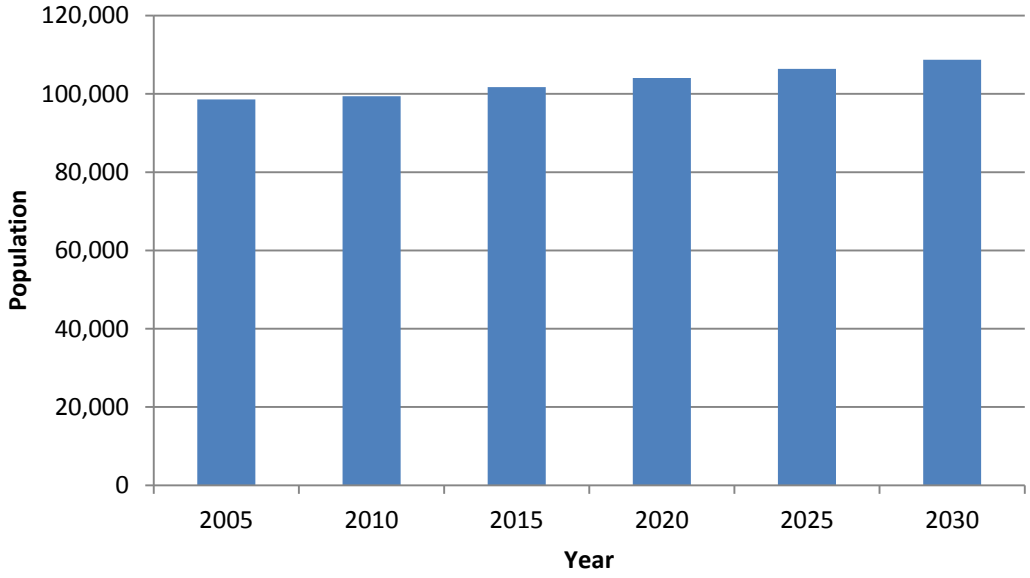

Figure 2-2: Past, Current, and Projected Population of the Monterey County District

3 SYSTEM DEMANDS

The methodology for developing demand projections is included in Appendix F. Projections incorporate ongoing and future water conservation efforts to reflect a reduced per capita usage as required by SB7. Appendix A describes the methodology used to develop the SB7 baseline and targets in detail.

3.1 BASELINE AND TARGETS

The calculation of SB7 baseline and target per capita water use is discussed in detail in Appendix A. Table 3-1 shows the baseline, compliance, interim target, and target per capita water use for the Monterey 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	144
2010 Daily Per Capita Water Use	115
2015 Interim Urban Water Use Target	131
2020 Urban Water Use Target	118

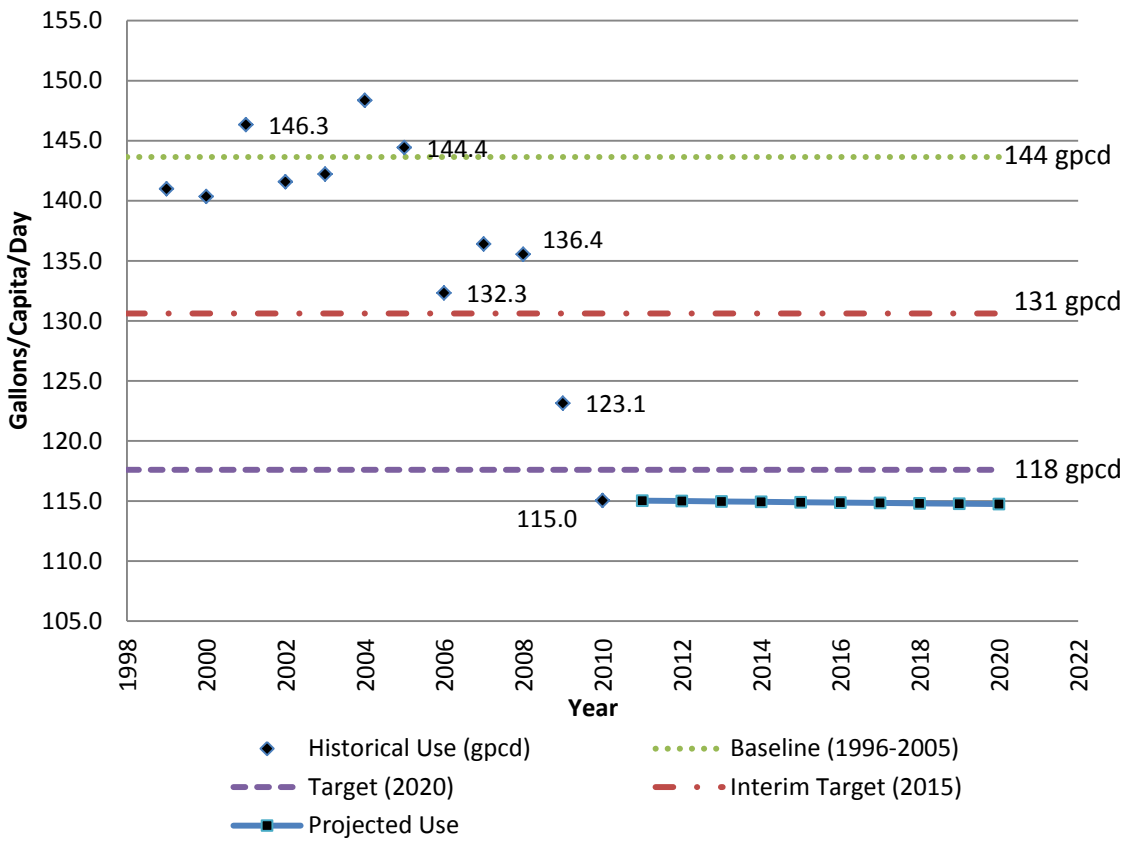

Figure 3-1: Baseline water use and target water use

3.2 WATER DEMANDS

The following Tables (Table 3-2 through Table 3-7) show the past, current, and projected demands. The methodology for demand projections is outlined in Appendix F. Table 3-2 and Figure 3-2 show the past, current, and projected deliveries by service area.

Table 3-2: Past, Current, and Project Deliveries by Service Area (AFY)

System Name	2005[1]	2010[1]	2015[2]	2020[2]	2025[2]	2030[2]
Monterey Main	12,202	10,466	10,923	11,244	11,564	11,884
Bishop	186	164	175	161	147	133
Hidden Hills	176	143	146	158	170	183
Ryan Ranch	66	52	54	54	54	54
Ambler	226	166	172	172	172	172
Chualar	153	116	105	93	81	69
Ralph Lane	8	8	8	7	6	6
Toro	0	204	177	152	128	103
Total	**13,017**	**11,320**	**11,760**	**12,042**	**12,323**	**12,605**

[1] All volume data comes from Customer and Consumption Data by Political Jurisdiction from California American Water
[2] Projected deliveries do not reflect the Cease and Desist Order or the Seaside Basin Adjudication restrictions on supply.

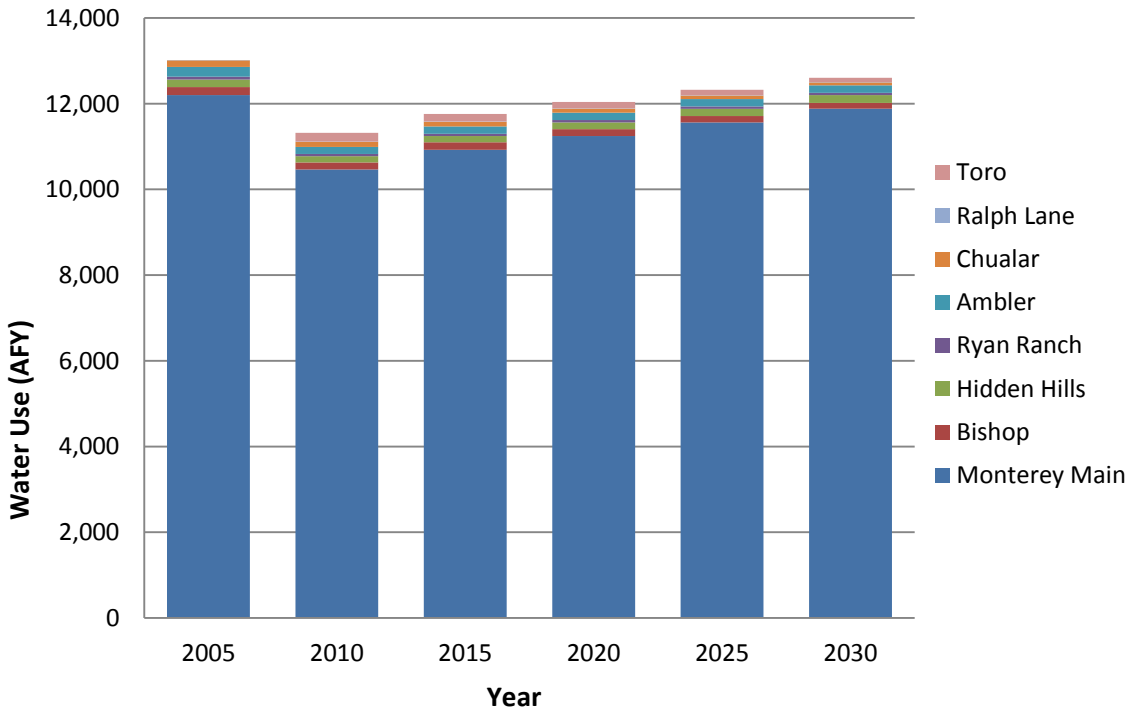

Figure 3-2: Deliveries by Service Area[1]

[1] Projected deliveries do not reflect the Cease and Desist Order or the Seaside Basin Adjudication restrictions on supply.

Table 3-3: Water Deliveries by Customer Category- Actual, 2005 (AFY)

	2005				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	33,672	6,922	0	0	6,922
Multi-family	1,333	1,293	0	0	1,293
Commercial	3,432	3,191	0	0	3,191
Industrial	6	77	0	0	77
Institutional/ governmental	623	1,078	0	0	1,078
Landscape	9	427	0	0	427
Agriculture	0	0	0	0	0
Other	70	29	0	0	29
Total	**39,145**	**13,017**	**0**	**0**	**13,017**

Table 3-4: Water Deliveries by Customer Category - Actual, 2010 (AFY)

	2010				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	34,301	6,225	0	0	6,225
Multi-family	1,344	1,366	0	0	1,366
Commercial	3,694	2,879	0	0	2,879
Industrial	4	64	0	0	64
Institutional/ governmental	345	483	0	0	483
Landscape	8	150	0	0	150
Agriculture	0	0	0	0	0
Other	166	154	0	0	154
Total	**39,862**	**11,320**	**0**	**0**	**11,320**

Table 3-5: Water Deliveries by Customer Category - Projected 2015 (AFY)

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	34,237	6,443	0	0	6,443
Multi-family	1,344	1,425	0	0	1,425
Commercial	3,693	3,004	0	0	3,004
Industrial	4	67	0	0	67
Institutional/ governmental	344	504	0	0	504
Landscape	8	156	0	0	156
Agriculture	0	0	0	0	0
Other	166	160	0	0	160
Total	**39,796**	**11,760**	**0**	**0**	**11,760**

Table 3-6: Water Deliveries by Customer Category - Projected 2020 (AFY)

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	35,950	6,578	0	0	6,578
Multi-family	1,416	1,467	0	0	1,467
Commercial	3,873	3,085	0	0	3,085
Industrial	4	69	0	0	69
Institutional/ governmental	362	518	0	0	518
Landscape	9	161	0	0	161
Agriculture	0	0	0	0	0
Other	174	165	0	0	165
Total	**41,789**	**12,042**	**0**	**0**	**12,042**

Table 3-7: Water Deliveries by Customer Category- Projected, 2025, and 2030 (AFY)

	2025		2030	
	Metered		Metered	
Water use sectors	# of Connections	Volume	# of Connections	Volume
Single family	36,775	6,759	37,600	6,848
Multi-family	1,452	1,499	1,488	1,549
Commercial	3,963	3,128	4,052	3,246
Industrial	5	70	5	72
Institutional/ governmental	371	527	380	545
Landscape	9	166	9	170
Agriculture	0	0	0	0
Other	178	173	182	175
Total	**42,752**	**12,323**	**43,715**	**12,605**

3.2.1 Low-Income Demands

Changes to the California Water Code section 10631.1 since 2005 require 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 area mean income (AMI). According to the 2009-2014 Housing Element, the percentage households identified as low-income (50-80% of AMI), very low-income (31-50% of AMI), and extremely low income (up to 30% AMI) equaled 12.7%, 7.9% and 7.3% respectively, for a total of 27.9% of households making less than 80% of the mean income from the 2000 census (6) for Monterey County.

The Regional Housing 2007-2014 Plan for Monterey and Santa Cruz Counties prepared by AMBAG, separated regional housing goals by City and Income Category (7). The demand from the housing goals was estimated by applying the usage per connection factor for both single family and multi-family in 2010 and applying it to the housing goals set by AMBAG. Shown in Table 3-8 is the anticipated demand from low income housing from 2011-2014.

Table 3-8: Monterey County District Low-Income Water Demands (AFY)

Low-income Water Demands	2010	2011	2012	2013
Single-family residential				
Carmel-by-the Sea	0.3	0.3	0.3	0.3
Del Rey Oaks	1.3	1.3	1.3	1.3
Monterey	5.6	5.6	5.6	5.6
Pacific Grove	1.0	1.0	1.0	1.0
Sand City	1.0	1.0	1.0	1.0
Seaside	5.1	5.1	5.1	5.1
Subtotal, SFR	14.3	14.3	14.3	14.3
Multi-family residential				
Carmel-by-the Sea	0.1	0.1	0.1	0.1
Del Rey Oaks	0.3	0.3	0.3	0.3
Monterey	1.2	1.2	1.2	1.2
Pacific Grove	0.2	0.2	0.2	0.2
Sand City	0.2	0.2	0.2	0.2
Seaside	1.1	1.1	1.1	1.1
Subtotal, MFR	3.1	3.1	3.1	3.1
Monterey County District Total Low-income Demand	**18.2**	**18.2**	**18.2**	**18.2**

3.2.2 Sales to Other Water Agencies

California American Water's Monterey County District does not have any contracts to sell water to other agencies as a wholesaler, nor does the Monterey County District anticipate selling water to other agencies in the future. Table 3-9 shows the historical, current, and projected amounts of water sold to other agencies.

Table 3-9: Monterey County District Sales to Other Water Agencies (AFY)

Water distributed	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

Table 3-10 shows the past, current and projected amount of non-revenue water (NRW) for the Monterey County District. NRW is defined as the water losses plus authorized unbilled (metered and unmetered) water consumption (8). NRW was calculated by subtracting the total water production from total water deliveries, which included metered deliveries unbilled authorized use.

In the Monterey County District, NRW varied significantly for each service area. Customer and Consumption data from year 2006 to 2010 were used to determine the average NRW for each service area. In some years for certain service areas, the NRW could not be determined because the water deliveries exceeded the production, indicating metering errors. The average NRW over the last five years (2006-2010) was 12.38% for the Monterey Main system; however NRW experienced a decreasing trend in the last two years. The NRW totals shown in Table 3-10 below were provided by the Monterey County District as part of the General Rate Case (GRC) presented to the CPUC (9).

Table 3-10: Monterey County District Non-Revenue Water (AFY)

System	2005	2010	2015	2020	2025	2030
Monterey Main	2,332	1,389	1,251	1,251	1,251	1,251
Bishop	0	28	3	3	3	3
Hidden Hills	0	23	33	33	33	33
Ryan Ranch	0	5	3	3	3	3
Ambler	0	17	12	12	12	12
Chualar	0	4	3	3	3	3
Ralph Lane	0	1	1	1	1	1
Toro	0	22	25	25	25	25
Total Non-Revenue Water	**2,332**	**1,489**	**1,331**	**1,331**	**1,331**	**1,331**

3.2.4 Total Water Use

Table 3-11 shows the past, current and projected total water use for the Monterey County District. Total water use includes water delivered to customers, water sold to other agencies, and non-revenue water.

Table 3-11: Total Water Use (AFY)

Water Use	2005	2010	2015	2020	2025	2030
Total Water Deliveries	13,017	11,320	11,760	12,042	12,323	12,605
Sales to other water agencies	0	0	0	0	0	0
Non-revenue water (NRW)	2,332	1,489	1,331	1,331	1,331	1,331
Total	**15,349**	**12,809**	**13,091**	**13,373**	**13,654**	**13,936**

3.3 WATER REDUCTION PLAN

The Monterey County District has implemented a very rigorous water conservation plan, evident by having a very low per-capita water use. 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. A copy of the 2009 BMP Annual Report is included in Appendix D, and Section 6-1 provides a description of the DMMs.

4 SYSTEM SUPPLIES

4.1 WATER SOURCES

California American Water's Monterey County District is entirely dependent on local water sources for their supply. The current sources of supply for the Monterey County District are:

1) Wells pumping from Upper and Lower Carmel Valley Aquifers,
2) Groundwater wells pumping from the Seaside Groundwater Basin (SGWB) and its sub-basins, and the Salinas Valley Groundwater Basin (SVGWB) and its sub-basins;
3) Phase I Aquifer Storage and Recovery (ASR); and
4) Sand City Desalination.

Table 4-1 identifies each service area within the Monterey County District and their respective water supply sources. Table 4-2 details the current and planned sources of supply in AFY.

Table 4-1: Water supply sources for each service area for the Monterey County District

Service Area(s)	Water Supply Source(s)
Monterey Main	• Upper Carmel Valley Aquifer • Lower Carmel Valley Aquifer • Coastal Sub-basin (SGWB) • Sand City Desalination • Phase I Aquifer Storage and Recovery
Bishop, Hidden Hills, and Ryan Ranch	• Laguna Seca sub-basin (SGWB)
Ambler, Chualar, Ralph Lane, and Toro	• 180/400 Foot Aquifer sub-basin (SVGWB) • Corral De Tierra Area sub-basin (SVGWB) • Langley Area sub-basin (SVGWB)

Table 4-2: Water Supplies – Current and Projected (AFY)

Water Supply Sources	2010	2015	2020	2025	2030
Carmel River					
Carmel Valley Aquifer	8,253	8,165	3,376	3,376	3,376
Groundwater Production					
Seaside Groundwater Basin	2,811	2,999	1,820	1,494	1,494
Salinas Valley Groundwater Basin	539	502	465	428	392
Aquifer Storage and Recovery					
Phase 1	1,106	920	920	920	920
Phase 2	0	0	1,000	1,000	1,000
Desalination					
Sand City Desalination	99	94	94	94	94
Future Supply Projects					
Ocean Desalination / Groundwater Replenishment[1]	0	0	9,000	9,000	9,000
Total	**12,809**	**12,680**	**16,675**	**16,312**	**16,276**

[1] Ocean Desalination/Groundwater Replenishment supply described in more detail in Section 4.7.

4.2 CARMEL RIVER

4.2.1 Carmel Valley Aquifer

The Monterey County District extracts water from wells located in the Carmel Valley Aquifer. The Carmel Valley Aquifer is located along the Carmel River, southeast of the Monterey Peninsula. The Monterey Main system overlies the Carmel Valley Aquifer. The aquifer is comprised of the alluvial deposits that form the valley floor underlying the Carmel River. Shown in Figure 4-1 is a map of the Carmel Valley Aquifer.

Prior to 1995, the Monterey County District diverted on average about 14,106 AFY from the Carmel River, however, in 1995 following a 3-year hearing, the State Water Resources Control Board (SWRCB) found the Monterey County District to be diverting on average 10,730 AFY from the river without a valid basis of right under Order No. WR-95-10 (10) provided in Appendix I. The Carmel Valley Aquifer underlies and closely parallels the surface water course of the Carmel River, flowing in a subterranean stream subject to the jurisdiction of the SWRCB (10). Ultimately, WR 95-10 entitled the Monterey County District to 3,376 AFY from all Carmel River diversions.

On October 20th, 2009, the SWRCB issued an order to the Monterey County District to cease and desist all unauthorized diversions of water from the Carmel River (11). Among the conditions from the order,

the Monterey County District will diligently implement actions to terminate its unlawful diversions and ultimately terminate all unlawful diversions no later than December 31, 2016. Starting with a base of 10,978 AFY, the Monterey County District was required to follow a scheduled diversion reduction structure, starting with an immediate reduction of 549 AFY. On October 1st, 2011, the Monterey County District will be required to further reduce diversions by 121 AFY cumulatively; such that on October 1st, 2012 the Monterey County District will reduce their diversions by 242 AFY. On October 1st, 2015 the cumulative yearly reductions will increase to 242 AFY. A detailed diversion reduction schedule can be found in Appendix L. Diversions will be further reduced in an amount equal to the production quantities of new sources of supply, including the Sand City desalination plant, the Aquifer Storage and Recovery Program, and Ocean Desalination/Groundwater Replenishment (GWR) supply.

The Monterey County District's allocation of 3,376 AFY from the Carmel River is comprised of the following water rights: 1,137 AFY from a pre-1914 appropriative right; 60 AFY from a riparian right; and 2,179 AFY from License 11866 for diversion and storage at Los Padres Dam (11). The ultimate reduction to 3,376 AFY will occur by December 31, 2016. To meet the reduction requirement, the Monterey County District is pursuing an Ocean Desalination/GWR supply. The conditions of the order will remain in effect until the Monterey County District provides evidence of permanent supply sources to substitute diversions above the Monterey County District's legal right.

Table 4-3. Carmel Valley Aquifer Historical Production (AFY)

Aquifer Names	2006	2007	2008	2009	2010
Upper Carmel Valley Aquifer	895	475	581	655	334
Lower Carmel Valley Aquifer	9,683	10,046	10,098	9,661	9,026
Total	**10,578**	**10,521**	**10,679**	**10,317**	**9,360**
Percent of total water supply	72%	70%	71%	75%	73%

Table 4-4. Carmel Valley Aquifer Projected Production Quantities (AFY)

Aquifer Names	2015	2020	2025	2030
Carmel Valley Aquifer	8,165	3,376	3,376	3,376
Total	**8,165**	**3,376**	**3,376**	**3,376**
Percent of total water supply	64%	20%	21%	21%

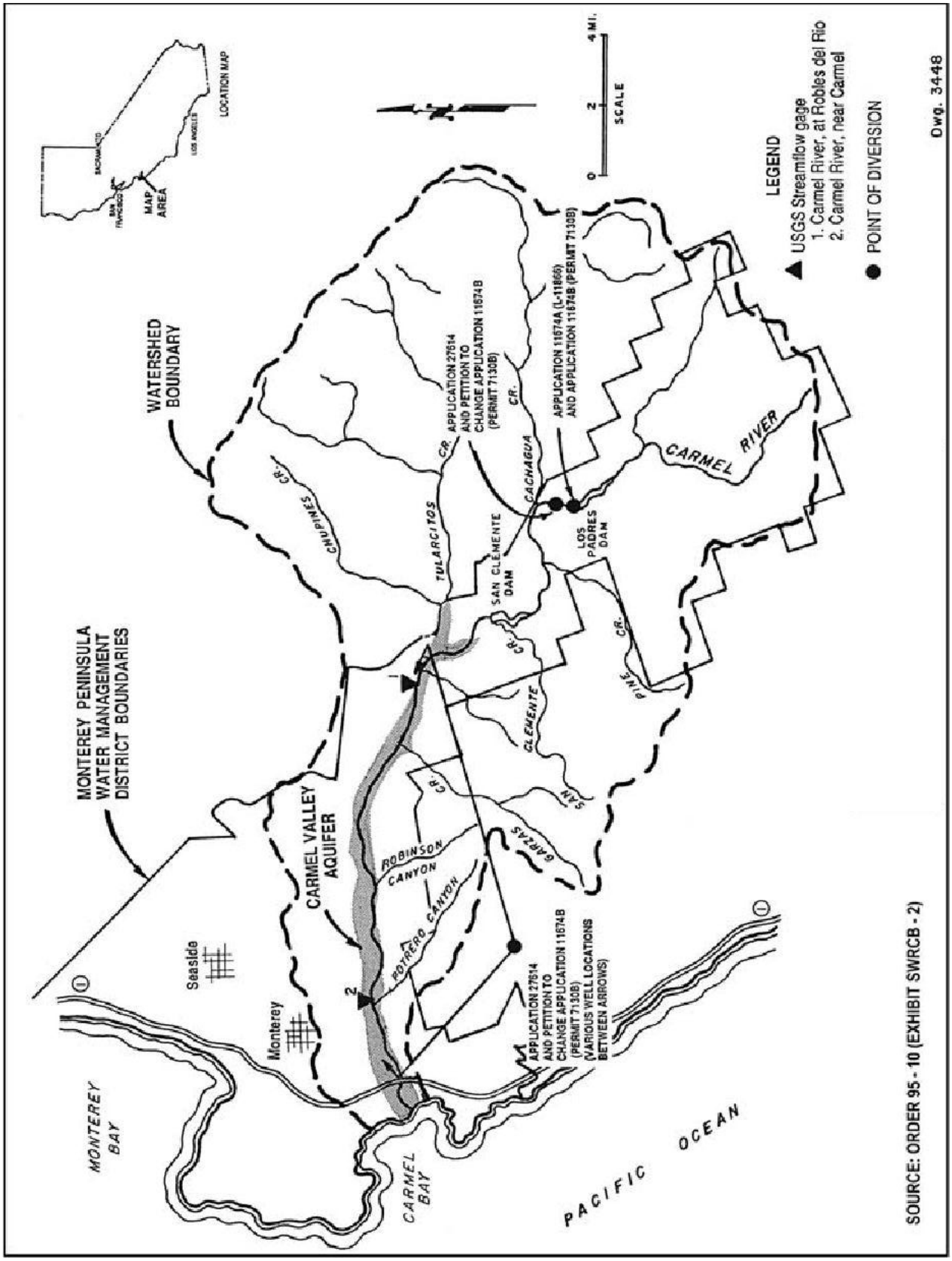

Figure 4-1: Carmel Valley Aquifer (11)

4.3 GROUNDWATER

As described above in Section 4.1, groundwater sources include the Seaside Groundwater Basin and the Salinas Valley Groundwater Basin. Table 4-5 shows the detailed groundwater pumping history from 2006 through 2010.

Table 4-5: Monterey County District – Historical Groundwater Volume Pumped (AFY)

Basin Names	2006	2007	2008	2009	2010
Seaside Groundwater Basin	3,633	4,123	3,781	2,876	2,811
Salinas Valley Groundwater Basin	390	399	637	621	539
Total groundwater pumped	**4,024**	**4,522**	**4,419**	**3,496**	**3,350**
Percent of total water supply	28%	30%	29%	25%	26%

Due to the Seaside Basin Adjudication (12) and the Final Cease and Desist Order (11), the Monterey County District's allowable pumping rights are fixed. Projected groundwater pumping quantities for the Monterey County District are shown in Table 4-6.

Table 4-6: Monterey County District Projected Pumping Quantities by Basin (AFY)

Basin Names	2015	2020	2025	2030
Seaside Groundwater Basin	2,999	1,820	1,494	1,494
Salinas Valley Groundwater Basin	502	465	428	392
Total projected groundwater pumping	**3,501**	**2,285**	**1,922**	**1,886**
Percent of total water supply	28%	14%	12%	12%

4.3.1 Seaside Groundwater Basin

The Monterey County District's next largest source of supply is the Seaside Groundwater Basin (SGWB). Bulletin 118 describes the Seaside Basin as being a sub-basin to the Salinas Valley Groundwater Basin (13). The northern boundary of this sub-basin is the 180/400 Foot Aquifer sub-basin and the southern boundary is the Corral de Tierra sub-basin, both part of the Salinas Valley Groundwater Basin. Shown in Figure 4-2 are the boundaries of the basin as defined by DWR. The Monterey Main and Ryan Ranch systems overlie the SGWB as defined by DWR.

Filed in March, 2006, the Seaside Basin Adjudication Order defines the boundaries of the Seaside Basin Aquifer as shown in Figure 4-3, which differ from the boundaries defined by DWR. The Monterey Main, Bishop, Hidden Hills, and Ryan Ranch systems overlie the SGWB as defined by the Seaside Basin Adjudication Basin Order. The SGWB is located at the northwest corner of the Salinas Valley, adjacent to the Monterey Peninsula. The total surface area of the aquifer covers approximately 19-square miles. The southern boundary of the SGWB follows the Chupines fault, a relatively impermeable formation uplifted to near sea level. The western boundary of the basin extends to the shoreline. The eastern boundary of the basin is defined by the flow divide in the Paso Robles aquifer, which approximately coincides with surface drainage between the Canyon del Rey and El Toro Creek watersheds. Finally, the northern boundary of the basin also follows a groundwater flow divide from the Salinas Valley groundwater basin. The SGWB was subdivided into several sub-basins including the Laguna Seca, Coastal, and Inland subareas; however these divisions were created for planning purposes and not hydrogeological formations (14).

In the adjudication, the Monterey County District's operating yield in 2010 for the Coastal and Laguna Seca sub-basins were reduced to 3,087 and 246 AFY, respectively (12). Under the terms of the adjudication, the Monterey County District's share of the Seaside Basin operating yield will decrease by 10% triennially to the ultimate safe yield of 1,494 AFY for the Coastal sub-basin and 0 AFY for the Laguna Seca sub-basin. A detailed pumping reduction schedule can be found in Appendix M.

Water pumped from the Coastal sub-basin feeds into the Monterey Main system only. Bishop, Hidden Hills and Ryan Ranch all are supplied from wells located within the Laguna Seca sub-basin. Interconnection of these systems is governed by the Conditions of Approval granted by the Monterey Peninsula Water Management District (MPWMD).

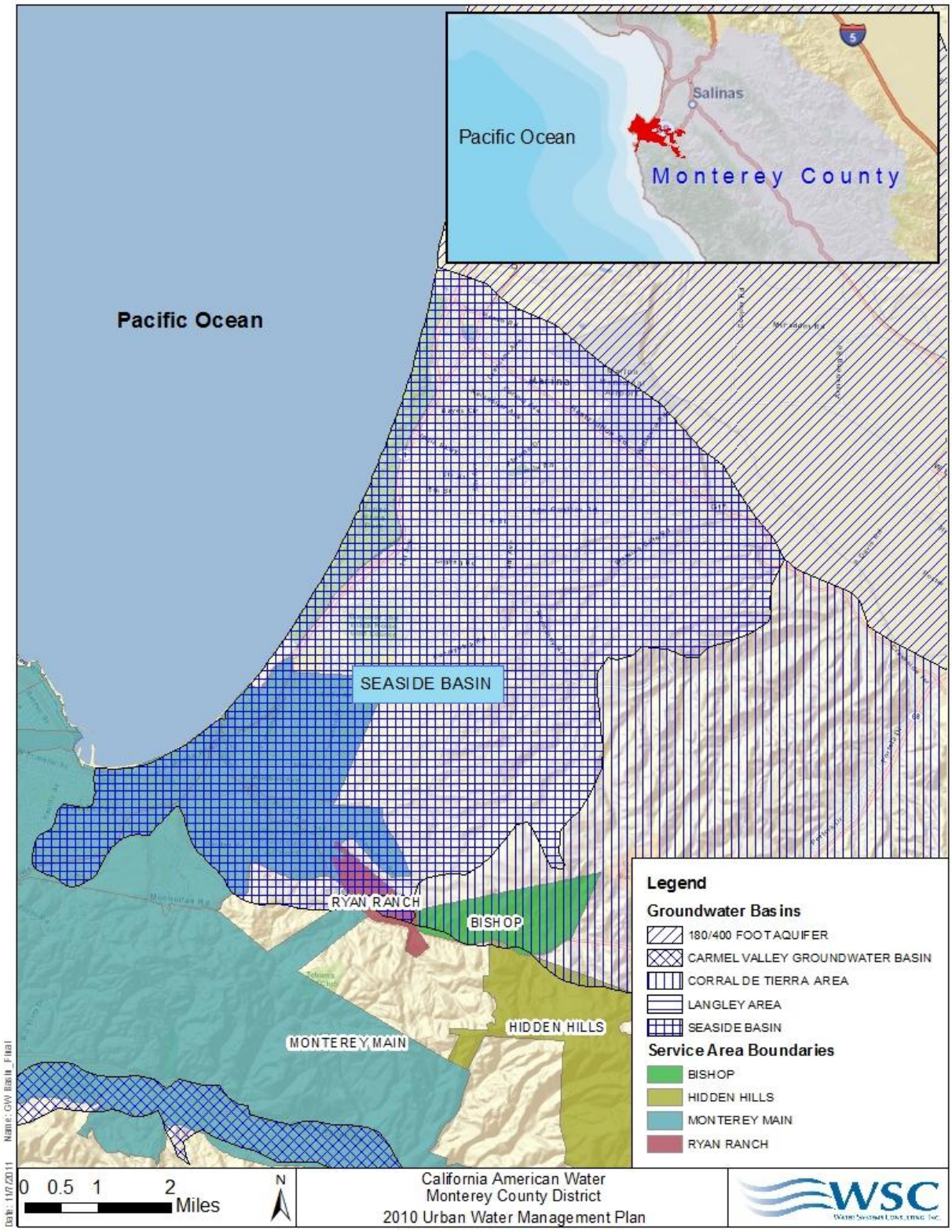

Figure 4-2: Seaside Basin as described by the Department of Water Resources (15)

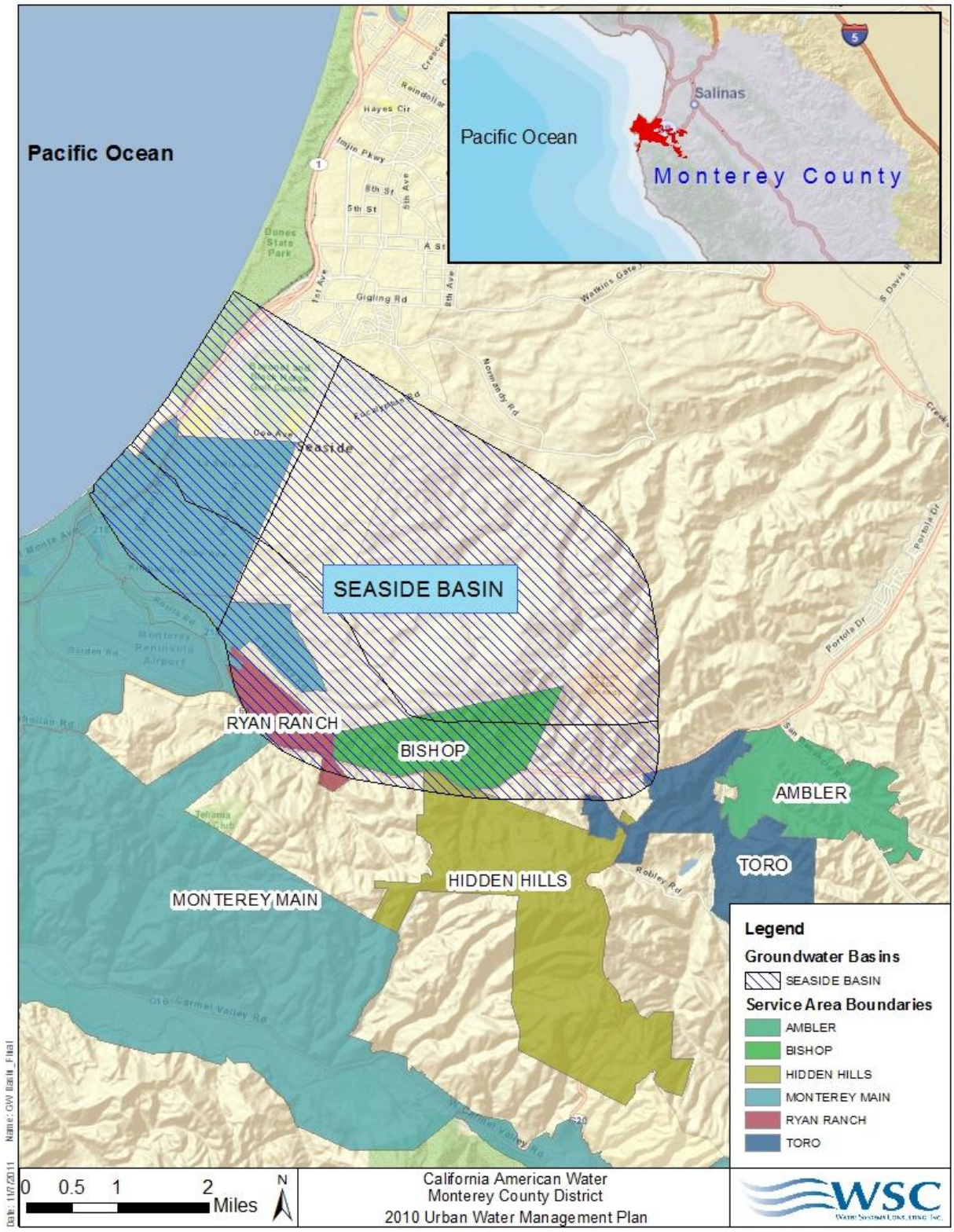

Figure 4-3: Seaside Basin as described by the MPWMD and the Seaside Basin Adjudication (16)

4.3.2 Salinas Valley Groundwater Basin

Chualar, Ambler, Ralph Lane, and Toro's source of supply is the Salinas Valley Groundwater Basin (SVGWB). The Monterey County District utilizes several sub-basins within the SVGWB for their source of supply, including the 180/400 Foot Aquifer sub-basin, Corral de Tierra Area sub-basin, and Langley Area sub-basin.

4.3.2.1 180/400 Foot Aquifer sub-basin

The 180/400 Foot Aquifer sub-basin encompasses approximately 132 square miles and extends to the lower reaches and mouth of the Salinas River (Figure 4-4). The Chualar system overlies the 180/400 Foot Aquifer sub-basin. The southwestern basin boundary is the nexus of Quaternary Alluvium or Terrace Deposits with the granitic basement of the Sierra de Salinas. The northwest boundary is shared with the Salinas Valley – Seaside area sub-basin along the seaward projection of the King City Fault. Most of the length of the northern boundary is shared by the Salinas Valley- Eastside sub-basin and to the very north by the Langley Area sub-basin (17).

The 180/400-Foot Aquifer sub-basin is named by the two main water-bearing zones, at 180 feet and 400 feet on average. The thickness of the 180-Foot aquifer ranges from 50 feet to more than 150 feet and is separated from the 400-Foot aquifer by a series of discontinuous aquifers and aquitards ranging in thickness from 10 to 70 feet. The 400-Foot Aquifer composition is mostly sands, gravels, and clay lenses with an average thickness of 200 feet. There is also an additional 900-Foot aquifer, which is separated from the 400-Foot Aquifer by a blue marine clay aquitard, however this aquifer has experienced little development (17).

Heavy pumping for agriculture in the 180/400 Foot aquifer has led to severe seawater intrusion along the coast, first documented in the 1930's. By 1995, seawater intrusion had been documented over five miles inland through the 180-Foot aquifer and two miles into the 400-Foot Aquifer. Seawater intrusion is not apparent in the Monterey County District's service areas. Sub-basin recharge is negligible from precipitation, agricultural flows, and river flows due to an impermeable clay layer above the 180-Foot Aquifer. Instead, the sub-basin is recharged from the adjacent Eastside sub-basin, or the Arroyo Seco Cone and Salinas River underflow. DWR estimates the total storage capacity of the sub-basin is 7,240,000 AFY (17).

4.3.2.2 Corral de Tierra Area sub-basin

The Corral de Tierra Area sub-basin is approximately 35 square miles and encompasses the eastern portions of the former Fort Ord and other unincorporated areas of Monterey County (Figure 4-5). The Bishop, Hidden Hills, Toro, and Ambler systems overlie the Corral de Tierra Area sub-basin. The sub-basin is bounded by the SGWB to the northwest and the 180/400 Foot Aquifer to the northeast. To the south, the sub-basin is bounded by Middle Miocene marine rock and Mesozoic granitic rocks. The Paso Robles Formation, a geographical distribution of heavy minerals and pebbles, is the major water-bearing zone. The total storage capacity has not been determined (18).

4.3.2.3 Langley Area sub-basin

The Langley Area sub-basin covers a 24 square miles area to the north of the Monterey Peninsula (Figure 4-6). The Ralph Lane system overlies the Langley Area sub-basin. The western and southern boundaries are shared with the 180/400 Foot Aquifer sub-basin and the Eastside Aquifer sub-basin of the SVGWB, respectively. The Aromas Red Sands are considered the primary water-bearing zone. While maximum storage capacity has not been determined, in 1980, there was an estimated 356,000 AFY in storage (19).

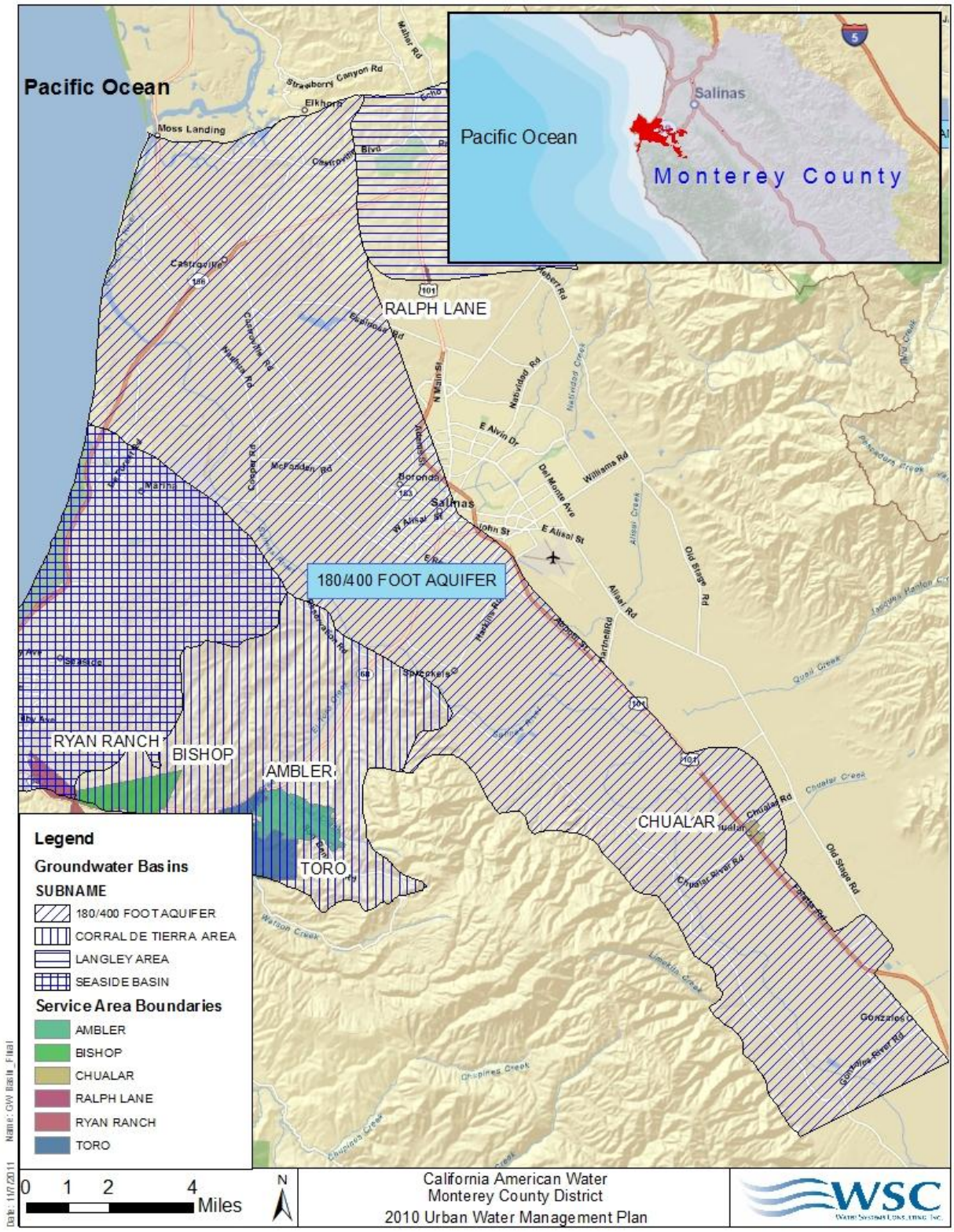

Figure 4-4: 180/400 Foot Aquifer (15)

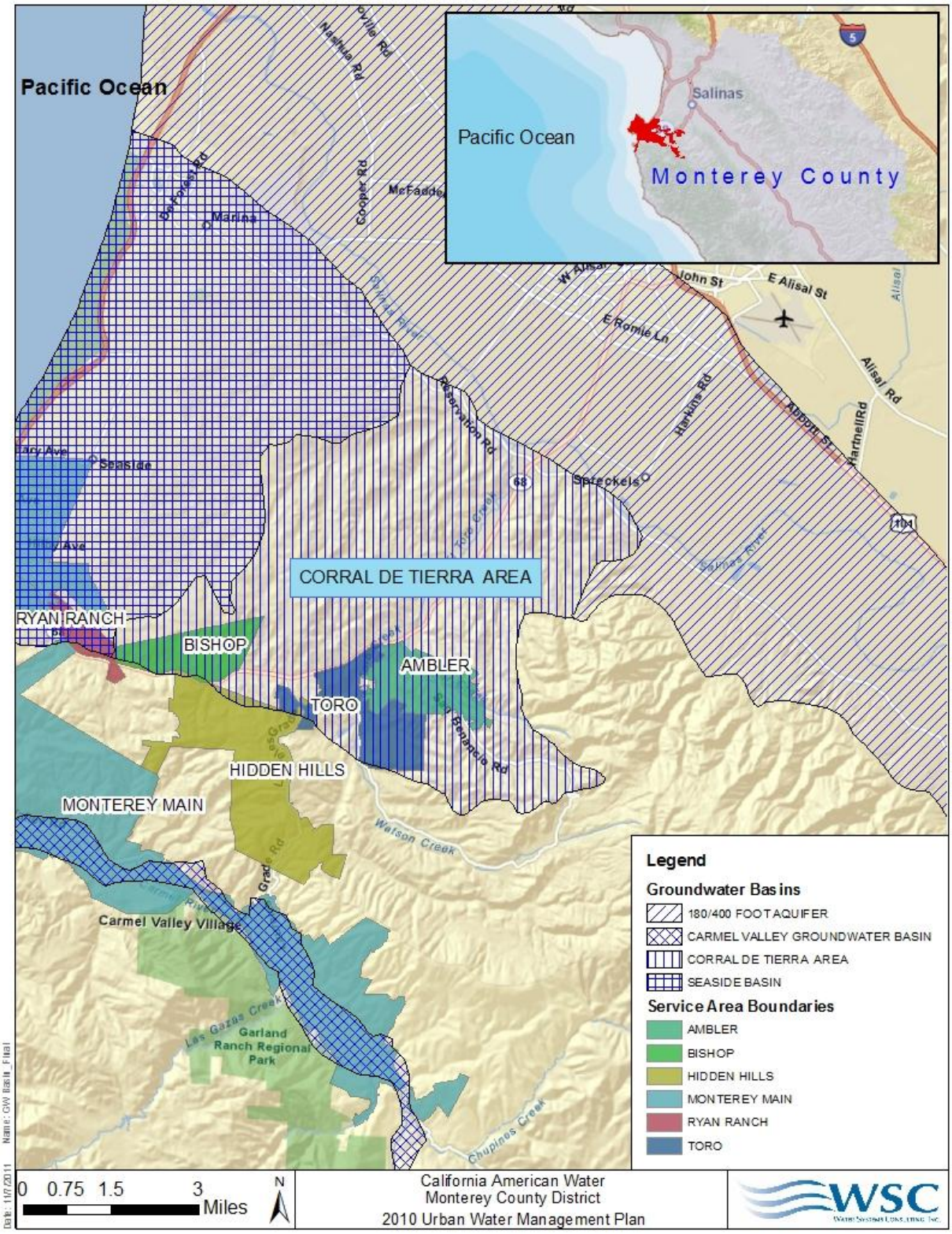

Figure 4-5: Corral De Tierra Area sub-basin of the Salinas Valley Groundwater Basin (15)

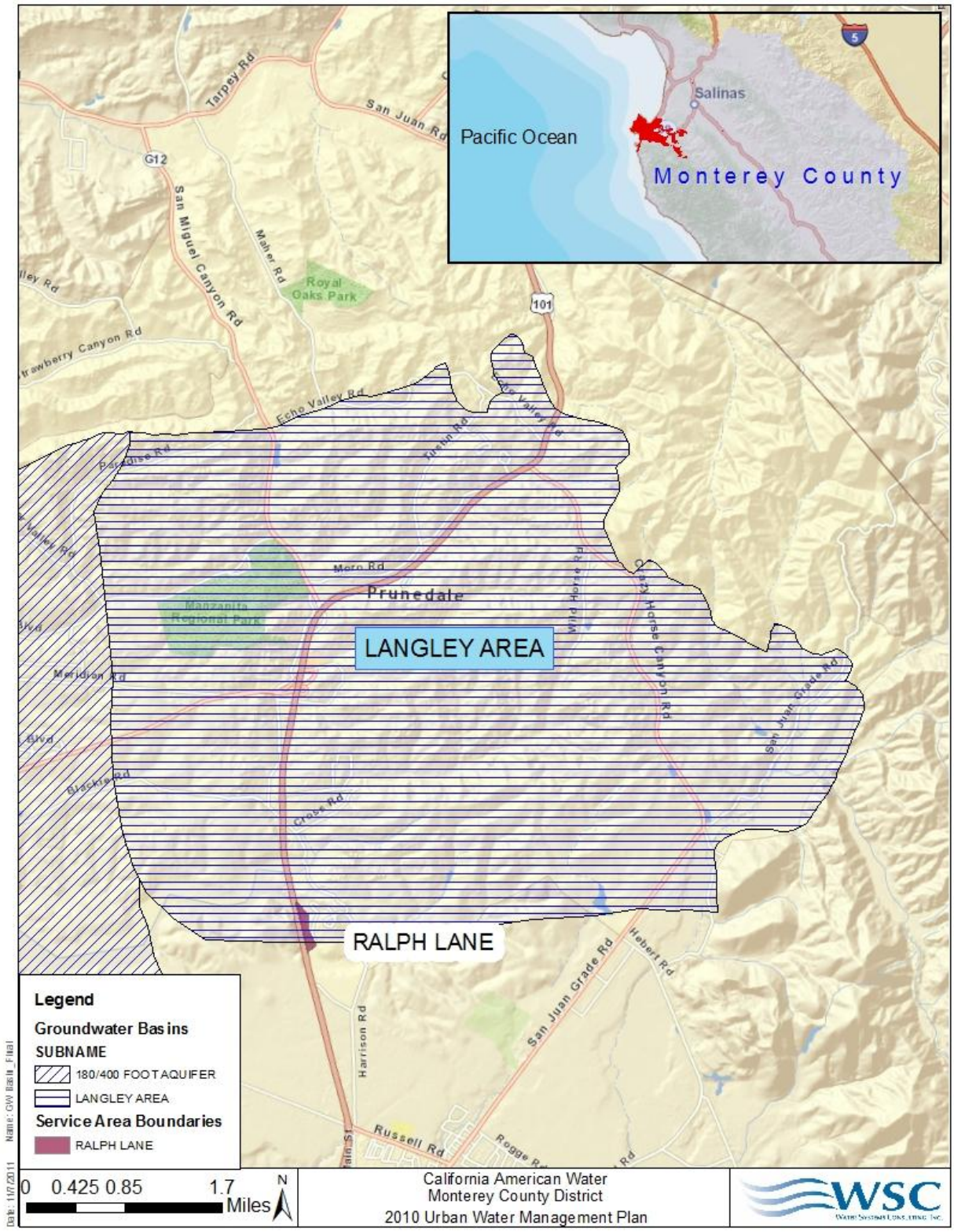

Figure 4-6: Langley Area sub-basin (15)

4.4 PHASE I AQUIFER STORAGE AND RECOVERY

The Phase 1 Aquifer Storage and Recovery (ASR) program is a joint program between Monterey Peninsula Water Management District (MPWMD) and the Monterey County District. Through the ASR program, excess Carmel River flows during peak flow periods (December 1 to May 31) are stored in the SGWB, a sandstone aquifer. The Monterey County District can extract from the ASR when water is needed.

The project is estimated to provide a long-term average supply of 920 AFY (20). Phase 1 of the project includes two injection/extraction wells, known as Santa Margarita 1 and 2. Well 1 is 18 inches in diameter and 780 feet deep, with a perforated well screen from 480 to 700 feet in depth. Well 2 is 20 inches in diameter and 790 feet deep, with a perforated well screen from 540 to 770 feet in depth. With these two wells, California American Water can divert and inject up to 3,000 gpm into the groundwater basin during periods of peak Carmel River flow. A single well is used to extract water from the groundwater basin at approximately 3,000 gpm.

California American Water began full utilization of ASR recovery in 2010. Based on California American Water's well production records, 1,106 AFY were extracted from the SGWB through ASR Recovery in 2010. Future supply from Phase 1 of ASR is assumed to be the long-term average, which is equal to 920 AFY, as shown in Table 4-7. The long-term average was determined from a simulation by the MPWMD, which assessed the hydrological conditions from 1958 to 2002 and estimated the quantity of water that would have been stored and recovered. The simulation is provided as Appendix N.

Table 4-7: Projected Supply from Phase 1 ASR (AFY)

Source	2015	2020	2025	2030
Phase 1 ASR	920	920	920	920

4.5 SAND CITY DESALINATION

Construction of the Sand City Water Supply Project, shown in Figure 4-7, was completed in 2009. California American Water began operating and distributing water from the plant in April 2010 (21). The project includes a reverse osmosis (RO) desalination plant, a pipeline to deliver the treated water to Sand City users, two water storage tanks, and a connection to California American Water's distribution system. The desalination facility produces 300 AFY. California American Water has an allocation of 94 AFY from the facility and currently has a lease to operate the facility for the thirty-one years (22). The remaining allocation of 206 AFY is reserved for future development and redevelopment. Until new development utilizes the available remaining supply, California American Water may use the remaining supply available. However, for the purposes of supply planning it is assumed that only 94 AFY will be available. The estimated supply from the desalination plant for 2015 through 2030 is shown in Table 4-7.

The source for the desalination plant is brackish water from the Aroma Sands Formation aquifer near Monterey Bay. The brackish water is obtained through 4 brackish water feed wells. Concentrate is disposed through a below sea-level horizontal well.

Figure 4-7: Sand City Desalination Plant (23)

Table 4-8: Projected Supply from Sand City Desalination Plant (AFY)

Source	2015	2020	2025	2030
Sand City Desalination Plant	94	94	94	94

4.6 TRANSFER OPPORTUNITIES

There are no immediate or long-term transfer and exchange opportunities that can be quantified currently.

4.7 FUTURE WATER PROJECTS

4.7.1 Ocean Desalination/GWR

California American Water submitted an application for a Certificate of Public Necessity and Convenience for future water supply on April 23, 2012. The application proposes the development of a desalination plant, expansion of the ASR program, and purchasing water from the Groundwater Replenishment Project (GWR) currently proposed by the Monterey Regional Water Pollution Control Agency (MRWPCA) and the Monterey Peninsula Water Management District (MPWMD). These water supply sources are anticipated to provide 9,000 AFY through ocean desalination solely or through a combination of desalination and groundwater replenishment. For the purposes of this plan, deliveries from the Ocean Desalination/GWR supply source are assumed to begin in 2017.

Unlike groundwater and surface water supplies, desalination and groundwater replenishment sources are generally very consistent and do not vary with changes in hydrologic conditions. Therefore, for the purposes of this plan it is assumed that the Ocean Desalination/GWR water supply will be 100% reliable during normal, single dry, and multiple dry years as shown in Table 4-9.

4.7.2 Aquifer Storage and Recovery (Phase II)

The aquifer storage and recovery (ASR) water supply project's main goal is to reliably deliver excess capacity of drinking water from the Carmel Valley to the ASR wells in the SGWB between December 1st to May 31st to allow for full capacity extraction of banked water. Permit 20808A authorizes the diversion of up to 2,426 AFY of water from the Carmel River to the aquifer.

Once the Phase II ASR project has been fully implemented, the long term average supply will be 1,000 AFY under permit 20808C. The Phase II ASR project includes the use of two new wells. The first well, which has been constructed will allow for 500 AFY of supply. The second well, which will be constructed in 2013 will allow for an additional 500 AFY under certain conditions. The "Cal-Am Only" facilities as described in the Coastal Water Project Environmental Impact Report will need to be constructed to allow full utilization of the second well, and a new source will have to be online to free up capacity in the Carmel Valley to divert water to ASR (20). Therefore, it is assumed that the Phase II ASR project will not be fully operational until the Ocean Desalination/ GWR supply comes online in 2017.

When no carry-over storage is available and water is not diverted from the river, then no water will be available to be extracted the following season. The Monterey Peninsula Water Management District (MPWMD) performed a simulation of anticipated injection and recovery volumes using 45 years (1958-2002) of available water data. Long-term average, single dry year, and multiple dry year yields (recovery) were estimated in the simulation. For the single driest year (1997), the average yield from the simulations was 47 AFY for Phase I. Using the same reduction percentage from Phase I, the average yield from Phase II should be 25 AFY for the single driest year. For the multiple dry year scenario (1988-1991), the yield from the simulations for Phase I was 640 AFY for the first year, 100 AFY for the second year, 39 AFY for the third year and 31 AFY for the fourth year. Applying the same percent reductions for Phase II, the anticipated yield during a multiple dry year period is 345 AFY for the first year, 55 AFY for the second year, 21 AFY for the third year, and 17 AFY for the fourth year. The simulation data is provided as Appendix N.

Table 4-9: Supply Amounts for New Supply Projects in the Monterey County District

Project Name	Project Start Date	Projected Completion Date	Normal-year (AFY) to Agency	Single-dry year (AFY)	Multiple-Dry-Year 1 (AFY)	Multiple-Dry-Year 2 (AFY)	Multiple-Dry-Year 3 (AFY)
Ocean Desalination/GWR	Ongoing	2017	9,000	9,000	9,000	9,000	9,000
Aquifer Storage & Recovery Phase II	Ongoing	2017	1,000	691	691	111	42
Total			**10,000**	**9,691**	**9,691**	**9,111**	**9,042**

4.8 RECYCLED WATER OPPORTUNITIES

4.8.1 Wastewater System Description

California American Water's Monterey County District wastewater is treated by multiple agencies within Monterey, including California American Water. Carmel Area Wastewater District (CAWD) and Pebble Beach Community Services District (PBCSD) treat wastewater collected in Pebble Beach, Carmel-by-the-Sea, and parts of Carmel Valley. Monterey Regional Water Pollution Control Agency (MRWPCA) treats wastewater collected in Pacific Grove, Monterey, Del-Rey-Oaks, Seaside, Sand City, and Ryan Ranch. Wastewater from the remainder of the Main Monterey California American Water service area is either treated by California American Water or is disposed of through on-site septic systems.

Of the satellite systems, Ralph Lane and Hidden Hills are both on private septic systems, Toro and Ambler Park are serviced by the Alisal Water Corporation (ALCO), Bishop is operated by California American Water's Pasadera treatment facility, and the Chualar system's small pond wastewater system is owned and operated by the County of Monterey Public Works.

Table 4-10 and Table 4-11 are summaries of all the wastewater collected and treated in California American Water's Monterey District service area along with the volume that meets recycled water standards. These wastewater quantities exclude those on private septic systems. Detailed information into how the wastewater flows were calculated can be found in Appendix O.

Table 4-10: Wastewater Collected and treated in California American Water's Monterey District service area (AFY)

Service Area	2005	2010	2015	2020	2025	2030
Alisal Water Corporation	43	65	61	58	54	51
California American Water	118	124	132	141	149	157
CAWD	1,761	1,803	1,997	2,189	2,382	2,574
County of Monterey - CSA75	82	92	80	71	62	53
MRWPCA	5,812	6,148	6,240	6,328	6,417	6,505
Total	**7,816**	**8,231**	**8,511**	**8,788**	**9,064**	**9,341**

Table 4-11: Volume of Wastewater that Meets Recycled Water Standards for California American Water's Main Monterey service area (AFY)

Service Area	2005	2010	2015	2020	2025	2030
Alisal Water Corporation	0	0	0	0	0	0
California American Water	108	114	122	130	139	147
CAWD	923	1,038	1,260	1,260	1,260	1,260
County of Monterey - CSA75	0	0	0	0	0	0
MRWPCA	2,993	3,370	3,421	3,470	3,518	3,566
Total	**4,024**	**4,522**	**4,803**	**4,860**	**4,917**	**4,974**

4.8.1.1 Alisal Water Corporation

The Alisal Water Corporation (ALCO) operates a wastewater treatment facility that services portions of the Ambler Park and Toro systems. In total, ALCO has about 1,100 service connections and receives on average 210,000 to 215,000 gallons-per-day (GPD). The wastewater is treated to secondary standards by a sequencing batch reactor. All of the treated wastewater is discharged on approximately 120 acres of spray fields. For the Ambler Park system, ALCO services approximately 200 connections in communities known as the Meadows and the Villas. For the Toro system, ALCO services approximately 100 connections in the community known as Markham Ranch. The rest of the residents in Toro and Ambler Park that are serviced by California American Water's Monterey District are on private onsite septic systems.

4.8.1.2 California American Water Wastewater

The Monterey County District operates a total of seven (7) small wastewater facilities in the Monterey County area, however only four (4) are operated within the water service area. Carmel Valley Ranch is the largest treatment facility, serving about 250 housing units. The treatment plant operates with an average inflow of 56,000 GPD; however, the plant's maximum capacity is rated at 100,000 GPD. By 2012, the Carmel Valley Ranch system is expected to serve around 260 housing units, and treat an average inflow of 58,000 GPD, still well below the maximum capacity (24). The facility's treatment process consists of primary and secondary treatment, sand filters, and chlorine disinfection. Treated effluent is discharged into two ponds adjacent to the treatment plant. The treated wastewater is subsequently discharged to two golf courses in the service area.

The Pasadera or Laguna Seca Ranch wastewater treatment facility serves around 220 housing units. This plant receives an average inflow of about 42,000 GPD and a maximum flow of 91,000 GPD. By 2012, the Laguna Seca treatment plant is expected to serve approximately 250 housing units. The treatment facilities process consists of, screening, a biological trickling filter, clarification, flocculation, filtration, and chlorine disinfection. The reclaimed water is stored in a reservoir and is eventually used for golf course irrigation located near the plant (24).

White Oaks and Village Green are septic systems that serve approximately 38-unit and 22-unit condominiums respectively. The average flow to the septic tanks is 5,700 and 3,300 GPD for the White Oaks and Village green systems respectively (24). There is no anticipated increase in flow.

4.8.1.3 Carmel Area Wastewater District

Carmel Area Wastewater District (CAWD) and the Pebble Beach Community Services District operate a newly constructed Microfiltration (MF)/Reverse Osmosis (RO) facility designed to produce 1.5 mgd of blended recycled water to a sodium content of not more than 55 ppm. The treatment process consists of primary treatment, secondary treatment (activated sludge), disinfection, MF, and finally RO. The plant can also operate to produce 1.9 mgd of recycled water, with sodium content between 120 to 150 ppm. The recycled blend is comprised of MF filtrate and RO permeate to a ratio determined by the influent, target effluent sodium content, and the total flow volume received by the treatment plant.

All of the treated wastewater flows to golf courses and other recreational open spaces within Pebble Beach. During the winter months, recycled water is stored in a reservoir with a capacity of approximately 375 AFY to meet seasonal demand.

CAWD has submitted an application to discharge RO reject water to the Carmel River Lagoon. The anticipated volume of water is 300 AFY per year with 150 AFY discharged during the summer months when water levels are at their lowest.

4.8.1.4 County of Monterey – CSA75

The County of Monterey operates the wastewater collection and treatment in the Chualar system, known as CSA75. The treatment facility is located on approximately 10 acres and includes five oxidation/disposal ponds. The facility received an average influent of 70,280 GPD from 2005 to 2010 and has the capacity to receive 112,000 GPD during 100-year storms. There is one solar powered aerator located in the initial receiving pond. The wastewater is disposed by percolation and evaporation. There are no plans for any recycled water projects in the future.

4.8.1.5 Monterey Regional Water Pollution Control Agency

Monterey Regional Water Pollution Control Agency (MRWPCA) operates a large recycled water plant, designed for raw food crop irrigation (25). The treatment process consists of gravity separation, secondary treatment, a mixed media filter, and chlorine disinfection. Treated effluent is held in a temporary 80 AFY storage pond before being distributed for farmland irrigation.

MRWPCA serves Del Rey Oaks, Monterey, Pacific Grove, Sand City, Ryan Ranch, and Seaside, which are within the California American Water service area as well as Salinas, Boronda, Castroville, Moss Landing, Fort Ord, Marina, and parts of Monterey County that are not serviced by California American Water. From 2000 to 2005 the treatment plant averaged 21.2 MGD, while the plant's maximum capacity is currently about 29.6 MGD (26).

The recycled water is used to irrigate edible food crops in the northern Salinas Valley. Based on records provided by MRWPCA, from 2000 to 2009 the MRWPCA recycled on average 12,506 AFY, with a maximum of 15,216 AFY in 2008 (27). Water that is not recycled is discharged to the ocean.

4.8.2 Wastewater Disposal and Recycled Water Uses

Water that is not recycled by either CAWD or MRWPCA is discharged to the Ocean, as shown in Table 4-12. Because The White Oaks and Village Green systems are on septic the wastewater is disposed in leach fields.

Table 4-12: Wastewater disposal methods and treatment level (AFY)

Treatment Facility	Method of Disposal	Treatment Level	2010	2015	2020	2025	2030
Alisal Water Corporation	Spray Field	Secondary	65	61	58	54	51
California American Water	Septic Leach Field	Septic	10	10	10	10	10
CAWD	Ocean Outfall	Secondary +Tertiary	765	737	929	1,122	1,314
County of Monterey - CSA75	Evaporation	Pond	92	80	71	62	53
MWRPCA	Ocean Outfall	Tertiary	2,777	2,819	2,859	2,899	2,939
		Total	**3,709**	**3,708**	**3,928**	**4,147**	**4,367**

Table 4-13 is a breakdown of recycled water generation and uses within California American Water's Main Monterey service area. The primary use of recycled water is on golf courses in Pebble Beach. Currently, CAWD's MF/RO produces the majority of recycled water used on golf courses in the California American Water service area; however MRWPCA is hoping to potentially provide an additional 400 AFY to the seaside golf courses as part of the Regional Urban Augmentation Project. The remainder of the recycled water is generated from California American Water's Carmel Valley Ranch WWTP, which provides approximately 60 AFY to two golf courses.

Table 4-13: Potential uses and quantities of recycled water in California American Water's Main Monterey Service Area (AFY)

Treatment Facility	User Type	Treatment Level	2010	2015	2020	2025	2030
CAWD, MRWPCA, & California American Water	Landscape	MF/RO	775	747	939	1,132	1,324
MRWPCA	Agriculture	N/A	2,777	2,819	2,859	2,899	2,939
	Wetlands	N/A	-	-	-	-	-
	Industrial	N/A	-	-	-	-	-
	Groundwater Replenishment[1]	N/A	-	-	-	-	-

[1] The Ocean Desalination/GWR supply project may provide a potential groundwater replenishment source. See Section 4.7.1 for more information.

4.8.3 Projected Uses of Recycled Water

Table 4-14 sums the total amount of recycled water that is projected to be utilized in California American Water's Main Monterey service area through 2030. It is anticipated CAWD will continue to supply recycled water to the golf courses and other recreational open spaces within Pebble Beach. The Monterey County District has identified an additional demand in the Pacific Grove region using surplus recycled water from CAWD. This project has been titled the Pacific Grove Recycled Water Project (PGRWP) and quantifies a need of 105 AFY in Pacific Grove. The scope of the project would include installing 10,200 linear feet of 8" recycled water main from a connection point in Pebble Beach to Pacific Grove. The identified demands include the Pacific Grove Golf Course, the El Carmelo Cemetery, the City of Pacific Grove, and the Piedmont Ball Park. This project would require approximately 18 months for environmental review and permitting and an additional 12 months for construction, and for the purposes of this plan, is assumed to be fully operational by 2020.

The MRWPCA currently sends all of its recycled water outside of the Monterey County Districts' service area and into the Salinas Valley for crop irrigation. The MRWPCA has an excess availability of recycled water, estimated at 400 AFY. The Monterey County District identified approximately 288 AFY for many large landscaped areas and the Del Monte Golf Course and titled the Monterey Recycled Water Project (MRWP). The potential project scope includes installing 40,200 linear feet of 12" recycled water main from a connection to the main transmission line at General Jim Moore Boulevard East to the central and eastern part of the Monterey County Districts' service areas. The project goal for potential completion is scheduled for 2030.

The Ocean Desalination/GWR supply project may provide a potential recycled water supply source. The amount of water targeted to be available for groundwater replenishment is 3,500 AFY. See Section 4.7.1 for more information.

Table 4-14: Projected Uses of Recycled Water (AFY)

Treatment Facility	Actual Use	2015	2020	2025	2030
CAWD	Golf Course Irrigation	1,260	1,260	1,260	1,260
CAWD	Pacific Grove Recycled Water Project (PGRWP)	0	0	0	105
MRWPCA	Monterey Recycled Water Project (MRWP)	0	0	0	400
California American Water	Golf Course Irrigation	66	69	72	75

Table 4-15 summarizes 2010 projected water recycling uses from the 2005 UWMP against actual water recycling use in 2010. The table below only shows actual recycled water use in 2010 for the Main Monterey System.

Table 4-15: 2000 UWMP projections of recycled water use in 2005 and actual recycled water use in 2005 in the Main Monterey Service Area (AFY)

User Type	2005 projection for 2010	2010 actual use[1]
Agriculture	1,324	1,152
Landscape	-	-
Wildlife Habitat	-	-
Wetlands	-	-
Industrial	-	-
Groundwater Recharge	-	-
Other	-	-

[1] Waiting for actual information from CAWD

4.8.4 Plan to Optimize Use of Recycled Water

Carmel Area Wastewater District (CAWD) currently operates a new MF/RO plant to deliver low salinity recycled water to 7 golf courses in Pebble Beach and Pacific Grove. Because CAWD is under contractual obligation to provide recycled water to the golf courses, there is no plan to further optimize the use. The treatment plant was designed such that it can handle 100% of the average dry weather influent flow.

The Monterey Regional Water Pollution Control Agency (MRWPCA) operates a 30 MGD treatment plant with the ability to treat its full capacity to recycled water standards. All of the recycled water is currently used for irrigation with almost all water utilized on food crops. The MRWPCA plans on implementing the Regional Urban Water Augmentation Project (RUWAP) and expansion of the Castroville Seawater Intrusion Project (CSIP) in the near future; however only a small quantity of recycled water resulting from these projects (approximately 400 AFY) will be used in the California American Water Service area.

For the Carmel Valley Ranch, White Oaks, and Village Green, the utilization of recycled water is currently at or very near 100%. California American Water is an investor owned utility and therefore does not have the authority to issue a mandatory recycled water use ordinance. However, due to a heavily weather dependent water supply and strong pressures to maintain the Monterey Peninsula's natural habitat, the governing bodies and wastewater agencies have developed an aggressive wastewater recycling program.

The Ocean Desalination/GWR supply project may provide a potential recycled water supply source. The amount of water targeted to be available for groundwater replenishment is 3,500 AFY. See Section 4.7.1 for more information. If groundwater replenishment source becomes available it will optimize the Monterey County District's recycled water use.

5 WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

5.1 WATER SUPPLY RELIABILITY

This UWMP assesses the reliability of the Monterey County District supplies per the requirements of the Guidebook. Below are descriptions of the water supply reliability of each source.

5.1.1 Carmel River Reliability

According to Order 95-10, the Monterey County District has the rights to divert 3,376 AFY of water from the Carmel River based on pre-1914 appropriative water rights, riparian water rights, and License 11866, which is considerably less than the 8,253 AFY pumped in 2010. Currently all water diversions and extractions from the Carmel River are subject to the State Water Resources Control Board Cease and Desist Order WR 2009-0060 (CDO). Therefore, the quantity of supply that can be considered reliable from the Carmel Valley Aquifer is ultimately 3,376 AFY as required by the reduction schedule set by the CDO.

5.1.2 Groundwater Reliability

The SGWB has strict reduction schedules to ultimately reduce pumping to safe yields. Due to the SGWB adjudication, the Monterey County District is currently exceeding what will ultimately be the basin's operating yield. In 2010, the District pumped 2,811 AFY from the SGWB, exceeding their ultimate allocation of 1,494 AFY. The adjudication mandated that the Monterey County District to reduce their yield by 10% triennially until the Natural Safe Yield has been reached, set at 3,000 AFY. Therefore, the quantity of supply that can be considered reliable from the SGWB is 1,494 AFY.

The Toro system is within the County's El Toro Planning Area. There was a study conducted in 2007 which determined that "the primary aquifer system in the El Toro Planning Area are is in overdraft. . . . A notable exception, based on limited data, is the Upper Corral de Tierra Valley where the Basal Sand unit is a relatively productive aquifer" (28). A large portion of the Toro system is within the Corral De Tierra Valley, which is within the SVGWB. The District will continue to stay informed on the status of the SVGWB, participate in or follow the results of stakeholder management efforts, and manage its groundwater pumping within the SVGWB. The District does not foresee any effect on supply reliability from the overdrafted area.

While the reliability of supply quantity is good, the water quality may become an issue. Significant seawater intrusion has been detected in the 180/400 Foot Aquifer due to agricultural uses near the coast. According to Bulletin 118, the seawater intruded over five miles in the 180-Foot Aquifer and two miles into the 400-Foot Aquifer by 1995. Additionally, due to extensive agriculture, nitrate concentrations have been detected that exceed drinking water standards. The Chualar system is the only Monterey system located in the 180/400 Foot Aquifer. Chualar is located much further inland and seawater intrusion is not apparent in the Monterey County District's service area.

5.1.3 Aquifer Storage and Recovery Reliability

The reliability of the water supply from ASR depends on the hydrological conditions of the year. During dry years, the Monterey County District will have significantly reduced availability of water for injection, thus reducing the quantity of water available for recovery. The MPWMD performed a simulation of anticipated injection and recovery, based on 45 years (1958-2002) of hydrological data. The long-term average yield of the Phase 1 ASR is 920 AFY, however after a series of consecutive dry-years, the yield from ASR drops significantly. Using the 1987-1990 drought as an example, based on the simulation, the Monterey County District will only have available supplies to inject 53, 84, 13, and 40 AFY, therefore their recoverable water quantity is significantly reduced from an average of 920 AFY to below 50 AFY. A copy of the simulation table can be found in Appendix N.

5.1.4 Desalination Reliability

Desalination is a highly reliable source of supply. The Sand City Desalination Plant is currently operational and can produce 300 AFY. However, the Monterey County District's allocation is only 94 AFY. The remaining allocation of 206 AFY is reserved for future development and redevelopment. Until new development utilizes the available remaining supply, California American Water may use the remaining supply available. However, for the purposes of supply planning it is assumed that only 94 AFY will be available. The Ocean Desalination/GWR source has yet to be constructed; however, it is expected to be a source of 9,000 AFY of water for the Monterey County District. There are no anticipated reliability issues with these supply sources.

5.1.5 Supply Reliability

Table 5-1 shows the supply reliability base years for the Monterey Peninsula.

Table 5-1: Monterey County District Supply Reliability Base Years

System	Average Water Year	Single Dry	Multiple Dry Years
Monterey County District	2004	1976	1988-1990

During 1988-1990 drought, the Monterey County District Monterey Main system responded incredibly well to a reduced water supply, such that in 1987 the total production from the Carmel River and groundwater wells was 17,885 AFY and by 1991, the total production reduced to 10,766 AFY. This represented a 40% reduction in water demand during the 3 year period.

Table 5-2: Monterey County District Supply Reliability-Current Water Use

Water Supply Sources[1]	Average / Normal Water Year Supply	Single Dry Water Year	Multiple Dry Water Year Supply		
			Year 1	Year 2	Year 3
Carmel Valley Aquifer	100%	100%	100%	100%	100%
Seaside Groundwater Basin	100%	100%	100%	100%	100%
Salinas Valley Groundwater Basin	100%	100%	100%	100%	100%
Aquifer Storage and Recovery	100%	63%	74%	17%	4%
Sand City Desalination	100%	100%	100%	100%	100%
Ocean Desalination/GWR	100%	100%	100%	100%	100%

Since 1988-1990 drought, the Monterey County District has continued to implement water conservation programs to reduce their water demand permanently to minimize the impact of hydrological fluctuations. During the 1988-1990 drought, the water production decreased to 10,766 in the third year of the drought. The maximum available supply from the Carmel Valley Aquifer in 2010 was 9,224 AFY based on the CDO. The maximum available supply will continue to decrease every year by the reduction schedule set by the CDO. Therefore, if the 1988-1990 production quantities are set as the maximum available supply during a three year drought and compared with the current demand and maximum available supply from the Carmel River system in the next three years, then demand will not exceed supply, even in the third year. Given the response to the previous multiple year period, the Monterey County District has the resources and ability to reduce their demand for a reduced available supply.

Both the SGWB and SVGWB are recent sources of supply and therefore no data about the available supply during a single or multiple dry year period from Table 5-1 is available. More recently, 2007 was considered a dry year, experiencing 40% less precipitation than the average. Looking at the production in 2007 for the SGWB and SVGWB, there was no reduction in available supply. Furthermore, due to the reduction rate schedule set by the adjudication for the SGWB and the relatively small demand from the SVGWB, it is expected that supply from these sources will be reliable during a dry year and multiple dry-year scenarios in the future.

As described above, water availability from the ASR project is highly dependent on hydrological conditions. Using the simulation performed by the MPWMD, the available supply through the ASR drops precipitously in a single and multiple dry-year scenario as shown in Appendix N.

The Sand City Desalination Plant and Ocean Desalination/GWR supply are sources of supply that are independent of hydrological conditions and therefore are an extremely reliable source during drought periods. The Sand City Desalination Plant will provide 94 AFY to the Monterey County District. As described previously, it is anticipated that during critically dry year events, the Monterey County District will have full production from the Ocean Desalination/GWR supply and receive 9,000 AFY. Table 5-3 identifies the water supply reliability for the Monterey County District.

Table 5-3: Monterey County Water Supply 2010-2012(AFY)

			Multiple Dry Years[3]		
Water Supply Sources	Average Water year[1]	Single Dry year[2]	Year 1	Year 2	Year 3
Carmel River					
Carmel Valley Aquifer	9,410	9,694	9,694	9,997	9,897
Groundwater Production					
Seaside Groundwater Basin	3,333	3,333	3,333	3,333	2,846
Salinas Valley Groundwater Basin	539	539	539	558	578
Aquifer Storage and Recovery					
Phase 1	920	636	636	102	39
Phase 2	0	0	0	0	0
Desalination					
Sand City Desalination	94	94	94	94	94
Ocean Desalination/ GWR	0	0	0	0	0
Total	**14,296**	**14,296**	**14,296**	**14,084**	**13,454**
Percent of average year supply	**100%**	**100%**	**100%**	**99%**	**94%**
[1]Production allocation limits in 2010					
[2]Single Dry year based on allocation limits if a dry year occurred in 2010					
[3]Water supply for a multiple dry year scenario using allocation limits if a multiple dry year event occurred in 2010 and continued through 2012					

Some other factors affecting the reliability of supply for all sources are shown in Table 5-4.

Table 5-4: Monterey County District Factors Resulting in Inconsistency of Supply

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
Carmel Valley Aquifer	X	X	X	X
Seaside Groundwater Basin	X		X	X
Salinas Valley Groundwater Basin			X	X
Aquifer Storage and Recovery				X
Sand City Desalination	X			
Ocean Desalination/ GWR				

5.1.6 Resource Maximization and Import Minimization

The Monterey County District utilizes 100% local resources and does not plan on importing any water in the near or long term future.

5.2 WATER SHORTAGE CONTINGENCY PLANNING

5.2.1 Introduction

The UWMP Act requires a Water Shortage Contingency Plan to include stages of action, mandatory prohibitions and restrictions, consumption reduction methods, penalties for excessive use, a three year minimum water supply estimate, and a catastrophic supply interruption plan.

5.2.2 Stages of Action, Mandatory Prohibitions and Restrictions, Consumption Reduction Methods, and Penalties for Excessive Use

The Monterey County District filed the Water Conservation Plan, Rule 14.1.1 (Appendix B), in response to the adoption of Regulation XV, Expanded Water Conservation and Standby Rationing Plan, by the MPWMD, the regulatory agency of the Monterey Peninsulas' Water Resources. This Rule applies to those systems whose water supply originates from the Carmel River System and Seaside Basin only (Main Monterey, Ryan Ranch, Hidden Hills and Bishop). The Rule establishes a 7 stage system of increasing water conservation. Stages 2, 3, and 4 are triggered when the Monterey County District exceeds its allocation from the Carmel River System and Seaside Basin. Stages 5 through 7 are enacted automatically by a regulatory trigger, which includes any subsystem that relies on production or production offsets from the Main Monterey system, physical storage limitations, or as an emergency response to ensure public health, safety, or welfare. Below is a summary of the 7 water conservation stages of the Water Conservation Plan.

5.2.2.1 Stage 1

As part of Stage 1 of the Water Conservation Plan, the Monterey County District must maintain its Water Year production from the Carmel River System in compliance with the CDO and production limits imposed by the Seaside Watermaster. The Monterey County District's customers shall comply with the water waste and non-essential water use prohibitions. A few examples of the water waste and non-essential water use prohibitions are listed below; a full list can be seen in Regulation XIV in Appendix P.

1) Operation of fountains, ponds, lakes or other ornamental use of potable water without recycling.
2) Using unmetered fire hydrant water by individuals for any reason other than fire suppression or utility system maintenance.
3) Use of potable water for washing buildings, structures, driveways, patios, parking lots, tennis courts, or other hard surfaced areas, except in the cases where health and safety are at risk.
4) Use of potable water to irrigate turf, lawns, gardens, or ornamental landscaping between 9:00 AM and 5:00 PM by means other than drip irrigation or hand-watering without quick acting positive action shut-off nozzles. Exceptions may be granted by MPWMD to professional gardeners where the only option is to water between 9:00 Am and 5:00 PM.
5) Operation of commercial car washes without recycling at least 50% of the potable water used per cycle
6) Use of potable water for street cleaning

By November 1st of each year, the Monterey County District, with the help of the MPWMD, will have reviewed consumption records from the previous water year and identify all customers required to have a landscape water budget including customers with a dedicated irrigation meter, an irrigated area greater than three acres, or Large Residential Customers.

5.2.2.2 Stage 2

In addition to the requirements of Stage 1, the second stage triggers the implementation of a landscape water budget to all customers with a dedicated irrigation meter, an irrigated area greater than three areas or Large Residential Customers. The Monterey County District will provide monthly compliance status reports to those customers with a landscape water budget. Those customers that exceed their budget will be subject to a flow restriction devise. Stage 2 comes into effect when the Monterey County District exceeds their year-to-date at month-end production as defined in Rule 14.1.1. When the Monterey County Districts year-to-date at month-end targets are met for two consecutive months in the subsequent water year, the Monterey County District will revert back to Stage 1.

5.2.2.3 Stage 3

A Stage 3 water shortage will be enforced for the Main Monterey System when the year-to-date production from the Carmel River System and Seaside Basin exceeds the year-to-date target production specified in Rule 14.1.1 by: 1) 5% or more by the end of the first quarter; 2) 4% of more at the end of January, or by 2.5% or more by the end of February, or by 1% by the end of March; 3) for a consecutive seven-day period during the months of April, May or June; 4) any single day in July, August, or September; or 5) If implemented upon resolution of the MPWMD Board when an immediate water use reduction is needed. A stage 3 water shortage will be enforced for Ryan Ranch, Hidden Hills and Bishop when year-to-date production from the Laguna Seca sub-basin exceeds the year-to-date target productions specified in Rule 14.1.1 by the same criteria as mentioned above. When Stage 3 comes into effect, all of the reductions measures identified in Stage 1 and 2 are enacted. In addition, the Monterey County District will implement California Public Utilities Commission approved rate schedules.

5.2.2.4 Stages 4 through 7

While the Monterey County District does not hold the authority to implement the water rationing stages, they will provide assistance to the MPWMD in implementing all water rationing measures. As part of the water rationing stages, the Monterey County District will send written notice of mandatory water rationing upon the determination. For stages 5 through 7, the Monterey County District will send monthly reminders of the water rationing stage in the water bill and include the customer's water ration and the quantity of the water ration consumed by the customer. Water Rations will be determined in accordance of MPWMD Rule 165 for each Customer by dividing the reduced available production by the percentage of use for each Customer Category. However, water rationing care will be taken to ensure health, safety and welfare. Under no circumstances will residential water rations be less than 35 gallons per person per day. In addition to the water rationing measures outlined below, all measures through from Stage 1 and the previous water rationing stage will be enforced.

There are a number of criteria that will trigger the water rationing stages of the Water Conservation plan including, but not limited to: 1) physical storage trigger; 2) emergency trigger; and 3) regulatory trigger. Below in Table 5-5 are the Criteria that trigger each stage and the additional reduction measures taken.

Table 5-5: Water Rationing Stage Triggers and Reduction Measures

System	Physical Storage Trigger	Emergency Trigger	Regulatory Trigger	Additional Reduction Measures
Stage 4	Total usable storage on May 1st is less than 27,807 AFY and greater than 21,802 AFY	The MPWMD Board finds there is an immediate need to reduce production by 15%;	Non-compliance with Regulatory Limits through Stage 3 when Stage 3 has been active for at least 30 days	➢ Comply with Stage 1 of the Water Conservation Plan
Stage 5	Total usable storage on May 1st is less than 21,802 AFY and greater than 15,615 AFY	The MPWMD Board finds there is an immediate need to reduce production by at least 16% but not more than 34%.	Comply with the Cease and Desist Order to reduce available supplies by more than 15% but less than 35%	➢ Comply with Stage 1 of the Water Conservation Plan
Stage 6	Total usable storage in on May 1st is less than 15,615 AFY and greater than 9,610 AFY	The MPWMD Board finds there is an immediate need to reduce production by at least 35% but not more than 50%.	Comply with the Cease and Desist Order to reduce available supplies by more than 35% but less than 50%	➢ Comply with Stage 1 & 5 of the Water Conservation Plan ➢ Cease operation and maintenance of all ornamental water uses ➢ Water will not be used for dust control without prior approval
Stage 7	Total usable storage on May 1st is less than 9,610	The MPWMD Board finds there is an immediate need to reduce production by at least 50%.	Comply with the Cease and Desist Order to reduce available supplies by more than 50%	➢ Comply with Stage 1, 5 & 6 of the Water ➢ All use of Portable water meters or customers using hydrants to fill water tanks will cease use of the water.

Each of the water rationing stages will be rescinded by resolution of the MPWMD when the usable storage in the Carmel River System and Seaside Coastal Subareas is greater than the physical storage trigger for that stage. The Monterey County District will also implement a CPUC approved rationing rate schedule.

5.2.3 Three Year Minimum Water Supply

The three year minimum supply is equal to the next three years allocations determined from the CDO and JSA for the Carmel Valley Aquifer and SGWB. The SVGWB supply is equal to the anticipated demand for the next three years. The ASR supply was calculated as if a three year dry year period began in 2010 and continued through 2013. The Sand City Desalination supply is equal to the maximum capacity of the plant. Table 5-6 shows the three year minimum supply beginning in 2011.

Table 5-6: Monterey County District Three Year Minimum Water Supply (AFY)

Water Supple Sources	2011	2012	2013
Carmel River			
Carmel Valley Aquifer	9,997	9,897	9,792
Groundwater			
Seaside Groundwater Basin	3,333	2,846	2,846
Salinas Valley Groundwater Basin	558	578	597
Aquifer Storage and Recover			
Phase 1	102	39	31
Phase 2	0	0	0
Desalination			
Sand City Desalination	94	94	94
Regional Desalination Project	0	0	0
Total	**14,084**	**13,454**	**13,360**

5.2.4 Catastrophic Supply Interruption plan

This section describes the response to emergency situations which interrupt water supply including earthquakes, regional power outages, system failures and other events specific to California American Water's sources.

California American Water has analyzed the nature and extent of likely catastrophes which could affect the ability to provide water supply for both consumptive and emergency use. Catastrophes are broadly classified as "naturally occurring" and "manmade". Natural catastrophes include such incidents as fire, flood, earthquake, and electrical supply failure. Manmade catastrophes include such incidents as chemical spill, vandalism and sabotage, including terrorist attack, and mechanical failure. Manmade catastrophes can also have the same end result as those of natural disasters. As an example, a dam break regardless of the cause, could flood and damage or destroy facilities.

California American Water has installed a broad range of systems, procedures, and facilities to reduce the potential of significant water supply interruptions regardless of cause. Some of these systems, procedures and facilities are summarized here:

- All production facilities are fenced and locked to prevent unauthorized entry.

- Emergency generators are located at critical facilities. The generators are equipped with automatic transfer switches which upon a power failure will automatically disconnect the facility from commercial power source, start the generator, and power up the facility. While some generators are stationary, most are trailer mounted thus allowing movement within the various service areas should that be required.
- System pressure, water production flow rate, and power status are monitored and reported at representative locations throughout the various water systems. Reports are sent to the home station at 4701 Beloit Drive where they are displayed, monitored and recorded. Additionally, approximately twenty representative water supply and production sites are equipped with "mission controllers", a web based monitoring system. The mission controllers alert both on-duty and on-call staff by cell phone when operational problems arise.
- California American Water maintains on-call staff twenty four hours a day for rapid response.
- California American Water maintains a stockpile of service line repair parts and associated construction equipment for repair of small leaks and line breaks.
- California American Water has blanket contracts with two local contractors to assist with larger emergency repairs caused by earthquake or other major event.
- California American Water has completed an Emergency Operations Plan detailing procedures and contacts and outlining responses to several most probable catastrophic events and has filed it with the Department of Public Health.
- An inherent strength in the California American Water system is the fact that water is produced from multiple wells spread more or less uniformly throughout the various service areas. As a result the system has a high degree of redundancy.

5.2.5 Revenue and Expenditure Analysis

California American Water develops a proposed rate structure and submits it to the CPUC for review and approval. These filings are made on a three-year cycle. To assist in revenue stabilization and provide an incentive to promote conservation, California American Water requested a full decoupling Water Revenue Accounting Mechanism (WRAM) in the last General Rate Case. 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 a WRAM.

The WRAM tracks the differences between total quantity charge revenues authorized by CPUC ("Total Actual Quantity Revenues") and the total revenues actually recovered through the quantity charge based on actual sales ("Total Actual Quantity Revenues") during conservation rates, emergency rates or rationing rates. The revenue requirements are the same under conservation rates as they are under the current Commission "standard" rate structure. TO recover any under collection, or refund any over collection California American Water Implements a surcharge/surcredit that considers the net balance of the WRAM balancing account. The WRAM will provide a cost accounting means to stabilize revenues and ensuring protection of revenue shortfalls.

5.2.6 Mechanisms for Determining Actual Reductions

In the Monterey County District, all accounts are metered. During a water shortage, a comparison of delivery records would be carried out to determine if water is being conserved.

All water sources, including all groundwater wells and the desalination plant, are metered and have continuous recording equipment. During a water shortage, a comparison of total water purchased would be carried out to determine if water is being conserved on the District level.

5.2.7 Supply and Demand Comparison

Table 5-7 shows a supply and demand comparison during a normal year scenario. Table 5-8 shows a supply and demand comparison during a single dry year scenario. Table 5-9 shows a supply and demand comparison during a multiple dry years scenario.

Table 5-7: Supply and Demand Comparison- Normal Year (AFY)

	2015	2020	2025	2030
Supply totals	12,680	16,675	16,312	16,276
Demand totals	13,091	13,373	13,654	13,936
Difference	411	3,303	2,658	2,339
Difference as % of Supply	3%	20%	16%	14%
Difference as % of Demand	3%	11%	5%	2%

Table 5-8: Supply and Demand Comparison- Single Dry Year (AFY)

	2015	2020	2025	2030
Supply totals	12,686	16,082	15,719	15,683
Demand totals	13,091	13,373	13,654	13,936
Difference	405	2,710	2,065	1,746
Difference as % of Supply	3%	17%	13%	11%
Difference as % of Demand	3%	11%	5%	2%

Table 5-9: Supply and Demand Comparison- Multiple Dry-Year Events (AFY)

		2015	2020	2025	2030
Multiple-dry year first year supply	Supply totals	**12,686**	**16,082**	**15,719**	**15,683**
	Demand totals	**13,091**	**13,373**	**13,654**	**13,936**
	Difference	405	2,709	2,065	1,747
	Difference as % of Supply	3%	17%	13%	11%
	Difference as % of Demand	3%	20%	15%	13%
Multiple-dry year second year supply	Supply totals	**12,686**	**14,968**	**14,605**	**14,569**
	Demand totals	**13,091**	**13,373**	**13,654**	**13,936**
	Difference	405	1,595	951	633
	Difference as % of Supply	3%	11%	7%	4%
	Difference as % of Demand	3%	12%	7%	5%
Multiple-dry year third year supply	Supply totals	**12,686**	**14,836**	**14,473**	**14,437**
	Demand totals	**13,091**	**13,373**	**13,654**	**13,936**
	Difference	405	1,463	819	501
	Difference as % of Supply	3%	10%	6%	3%
	Difference as % of Demand	3%	11%	6%	4%

5.2.8 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 Monterey 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. 14.1.1 (Appendix B) 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

5.3.1 Carmel Valley Aquifer

Raw water from wells located in the Upper Carmel Valley Aquifer exhibits minimal water quality issues and only chlorination for disinfection is required. However, raw water quality from the Lower Carmel Valley Aquifer displayed high levels of the secondary contaminants, iron and manganese. Furthermore, the wells have been drilled in locations near the Carmel River which result in iron bacteria fouling. The fouling results in high corrosion and plugging rates to the well casings and screens (29).

5.3.2 Seaside Groundwater Basin

Raw water from the Coastal sub-basin of the SGWB exhibits high levels of sulfides and as a result, the water is treated at the Ord Grove Ozone Treatment Facility to address taste and odor problems. However, recent water quality tests have shown decreasing sulfide levels over the past several years. Additionally, the plant is generally only needed during seasonal startup of the wells.

In the Laguna Seca sub-basin, elevated levels of arsenic, which have displayed maximum readings at the MCL of 0.01 mg/L, have been observed in the raw water from two wells that serve the Bishop system. Water from the wells is treated at a central chemical feed station for disinfection, pH adjustment, and corrosion control. Raw water from two wells serving the Hidden Hills system has detectible levels of iron, manganese, and arsenic. Water is treated at a chemical feed station for sequestering iron and for pH adjustment, corrosion control, and disinfection. Wells located in the Ryan Ranch system exhibit raw water with elevated iron, manganese, and arsenic and are also treated at a central location for the removal of iron, manganese, and arsenic (29).

5.3.3 Salinas Valley Groundwater Basin

Raw water from wells located in both the Chualar and Ralph Lane systems have high quality water that meets all primary and secondary water quality standards and only are treated for disinfection prior to distribution. However, the Ambler system's wells pump raw water with elevated iron, manganese, and arsenic. The water is treated at a central location for the removal of iron, manganese, and arsenic (29).

6 DEMAND MANAGEMENT MEASURES

The UWMP Act requires a discussion of 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 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 BMPs listed and described in the 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 B 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 A, the District's 2010 actual water use was 115 gpcd, which reflects a reduction in per capita water use of approximately 19% from the baseline, and is less than the 2020 target water use of 117 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 from the 2010 levels 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 A.

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 (30): the

> *Designate a person as the agency's responsible conservation coordinator for program management, tracking, planning, and reporting on BMP implementation* (30).

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 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 Monterey County District, there are three full-time Water Conservation Specialist positions that carry the required Certified Landscape Irrigation Association Certifications and the Water Use Efficiency Practitioner Certification through the California Nevada Section of American Water Works Association and one full-time Water Conservation Supervisor, who spends 50% of his/her time on conservation efforts. This yields a total of 3.5 full-time conservation positions. In addition, from 2010-2011, there was one part-time position, which is described in greater detail below.

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	1
Larkfield District	0	0
Monterey County District	3.5	0
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	**7**	**7**

In addition, the Manager of Conservation and Efficiencies and the District's conservation staff work closely with and receive assistance from other District staff. The District's certified Water Conservation Specialists are the primary responders for distributing water conservation devices, performing Water Wise House Calls (residential audits), conducting landscape audits, maintaining and updating allotments for non-residential customers, reviewing commercial audits for allotment assignment, responding to water waste, performing conservation presentations, and also participating in local conservation events. The Monterey Peninsula Water Management District processes rebates for all of the District's customers. 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.

Table 6-3: Actual Conservation Staff, Monterey County District

Actual	2006	2007	2008	2009	2010
Number of full-time positions[1]	2	2	2	4.5	4.5
Number of part-time positions	-	-	-	-	0

[1] From 2006-2008, there was a statewide Manager of Conservation and Efficiencies (1 position) plus several District staff who assisted with conservation efforts (approximately 1 full-time equivalent). From 2009 forward, there was a statewide Manager of Conservation and Efficiencies and 3.5 full-time District positions.

Table 6-4: Planned Conservation Staff

Planned	2011	2012	2013	2014
Number of full-time positions[1]	4.5	4.5	4.5	4.5
Number of part-time positions	0	-	-	-
[1] Includes the statewide Manager of Conservation and Efficiencies and the District's full-time positions.				

To determine the effectiveness of this BMP, the per capita water use (gpcd) reduction achieved since 2005 was calculated because the statewide Conservation Coordinator was hired in 2005. As shown in Appendix A, the District's 2010 actual water use was 115 gpcd, which reflects a reduction in per capita water use of 11% since the statewide Conservation Coordinator was hired in 2005. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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 October 2009, California American Water submitted Rule 14.1.1 to the CPUC to define the District's water conservation plan. Rule 14.1.1 applies to customers in the District who are supplied by water from the Carmel River System and Seaside Basin (including the Ryan Ranch, Hidden Hills and Bishop systems). Rule 14.1.1 does not apply to customers served by the Toro, Ambler Park, and Ralph Lane systems. Refer to Appendix B for the complete text of Rule 14.1.1. Several sections of Rule 14.1.1 are described below.

- Section C summarizes the applicability of Rule 14.1.1 and the events that trigger each stage of Rule 14.1.1. Rule 14.1.1 has seven stages of water conservation, with mandatory water rationing in stages 4 through 7.
- Section E describes landscape irrigation limitations, which specifies time periods when watering is allowed.
- Section I defines the District's responsibilities, customer responsibilities, as well as non-essential water uses and water waste.
- Sections J through L describe water conservation stages 1 through 3.
- Sections M through Q describe water conservation/rationing stages 4 through 7.
- Under certain conditions, the District is authorized to install flow restrictors on customer meters. Section R describes the conditions when installation of flow restrictors is authorized and also the conditions that authorize removal of flow restrictors.

In addition to Rule 14.1, the District and MPWMD work together to enforce water waste prevention actions. MPWMD's Rule 171 which is part of MPWMD's Regulation XIV is included in Appendix P and contains more detail on the water waste prevention actions.

The effectiveness of this BMP cannot be readily quantified. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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 American Water Works Association (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 completed training in the AWWA Water Audit Method and the Component Analysis Process (31). 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 District maintains production and delivery records. Water entering the District's system from each supply source is metered, which gives a measure of total production. All billed customer connections are metered, which allows the District to measure the total billed authorized consumption. The District estimates unbilled authorized consumption (e.g. fire hydrant flushing and system uses). Using the data described above along with system data, the District is able to estimate water losses using the AWWA software (see Figure 6-1).

The results of the audit are shown in Figure 6-1, where all volumes reported are in million gallons (MG). According to the AWWA audit results, apparent losses were 79 MG (243 AFY) and real losses were 341 MG (1,046 AFY). Thus, the total water losses were 420 MG (1,290 AFY) for the audit period (32). In addition to the audit, the District completed its most recent Component Analysis in February 2010 (31).

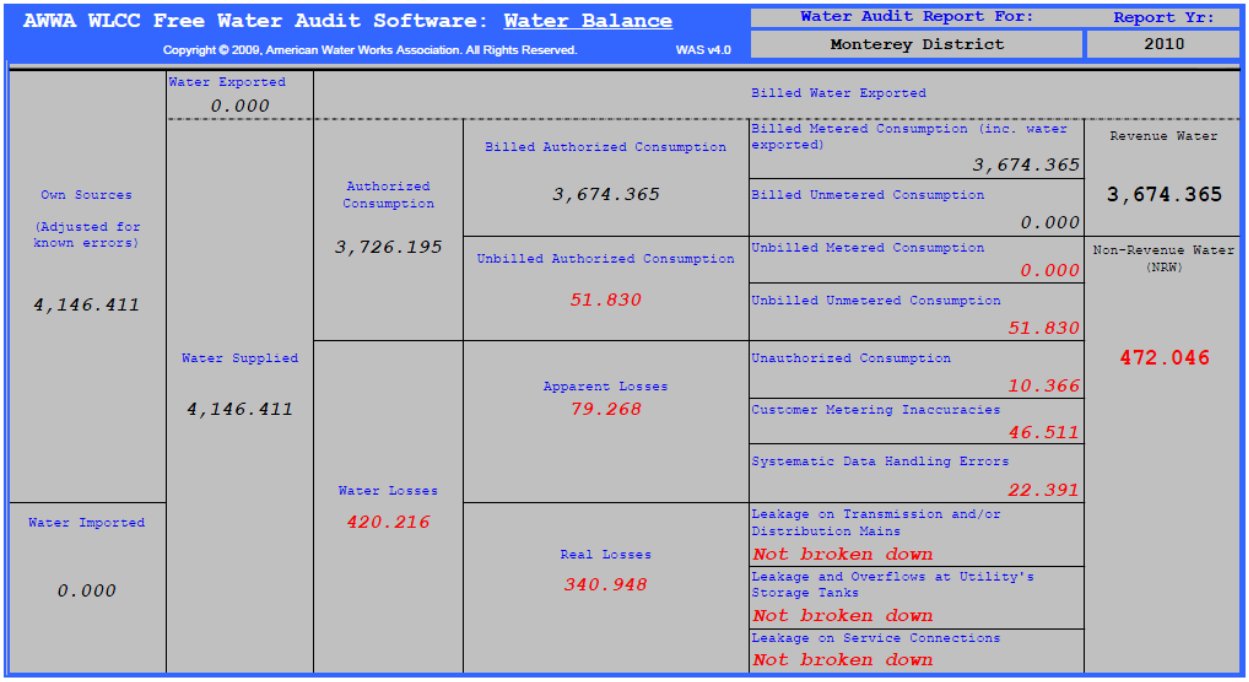

Figure 6-1: AWWA Water Balance for March 2009 through February 2010, Volumes are in Million Gallons (32)

The District repairs reported leaks upon notification. Notification can come from the public or internal staff who have located a leak in the system. California American Water 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).

The effectiveness of this BMP cannot be readily quantified. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

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 monthly basis and consequently bills customers on a 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. This plan, called the Meter Testing, Repair, and Replacement Plan, specifies the testing criteria and the replacement criteria for meters, according to meter size. In 2009, 220 meters were tested in the District (33).

The District currently has 440 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).

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.

The effectiveness of this BMP cannot be readily quantified. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

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:

$V/V+M \geq V'/V' + M'$

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.

6.2.6.1 Water Rate Structures

The District employs water rate structures that promote conservation. The rate structures used in the District differ by service area, as shown in Table 6-5. In all service areas, all customers (except private fire connections) are billed volumetrically. All customers are also billed a fixed monthly meter charge.

Table 6-5: Water Rate Structures by Service Area

Service Area	Residential	Non-Residential	Dedicated Irrigation	Special Use Customers
Monterey Main[1]	5-Tier Volumetric Rate	3-Tier Volumetric Rate	2-Tier Volumetric Rate	Single Tier Volumetric Rate
Bishop[1]	5-Tier Volumetric Rate	3-Tier Volumetric Rate	2-Tier Volumetric Rate	Single Tier Volumetric Rate
Hidden Hills[1]	5-Tier Volumetric Rate	3-Tier Volumetric Rate	2-Tier Volumetric Rate	Single Tier Volumetric Rate
Ryan Ranch[1]	5-Tier Volumetric Rate	3-Tier Volumetric Rate	2-Tier Volumetric Rate	Single Tier Volumetric Rate
Ambler[1]	3-Tier Volumetric Rate	Single Tier Volumetric Rate	n/a	n/a
Chualar[1]	Single Tier Volumetric Rate	Single Tier Volumetric Rate	n/a	Single Tier Volumetric Rate[2]
Ralph Lane[1]	3-Tier Volumetric Rate	n/a	n/a	n/a
Toro[1]	Single Tier Volumetric Rate	Single Tier Volumetric Rate	n/a	n/a

Source: Monterey District Rate Schedules **(34)**, **(35)**, **(36)**, **(37)**.
[1] All customers are also charged a fixed monthly meter charge.
[2] This is a rate schedule specifically for public schools in the Chualar service area.

For the Monterey Main, Bishop, Hidden Hills and Ryan Ranch service areas, the bounds of each tier are calculated for each customer based on the individual customer allotment. Customer allotments for residential users are based on the number of residents, the number of large animals, and the size of the lot. Customer allotments for non-residential customers are based on audits or MPWMD's Calculated Average Consumptions Commercial Uses study. Customer allotments for dedicated irrigation meters are based on ETo or weather based landscape budgets established through a required landscape irrigation audit per MPWMD's Regulation XV, the Expanded Water Conservation and Standby Rationing Plan.

For the Ambler and Ralph Lane service areas, the bounds of each tier for residential customers are defined in the rate schedules and do not vary by customer (36) (35).

The 2-tier, 3-tier and 5-tier volumetric rate structures encourage customers to conserve water because the unit price of water becomes more expensive as the customer's water usage increases. Under a single tier volumetric rate structure, the unit price of water does not increase with increasing usage. However, a single tier volumetric rate structure still encourages conservation as the total water bill increases with increased usage.

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

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

$$28{,}926{,}256 / (28{,}926{,}256 + 6{,}116{,}873) = 0.83$$

$$83\% \geq 70\%$$

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

The effectiveness of this BMP cannot be readily quantified. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

6.2.6.2 Sewer Rate Structures

The District provides sewer service for only part of the District's water service area (see Section 4.8). For the areas served by the District, the District does not currently employ conservation pricing for sewer service. Residential sewer customers are charged a fixed monthly service fee, based on the location of the residence. Commercial customers are charged a fixed monthly service fee, based on the type of facility (38).

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 (30):

> *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 implements a strategic public outreach program to educate customers and promote water use efficiency and conservation. The District carries out both targeted outreach to high water users and general outreach to all customers. All of the District's public outreach is in partnership with MPWMD (39).

The District's outreach includes community events, radio and newspaper advertising, outreach campaigns (including email campaigns and a website), bill inserts and brochures, and programs for industry, as shown in Table 6-6. Some highlights of the District's 2010 public outreach efforts include:

(1) Website: The District maintains a joint conservation website with MPWMD (www.montereywaterinfo.org). Through this website, customers can access information on conservation programs, including rebate programs, home water audits, water restrictions, and water saving tips. Information is available for both residential and commercial customers. The District advertises the website through direct mailers, print ads, and customer bills (39).
(2) Community Events: The District and MPWMD had booths at several local community events, including the Pacific Grove Good 'Ol Days, Monterey Peninsula College's Earth Day (see Figure 6-2), the Monterey Bay Green Building Expo, the Monterey County Home Show, and the Monterey County Fair (see Figure 6-3). Additionally, the District partnered with the Monterey County Water Awareness Committee for the Water Awareness Day at the Del Monte Shopping Center (39).
(3) Advertisement Campaigns: The District and MPWMD sponsored print advertisements in local daily and weekly newspapers and sponsored daily water conservation messages on a local public radio station. Topics included available rebates, the Water Wise House Call program (see Section 6.2.9), water wise landscaping and residential grey water systems, and water savings reminders. MPWMD presented a monthly televised report on the conservation program carried out by the District and MPWMD. Topics for the monthly report included water restriction compliance updates, current drought status, meetings and events, rates updates, and rebate information (39).
(4) Water Conservation Gardens: Through a partnership with the Monterey County Water Awareness Committee, the District was involved with local water-wise demonstration gardens. These gardens promote and educate the public about water-efficient landscaping and conservation techniques (39).
(5) Certification Classes for Landscape Auditors: The District and MPWMD held free landscape certification classes for professional landscape auditors. The classes were held in both Spanish and English (39).
(6) Brochures: The District created three brochures for customers, which focused on the following topics: the Water Wise House Call program, the Water Conservation and Rationing Plan, and a customer worksheet to enable customers to calculate water use and potential savings (39).

The District plans to continue implementing this BMP, as shown in Table 6-7.

Table 6-6: Number of Actual Public Outreach Events

Actual	2006	2007	2008	2009	2010
a. Paid advertising	12[1]	6[1]	311	54	100
b. Public Service Announcement	-	-	1,040[2]	1,500[2]	1,500[2]
c. Bill Inserts / Newsletters / Brochures	4	10	8	5	5
d. Bill comparing previous water usage	1	-	-	-	-
e. Demonstration Gardens	1	-	1	1	1
f. Special Events, Media Events	6	3	Yes[3]	Yes[3]	6
g. Speaker's Bureau	2	-	-	-	-
h. Program to coordinate with other govt agencies, industry and public interest groups and media	1	1	2	2	2
i. Other media (e.g. press releases, news articles)	-	-	10	11	11

[1] Reports list advertisements but do not specify number of times ads were run.
[2] This is the number of times public service announcements were run on the radio.
[3] Reports do not specify number of events.

Table 6-7: Number of Planned Public Outreach Events

Planned	2011	2012	2013	2014
a. Paid advertising	120	55	55	55
b. Public Service Announcement	1,500	900	900	900
c. Bill Inserts / Newsletters / Brochures	5	3	3	3
d. Bill comparing previous water usage	0	0	0	0
e. Demonstration Gardens[1]	1	1	1	1
f. Special Events, Media Events	5	4	4	4
g. Speaker's Bureau	-	-	-	-
h. Program to coordinate with other govt agencies, industry and public interest groups and media	2	2	2	2
i. Other media (e.g. press releases, news articles)	10	5	5	5

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. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

Figure 6-2: Earth Day at the Monterey Peninsula College (2009)

Figure 6-3: Monterey County Fair (2009)

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 (30):

> *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.*

The District performs outreach to schools to educate students on water conservation. The District's school education program includes classroom presentations, large assemblies, and educational materials.

Prior to 2008, the District's program included free educational materials and classroom presentations on topics such as water resources and operations. The District provided activity books to children at local events and carried out advertising and radio campaigns targeting K-12th grade students (40). Additionally, in 2007, the District implemented a pilot program, called WaterWise, in schools in the Chualar service area (41). The WaterWise Program was developed by Resource Action Programs and included in-class assignments, curriculum, and activities. Students were also required to complete a basic water use audit at their home with their parents. Approximately 30 students were reached in 2006 and approximately 200 students in 2007 (40) (41).

The District expanded its school outreach efforts in 2008 to add performances by the Zun Zun group. Zun Zun, a performing arts group, educates young students about conservation through music, song, and dance using folkloric South American instruments where the students are encouraged to participate. Zun Zun's performances cover topics including the water cycle, watershed, indoor conservation and conservation tips, including fixing leaks. The District also provides student activity books, educational materials for classrooms, and low flow conservation devices for students to bring home to their parents (42). In 2008, 600 students were reached through this program (42). In 2009, Zun Zun provided 4 performances, reaching a total of 1,760 students (42). In 2010, Zun Zun provided 11 performances, reaching a total of 1,455 students (39). The District carried out this program in partnership with MPWMD and the Monterey County Water Awareness Committee (39).

The District also participates in special events, like the Pacific Grove Middle School Annual Career Day, shown in Figure 6-4. This event serves as a forum for parents, teachers, and students to discuss work opportunities for students (42).

The District plans to continue implementing this BMP. A summary of the number of students reached and expected to be reached are shown in Table 6-8 and Table 6-9, respectively.

Table 6-8: Number of Students Reached

Actual	2006	2007	2008	2009	2010
Grades K-3rd	-	-	-	-	-
Grades 4th-6th	30[1]	200	-	-	-
Grades 7th-8th	-	-	-	-	-
High School	-	-	-	-	-
Unspecified	-	-	600	1,760	1,455
Total	**30[1]**	**200**	**600**	**1,760**	**1,455**

[1] This is the number of students reached through presentations. The District also provided free education material to teachers but the number of students reached was not tracked.

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

Planned	2011	2012	2013	2014
Grades K-3rd	-	-	-	-
Grades 4th-6th	-	-	-	-
Grades 7th-8th	-	-	-	-
High School	-	-	-	-
Unspecified	1,200	550	550	550
Total	**1,200**	**550**	**550**	**550**

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. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

Figure 6-4: Pacific Grove Middle School Career Day (2009)

6.2.9 BMP 3.1 Residential Assistance Programs (DMM A/ DMM B)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (30):

> *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 District implements a Residential Water Audits Program, also known as the Water Wise House Call program. The Residential Water Audits Program provides free residential audits for single and multi-family properties. Prior to 2008, the program focused on outdoor water use surveys. In 2008, indoor water surveys were added to the program (43).

The audits are carried out by trained District staff and include a detailed assessment of the indoor and outdoor usage, an individualized annual watering schedule, and a final audit report. During the audit, the local staff also provides and shows the customer how to install the water saving devices. More details on the various parts of the audit are listed below:

(1) Indoor Audit: All water fixtures and appliances are inspected for leaks. The flow rates of showerheads and faucets are measured. Low flow devices are provided to replace high flow devices (39).
(2) Outdoor Audit: The irrigation system is inspected for leaks and inefficiencies. Customers are shown how to read their water meter, calculate water use, and identify irrigation leaks. Individualized watering schedules are developed. Customers are assisted with adjusting their irrigation controllers to meet water needs of plants and be in compliance with MPWMD's water schedule (39).
(3) Audit Report: Customers are sent a detailed personalized report containing the assessment of indoor and outdoor water usage, projected water savings if identified upgrades are implemented, landscape evaluation worksheet, site-specific monthly irrigation schedule, customer feedback form, rebate application forms, and other educational material and water saving devices (39).

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[1]	2007[1]	2008	2009	2010
Number of residential audits	13	13	81	90	143
Actual water savings – AFY[2]	0.47	0.47	2.92	3.24	5.15

[1] Only included an outdoor survey.
[2] 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	110	130	140	150
Projected water savings - AFY[1]	3.96	-	-	-

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

In addition to the Residential Water Audits offered by the District, the District benefits from conservation efforts carried out by MPWMD. MPWMD inspects more than 90% of residential properties that transfer ownership, add a bathroom, or are in new construction (33). In all cases, ultra low flush toilets (ULFTs) or high efficiency toilets (HETs), low flow showerheads and faucet aerators are required. MPWMD records the number and type of fixtures, and measures the flow rates of the fixtures. Non-compliant fixtures must be replaced within 30 days. Follow up inspections to verify compliance are carried out as necessary (33). Refer to MPWMD's Regulation XIV in Appendix P for additional information.

6.2.9.2 Residential Plumbing Retrofit

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, and soil probes. The devices 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 Residential Plumbing Retrofit Program was funded out of the conservation surcharge one-way balancing account. 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	1,500	1,688	1,861	1,754	2,721
Faucet Aerator	-	4,800	4,689	1,426	4,666
Toilet Flapper	-	-	10	-	-
Tankbank	-	-	-	-	-
Drip Gauge	-	-	-	-	-
Leak Detection Tablets	-	1,000	884	473	1,700
Shower Timers	-	-	-	-	1,903
Hose Shut Off Nozzle	-	1,200	1,736	974	-
Hose Timer	-	-	-	336	-
Soil Probe	-	1,440	978	1,712	-
Rain/Sprinkler Gauge	-	500	-	67	-
Other	-	-	-	-	1,111
Total Number of Devices	**1,500**	**10,628**	**10,158**	**6,742**	**12,101**
Actual water savings – AFY[1]	**9.24**	**19.18**	**20.02**	**13.54**	**25.82**

[1] 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[1]

Planned	2011	2012	2013	2014
Showerhead	4,884	2,800	2,800	2,800
Faucet Aerator	2,728	1,800	1,800	1,800
Toilet Flapper	-	-	-	-
Tankbank	-	-	-	-
Drip Gauge	-	-	-	-
Leak Detection Tablets	3,160	2,000	2,000	2,000
Shower Timers	955	700	700	700
Hose Shut Off Nozzle	496	120	120	120
Hose Timer	-	-	-	-
Soil Probe	-	-	-	-
Rain/Sprinkler Gauge	-	-	-	-
Other	-	-	-	-
Total Number of Devices	**12,223**	**7,420**	**7,420**	**7,420**
Actual water savings – AFY[2]	**36.94**	**21.71**	**21.71**	**21.71**

[1] Quantities include devices distributed by MPWMD to CAW customers.
[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.

The effectiveness of this BMP is measured by the total estimated water savings attributed to both the audits and the plumbing retrofit devices, as shown in Table 6-10 through Table 6-13. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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 in the Residential Water Audits Program described under BMP 3.1 (see Section 6.2.9).

In addition, the District performs landscape audits for large residential water users as required by MPWMD's Rule 172 (44). Large residential water users are defined as those with an average monthly usage greater than 32 hundred cubic feet (ccf) (44). In addition, landscape water audits are required for

all customers, including residential customers, with a dedicated irrigation meter or an irrigated area of more than 3 acres (44). The District's reports do not specify the number of audits by customer type (e.g. residential or non-residential). Thus, the residential large landscape audits are included in the total number of large landscape (LL) audits described under BMP 5. Refer to BMP 5 (Section 6.2.14) for more detail on these audits and the number of audits performed.

Landscape-related rebates are also available to the District's residential customers. The program is administered by MPWMD and funded by the District (39). A complete list of rebates offered by MPWMD is included in Appendix Q.

The past and projected number of devices rebated are summarized in Table 6-14 and Table 6-15, respectively. Water savings estimates attributed to these devices was not reported by the District.

Table 6-14: Actual Residential Landscape Rebates

Actual	2006	2007	2008	2009	2010
Smart Controller	-	2	-	19	16
Rain Sensors	-	-	-	2	13
Soil Sensors	-	-	-	-	1
Lawn Removal and Replacement	-	-	-	-	72
Rotating Sprinkler Nozzles	-	-	-	-	51
Cistern	-	3	-	16	32
Number of rebates paid	**-**	**5**	**-**	**37**	**185**

Table 6-15: Planned Residential Landscape Rebates

Planned	2011	2012	2013	2014
Smart Controller	20	40	40	40
Soil Sensors	20	40	40	40
Lawn Removal and Replacement	75	150	150	150
Rotating Sprinkler Nozzles	50	100	100	100
Cistern	30	60	60	60
Number of rebates paid	**195**	**390**	**390**	**390**

As discussed above, landscape surveys are included in the Residential Audits Program (BMP 3.1) and the LL audit program (BMP 5); refer to Section 6.2.9 and Section 6.2.14, respectively, for a discussion of their effectiveness. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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 maintains a partnership with MPWMD to offer rebates for residential customers to purchase high-efficiency clothes washers (HECWs). The program is managed and administered by MPWMD. The rebates are funded by the District (41) (33) (39). The District's portion is funded through the conservation surcharge account. A complete list of rebates offered by MPWMD is included in Appendix Q.

The rebates paid through 2010 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[1]	2008[1]	2009	2010
$ per rebate	200	150	200	150-200	150-250
Number of rebates paid	346	356	503	587	882
Actual water savings – AFY [2]	5.57	5.73	8.21	9.45	14.2

[1] HECW's rebated had a water factor between 8.5 and 9.5.
[2] Assumes 0.0161 AFY of savings per HECW based on unit savings reported in CAW Monterey County District – MPWMD Water Conservation Program 2010 Annual Report (Joint Report) **(45)**.

Table 6-17: Planned Residential HECW Rebates

Planned	2011	2012	2013	2014
$ per rebate	500	500	500	500
Number of rebates paid	800	1,400	1,400	1,400
Projected water savings - AFY [1]	12.88	22.54	22.54	22.54

[1] Assumes 0.0161 AFY of savings per HECW based on unit savings reported in CAW Monterey County District – MPWMD Water Conservation Program 2010 Annual Report (Joint Report) **(45)**.

The effectiveness of this BMP is measured by the total estimated water savings attributed to the HECW rebates, as shown in Table 6-16 and Table 6-17. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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 (46). Consistent with WSS, the CUWCC defines high-efficiency toilets (HETs) as toilets using 1.28 gpf or less. Ultra high-efficiency toilets (UHETs) are defined as toilets using 0.8 gpf or less.

Through the District's partnership with MPWMD, the District offers rebates for residential customers to replace existing toilets with HETs or UHETs. The program is managed and administered by MPWMD. The rebates are funded by the District (41) (33) (39). The District's portion is funded through the conservation surcharge account. A complete list of rebates offered by MPWMD is included in Appendix Q.

The HET and UHET rebates paid through the 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 and UHET Rebates

Actual	2006[1]	2007	2008	2009	2010
Number of rebates paid	-	121	256	344	1,197
Actual water savings – AFY [2]	-	3.63	7.68	10.32	35.91

[1] Rebate program was offered but no rebates for HETs were recorded.
[2] Assumes 0.030 AFY of savings per toilet based on unit savings for single-family HETs reported in CAW Monterey County District – MPWMD Water Conservation Program 2010 Annual Report (Joint Report) **(45)**.

Table 6-19: Planned Residential HET and UHET Rebates

Planned	2011	2012	2013	2014
Number of rebates paid	800	1,200	1,200	1,200
Projected water savings - AFY [1]	24	36	36	36

[1] Assumes 0.030 AFY of savings per toilet based on unit savings for single-family HETs reported in CAW Monterey County District – MPWMD Water Conservation Program 2010 Annual Report (Joint Report) **(45)**.

The effectiveness of this BMP is measured by the total estimated water savings attributed to the HET and UHET rebates, as shown in Table 6-18 and Table 6-19. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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.*

The District assigns individualized water allocations to commercial, industrial, and institutional (CII) customers in the Monterey Main, Hidden Hills, Ryan Ranch, and Bishop service areas, as required by MPWMD. The District also has both an audit and rebate program for the District's CII customers.

6.2.13.1 CII Audits

The District offers free water use audits to CII customers. The District maintains a contract with WaterWise Consulting, Inc., to carry out the audits. Using billing data, the District is able to prioritize by first offering audits to CII customers who exceed their monthly billing allotments. This allows the District to maximize potential water savings.

CII audits are customized and include a detailed onsite audit that evaluates the facility, indoor water use patterns, and water use patterns. After the audit, the customer is provided with a detailed report containing the audit findings and a summary of recommendations specific to the property, which include recommended water saving devices, water and cost savings, rebate information, and payback estimates. After the audit, the District staff follows up with the customers to review the audit reports and provide free water saving devices, such as faucet aerators. As shown in Table 6-20, the District began the program in 2010 and completed 27 CII audits (45) (39).

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 6-21.

Table 6-20: Actual CII Audits

Actual	2006	2007	2008	2009	2010
Number of surveys completed	-	-	-	-	27
Were incentives provided?	-	-	-	-	Yes
Number of follow-up visits	-	-	-	-	27
Actual water savings – AFY[1]	-	-	-	-	47.17

[1] Assumes average savings of 1.75 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(39)**.

Table 6-21: Planned CII Audits

Planned	2011	2012	2013	2014
Number of surveys planned	40	40	40	40
Are incentives planned?	Yes	Yes	Yes	Yes
Number of follow-up visits	40	40	40	40
Projected water savings - AFY	70	70	70	70

[1] Assumes average savings of 1.75 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(39)**.

In 2010, the District collaborated with MPWMD to implement MPWMD's school retrofit program. The goal of the program was to significantly reduce water used by schools in the District and to track the actual savings over three years. The District and MPWMD worked with the Monterey Peninsula Unified School District and the Pacific Grove Unified School District to carry out the program. The District completed the CII audits (as well as the required landscape audits) in 2010. Additionally, the District extended its commitment to water reduction by offering funding for MPWMD's school retrofit program (39).

6.2.13.2 CII Rebates

In addition to CII audits, the District offers a variety of rebates to commercial customers through its partnership with MPWMD. Like the other rebates offered by the District, the CII rebates are funded by the District and administered by MPWMD. CII rebates are available for qualifying devices including HETs, dual flush toilets, zero water urinals, HECWs, high-efficiency dishwashers (HEDWs), smart controllers, and rotating sprinkler nozzles (39). A complete list of rebates offered by MPWMD is included in Appendix Q.

The historical and projected number of commercial rebates are shown in Table 6-22 and Table 6-23, respectively.

Table 6-22: Actual Commercial Rebates

Actual	2006	2007	2008	2009	2010
HET, UHET, or Dual Flush Toilet	20[2]	5	81	42	190
Zero Water Urinal	-	-	-	1	11
HECW	-	32	-	7	10
HEDW	-	-	-	-	2
Smart Controller	-	-	-	1	3
Rotating Sprinkler Nozzle	-	-	-	-	40
Number of rebates	**20**	**37**	**81**	**51**	**256**
Actual water savings – AFY [2]	**0.84**	**3.95**	**3.40**	**2.68**	**10.17**

[1] Includes unspecified toilet rebates.
[2] Water savings are based on unit savings reported in CAW Monterey County District – MPWMD Water Conservation Program 2010 Annual Report (Joint Report) **(45)**: HETs, UHETs and dual flush toilets (0.042 AFY/unit), zero water urinals (0.092 AFY/unit), HECW (0.117 AFY/unit), HEDW (0.003 AFY/unit). Savings for smart controllers and rotating sprinkler nozzles are not included.

Table 6-23: Planned Commercial Rebates

Planned	2011	2012	2013	2014
HET or UHET	70	150	150	150
Zero Water Urinal	10	20	20	20
HECW	10	20	20	20
HEDW	2	5	5	5
Smart Controller	15	15	15	15
Rotating Sprinkler Nozzle	40	40	40	40
Number of rebates	**147**	**250**	**250**	**250**
Actual water savings – AFY [1]	**5.04**	**10.50**	**10.50**	**10.50**

[1] Water savings are based on unit savings reported in CAW Monterey County District – MPWMD Water Conservation Program 2010 Annual Report (Joint Report) **(45)**: HETs, UHETs and dual flush toilets (0.042 AFY/unit), zero water urinals (0.092 AFY/unit), HECW (0.117 AFY/unit), HEDW (0.003 AFY/unit). Savings for smart controllers and rotating sprinkler nozzles are not included.

The effectiveness of this BMP is measured by the total estimated water savings attributed to the rebates, as shown in Table 6-20 through Table 6-23. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

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 (30):

> *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 implements a large landscape (LL) audit program and has recently started a LL grant program.

6.2.14.1 LL Audit Program

MPWMD's Rule 172 requires Landscape Water Audits and Landscape Water Budgets for all customers with a dedicated irrigation meter or an irrigated area of more than 3 acres and for large residential water users with an average monthly use exceeding 32 ccf (44). The audit must be completed or overseen by a Certified Landscape Irrigation Auditor (CLIA). The Landscape Water Audits and Landscape Water Budgets program is administered by MPWMD (39). The program is primarily funded by MPWMD. Audits in excess of the budgeted amount are funded by the District.

The landscape audit includes an on-site analysis of existing plant types and locations, soil types, and existing irrigation and watering practices and equipment. The CLIA uses the results of the audit to develop a watering budget and also provides recommendations for irrigation system improvement (39).

Because the District's LL audits are customized, the water savings differ for each site. The total water savings reported for 2010 represent the sum of the savings estimated for each audit, assuming the recommendations were implemented. Water savings were not estimated for every LL audit; this value represents a subset of the total estimated water savings resulting from LL audits. The average savings per audit were calculated based on the number of surveys performed and the total estimated savings. Because savings were not estimated for all LL audits, this number is believed to be conservative.

The LL audits completed are shown in Table 6-24. The District plans to continue implementation of this BMP, as shown in Table 6-25. Note that the values in Table 6-24 and Table 6-25 include the LL audits performed for large residential water users, as the reporting structure did not separate the LL audits by residential and non-residential customer types.

Table 6-24: Actual LL Audits

Actual	2006	2007	2008	2009	2010
Number of surveys completed	33	4	13	161	230
Number of budgets developed	33	4	13	161	230
Number of follow-up visits	-	-	-	-	-
Actual water savings – AFY[1]	8.58	1.04	3.38	41.86	60.32

[1] Assumes average savings of 0.26 AFY per audit based on average reported savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(39)**.

Table 6-25: Planned LL Audits

Planned	2011	2012	2013	2014
Number of surveys planned	20	100	100	100
Number of budgets planned	20	100	100	100
Number of follow-up visits	-	-	-	-
Projected water savings – AFY[1]	5.20	26.0	26.0	26.0

[1] Assumes average savings of 0.26 AFY per audit based on average reported savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC **(39)**.

The effectiveness of this BMP is measured by the total estimated water savings attributed to the audits, as shown in Table 6-24 and Table 6-25. Refer to Section 6.1 for a discussion of overall BMP effectiveness.

6.2.14.2 Large Landscape Grant Program

In the fall 2010, the District developed the large landscape (LL) grant program which offers financial assistance to cities and public agencies for projects that will reduce landscape water use for cities, schools, and public parks. Eligible projects include the replacement of lawn and other high-water use landscaping with drought tolerant, water-wise landscape, and the upgrading of water saving technologies. The grant program aims to provide funding for a demonstration project in the District, which would have high visibility, water savings, exemplary landscaping and/or use water-saving irrigation technology. The District sent the program announcement to the Presidio and the cities of Monterey, Pacific Grove, Seaside, Sand City, Carmel-by-the-Sea, and Del Rey Oaks. The District received proposals from five public authority customers. The grant is expected to be awarded to the selected project in 2011. The District is also in the process of developing a rain sensor installation program for high use residential and non-residential customers.

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.

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Appendix A. Baseline Daily Per Capita Use Calculation

Technical Memorandum

Date: 8/3/2012

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California American Water
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Phone: (916) 568-4218

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Prepared by: Christopher Malejan, E.I.T.

Reviewed by: Jeffery Szytel, P.E.

Project: 2010 Urban Water Management Plan for the Central Division- Monterey County District

SUBJECT: **PER CAPITA WATER USE CALCULATIONS**

This memorandum presents the procedure used by California American Water's Central Division Monterey County District to meet the requirements of Senate Bill x 7-7 (SB7) as defined in the Water Conservation Act of 2009 as 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*; and 4) *compliance* daily per capita water use. 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 Monterey County District 2010 UWMP update, California American Water hired Water Systems Consulting, Inc. (WSC) to develop the required estimates described by SB 7. The Monterey County District has multiple service areas. Consistent with the requirements outlined in DWR's *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*, compliance is calculated for the District as a whole. 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 selected 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 service area population for a continuous 10-year period ending no earlier than December 31, 2004
2. Calculate urban water use target using one of the four methods described below
3. Check and confirm the urban water use target using the 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 Monterey hydrologic region number 5 as defined in the State's 20x2020 Water Conservation Plan.
- Method 4 is an approach developed by DWR and it uses a spreadsheet to calculate estimated water savings factors to estimate targets.

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."*

From 1987 to 2003, the Monterey County District utilized both surface diversions from the Carmel River and groundwater as the primary sources of supply. However, 2004 marked the first year that the Monterey County District ceased all surface diversions and supplied water solely from groundwater. Presently, groundwater represents 99% of the current supply with some quantities deriving from desalination. Therefore, gross water use is calculated as the sum of California American Water's total groundwater and desalination production.

Population Estimates and Projections

GIS shapefiles with census populations by census block were obtained from California American Water and the United States Census Bureau. These GIS shapefiles contained census populations separated into census blocks covering the Monterey region. In 2010, there were 10,600 census blocks within the Monterey County District. The Monterey District service area intersected with 2,776 of those census blocks Figure 1 through Figure 5 shows the 2010 census blocks in relation to California American Water's service area boundaries.

To calculate population, the Monterey County District service area boundaries were intersected with 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.

Unfortunately, spatial population distribution within each census block varied based on development and land use patterns. In general, for the incorporated Cities and most of the unincorporated areas, the population within the census block could be considered uniform. However, some census blocks within the Carmel Valley did not have a uniform population distribution and therefore had to be corrected visually. Shown in Figure 6 is an example of uneven census block population distributions. After visual inspection, if it was determined all of the residents within that census block were in the Monterey County District service area, then the total population of that census block was included.

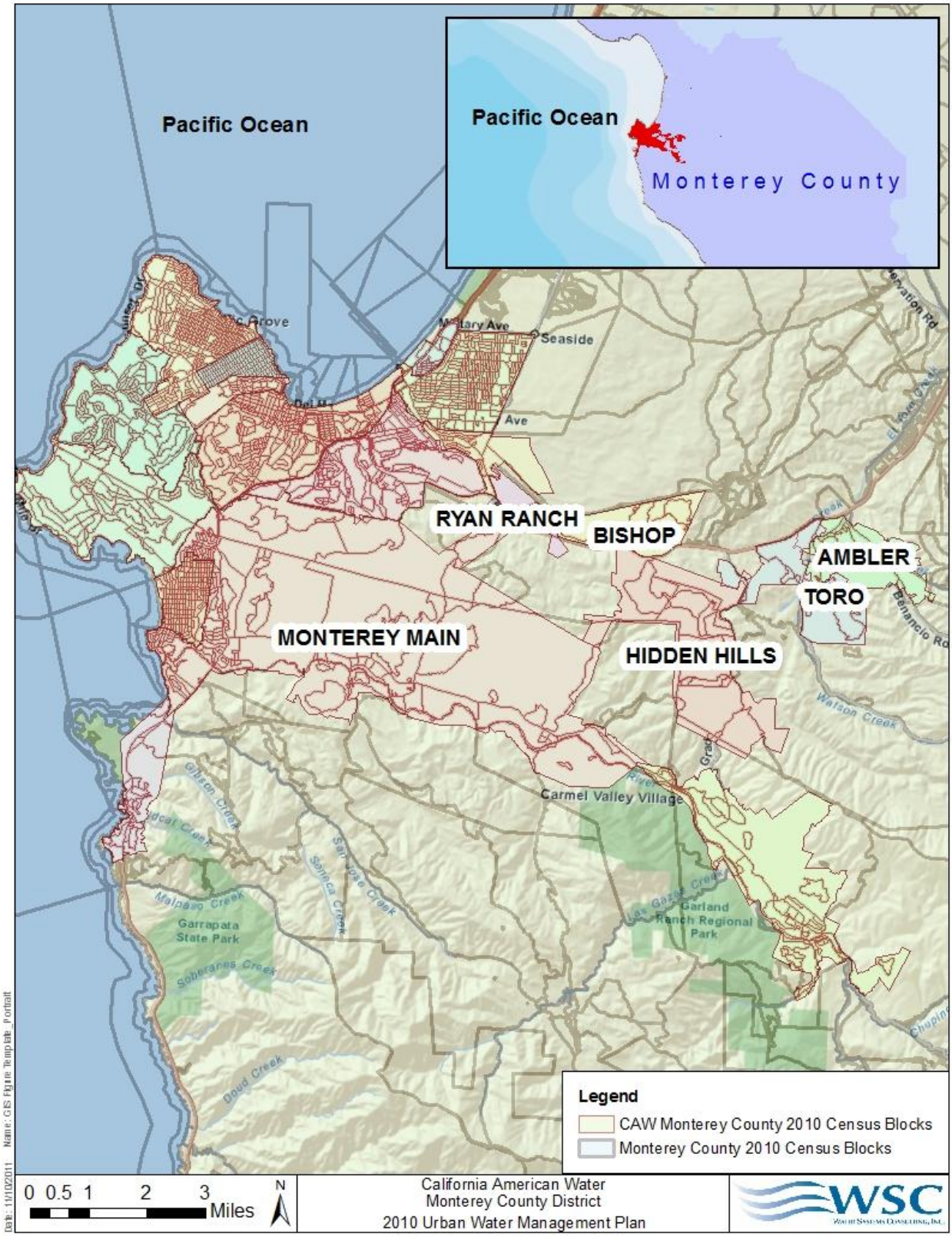


Figure 1: Monterey Main System Service Area Boundaries with 2010 Population Data

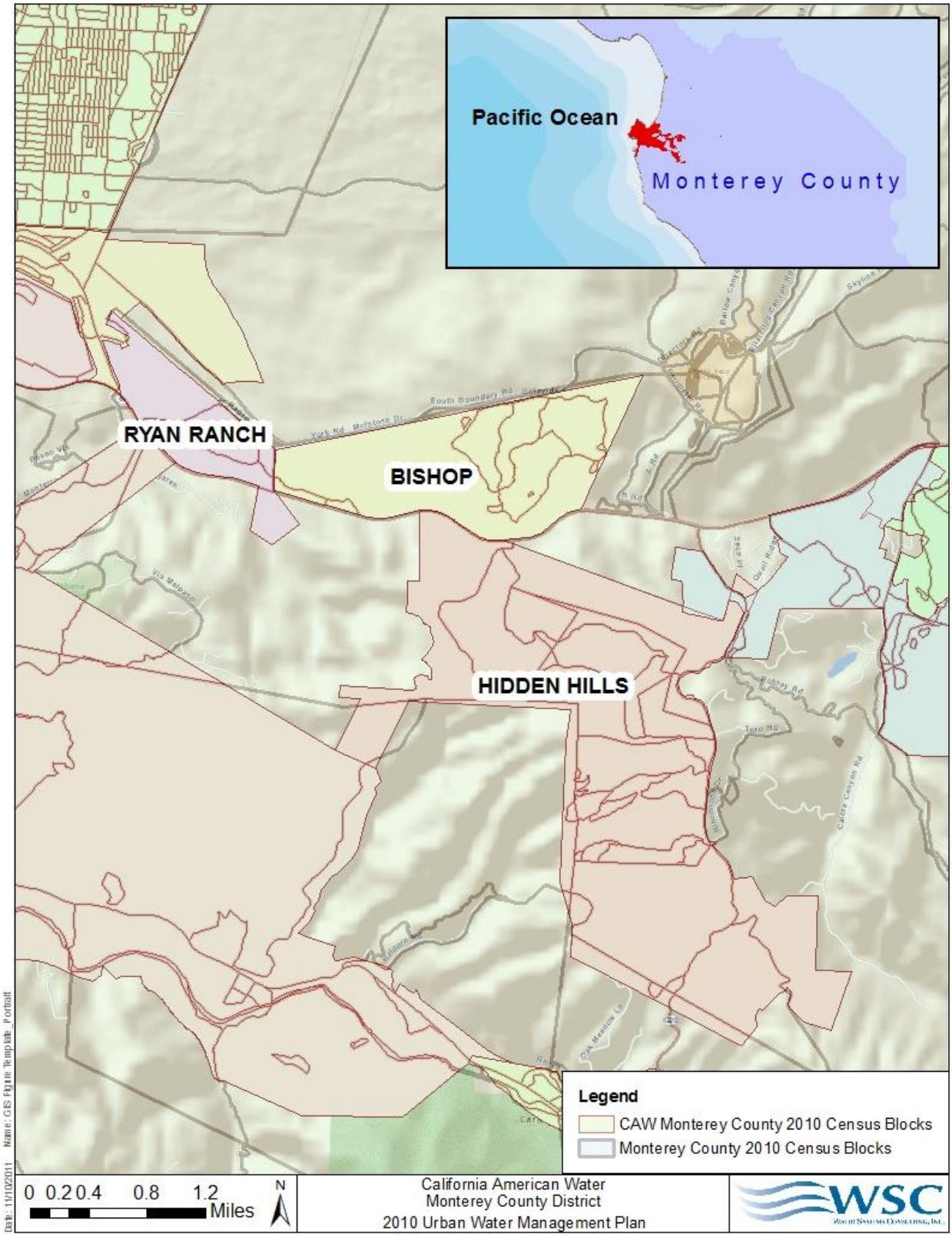


Figure 2: Ryan Ranch, Bishop and Hidden Hills Service Area Boundaries with 2010 Population Data

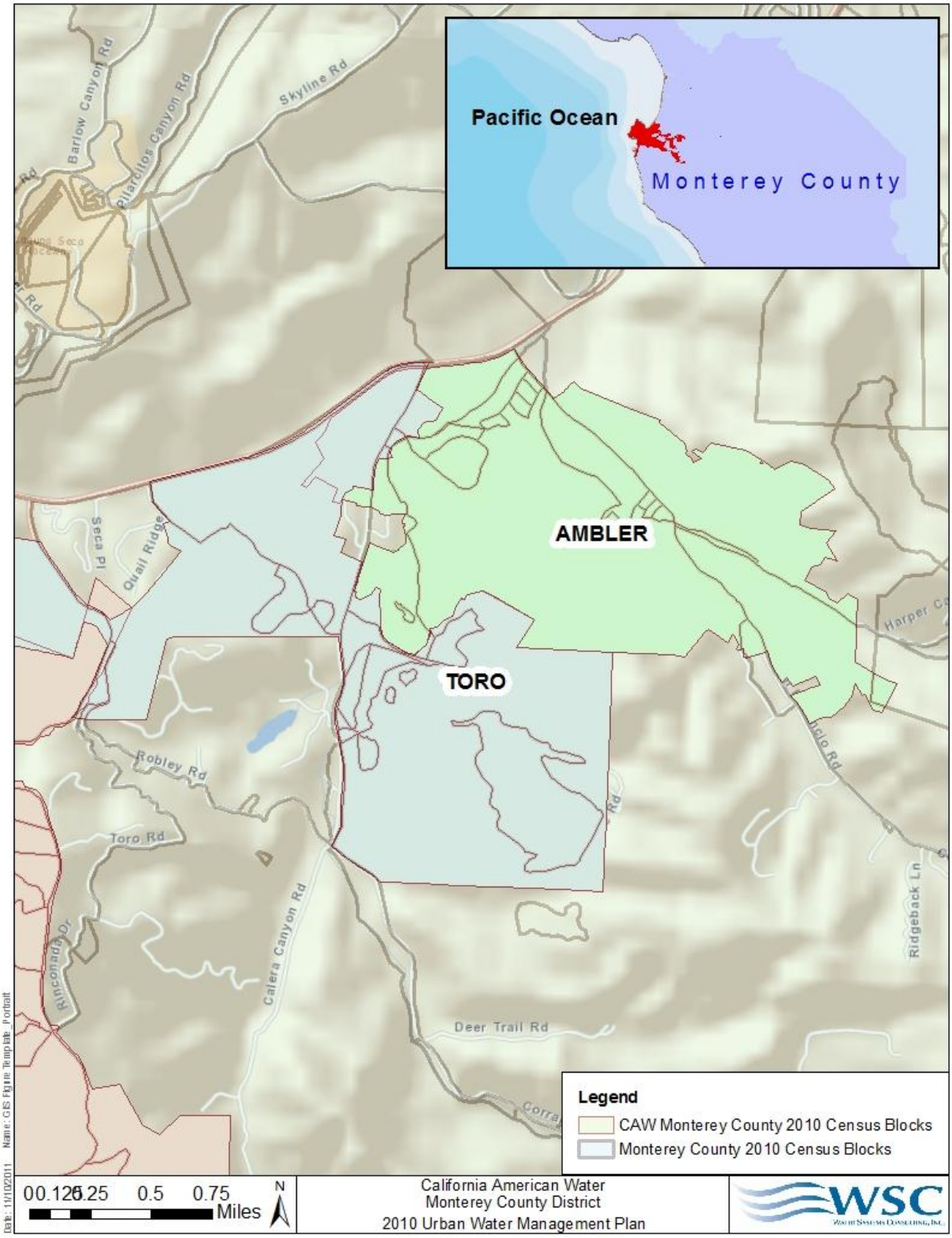


Figure 3: Ambler and Toro Area Boundaries with 2010 Population Data

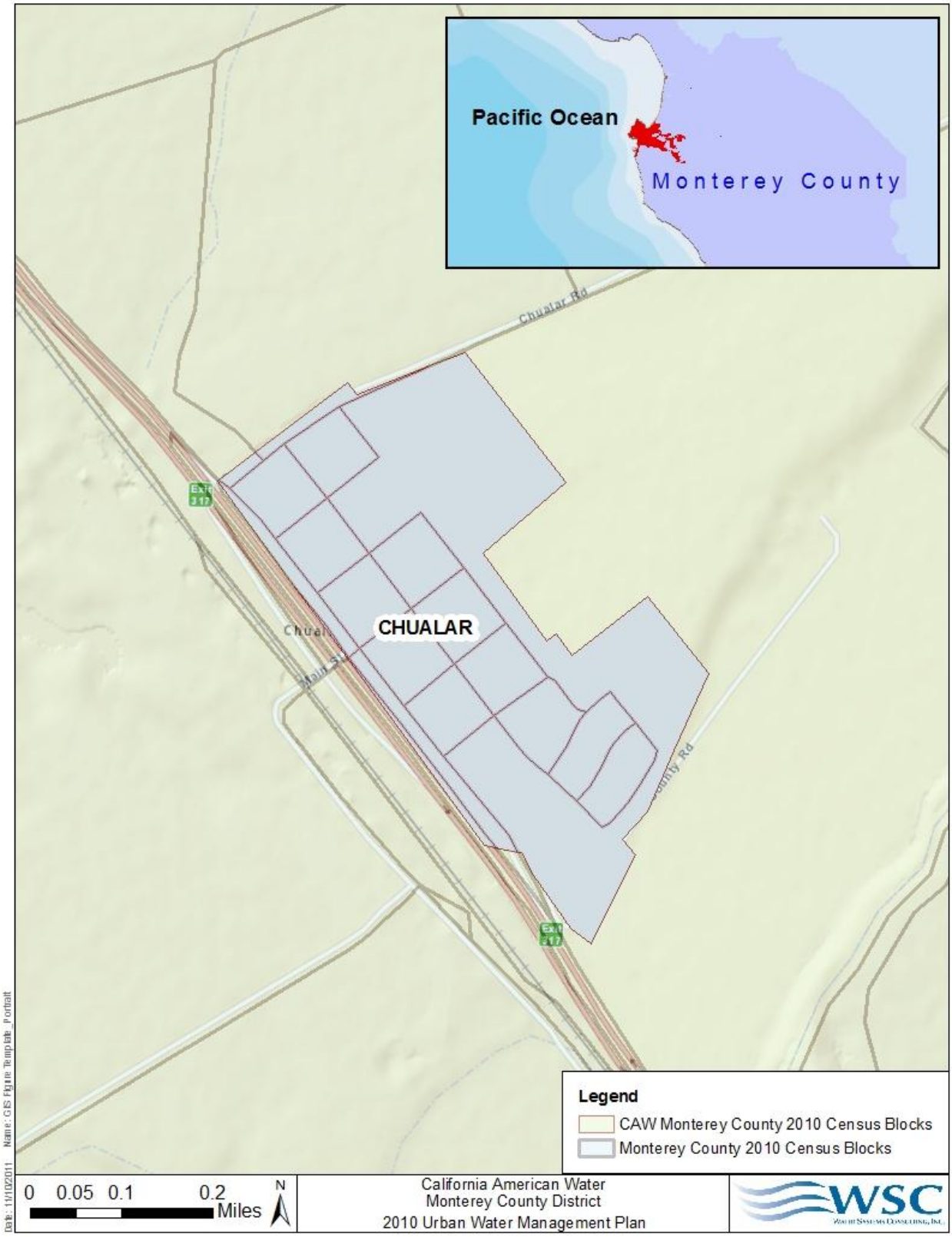


Figure 4: Chualar Service Area Boundaries with 2010 Population Data

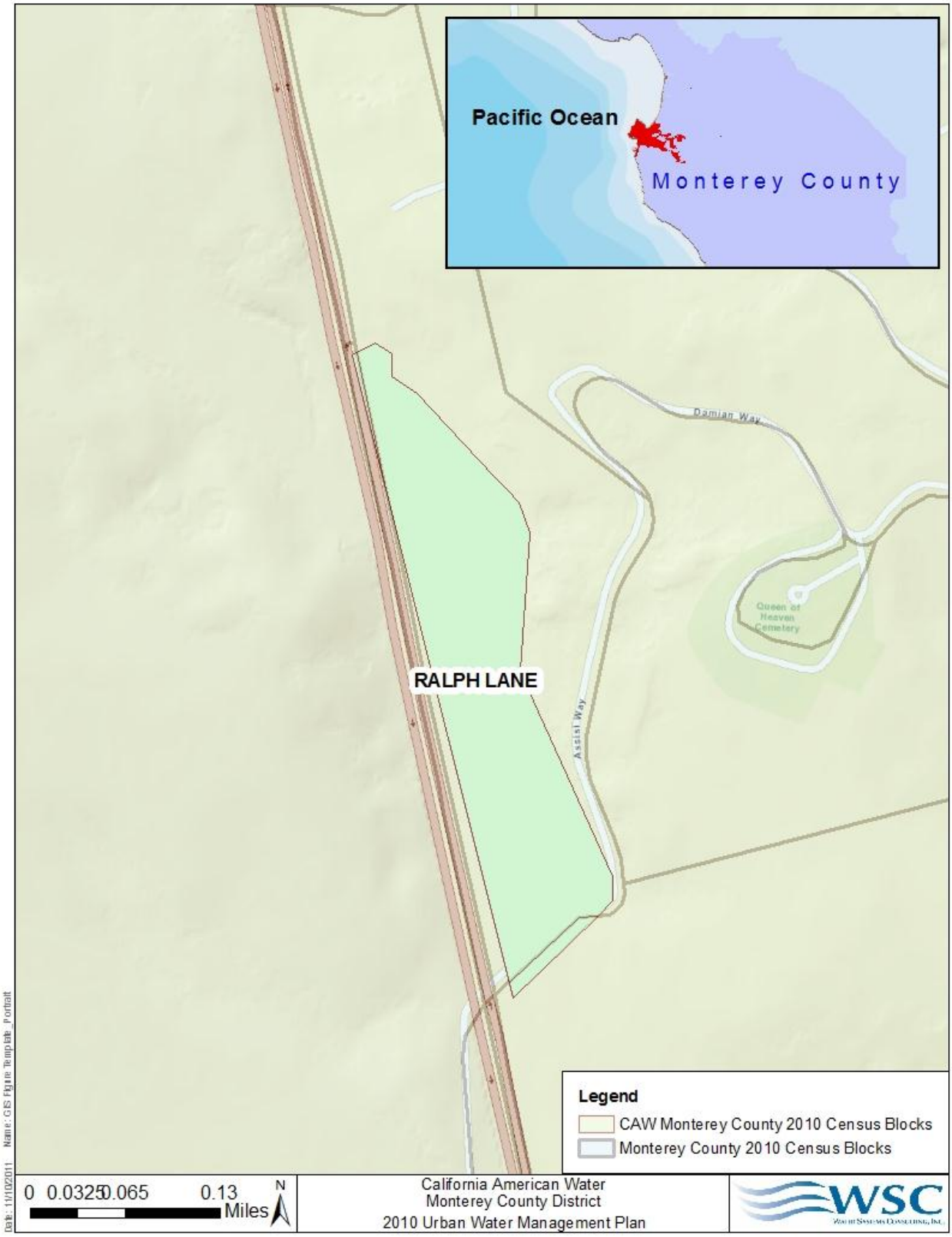


Figure 5: Ralph Lane Service Area Boundaries with 2010 Population Data

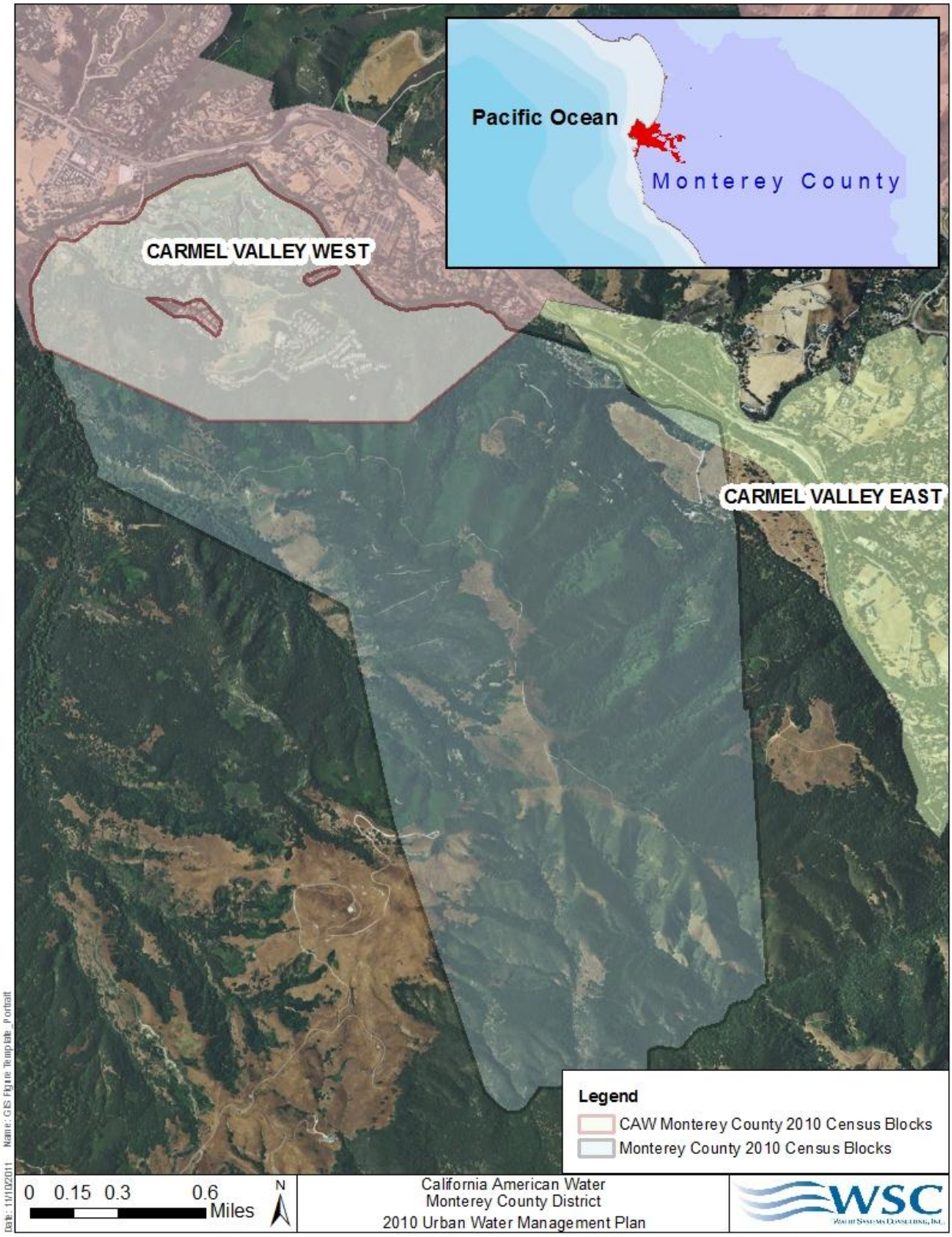


Figure 6: Uneven Distribution of Population within the Census Block

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 1998-2007 through 2001-2010. Figure 7 shows the historical population, along with the annual per capita water use for the years 1998 through 2010.

Table 1. Baseline Daily Per Capita Water Use

Calendar Year	Distribution System Population[1]	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	10 year running average (gpcd)
1994	99,944	13.6	136	
1995	99,230	13.2	133	
1996	98,515	14.5	147	
1997	97,801	15.2	156	
1998	97,086	12.6	129	
1999	96,372	13.6	141	
2000	95,657	13.4	140	
2001	95,500	14.0	146	
2002	95,342	13.5	142	
2003	95,184	13.5	142	141
2004	95,027	14.1	148	142
2005	94,869	13.7	144	144
2006	98,510	13.0	132	142
2007	98,453	13.4	136	140
2008	99,438	13.5	136	141
2009	99,417	12.2	123	139
2010	99,396	11.4	115	137
Base Daily Per Capita Water Use				**144**

[1] Population shown only includes the population of systems where water usage data exists, so gpcd can be calculated; thus, the 2005 population here does not match the population presented in Section 2.2.

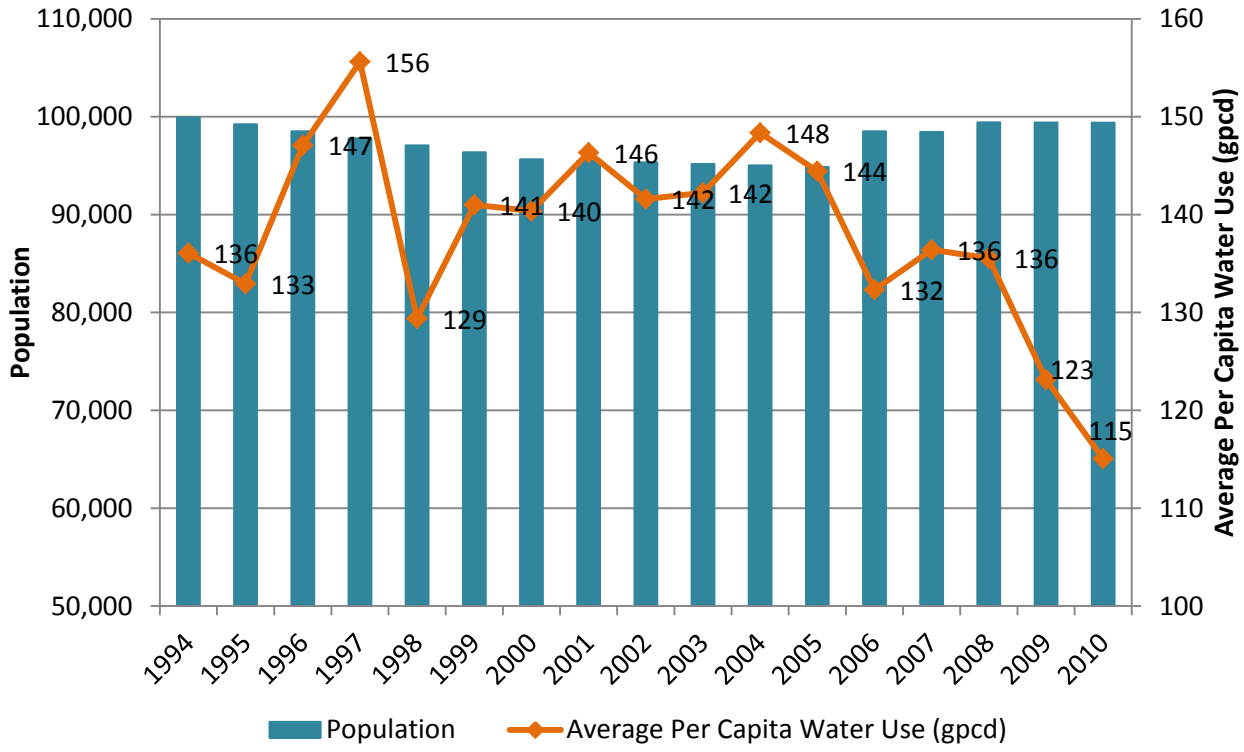


Figure 7. Historical Population and Per Capita Water Use for the Monterey County District

Water Use Targets

The per capita water use target estimates are calculated using Method 1, Method 3, and Method 4 from the Methodologies Report. 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	115
Method 2: Performance Standards	Not calculated
Method 3: 95% of Regional Target	117
Method 4: DWR Approach	118
Selected Urban Water Use Target	118

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 five-year running averages, with the selected 5-year running average of 141 gpcd.

Table 4 shows that the selected target from Table 2 meets the minimum water use reduction requirement; that is, the selected target of 118 gpcd is less than 95% of 134 gpcd. Thus, the confirmed water use target is set to 118 gpcd. 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. The values shown will be reported in California American Water's 2010 Monterey 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	95,184	13.5	142	
2004	95,027	14.1	148	
2005	94,869	13.7	144	
2006	98,510	13.0	132	
2007	98,453	13.4	136	141
2008	99,438	13.5	136	139
2009	99,417	12.2	123	134
2010	99,396	11.4	115	128
Base Daily Per Capita Water Use				141

Table 4. Target Confirmation

Parameter	Value
Selected Urban Water Use Target (gpcd)	118
95% of 5-year Base Daily Per Capita Water Use (gpcd)	134
Selected Urban Water Use Target < 95% of 5-year Base GPCD	Yes
Confirmed Urban Water Use Target (gpcd)	118

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

Parameter	Water Use (gpcd)
Base Daily Per Capita Water Use	144
2010 Daily Per Capita Water Use	115
2015 Interim Urban Water Use Target	131
2020 Urban Water Use Target	118

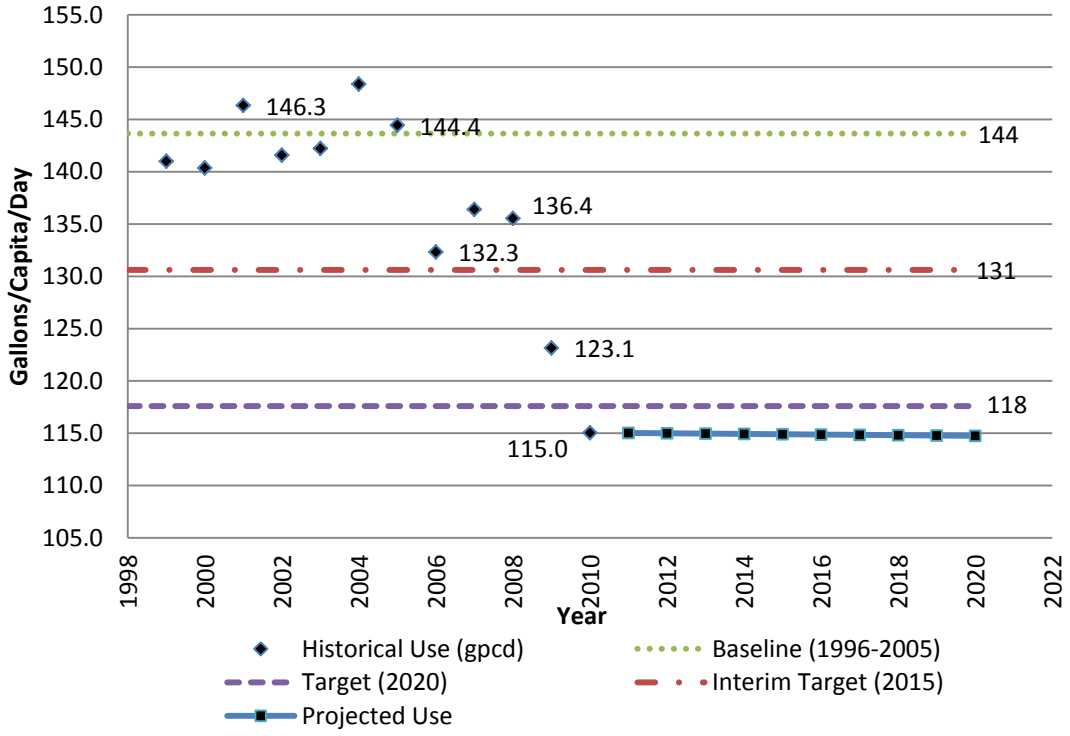
Table 6. Water Use Reduction Status

Water Use Reduction (on gpcd basis)	% Reduction[1]
Achieved by 2010	19.9%
Needed to meet 2015 target	-13.5%
Needed to meet 2020 target	-2.2%

[1] A negative % means the compliance is currently lower than the target.

Figure 8 shows the historical, baseline, targets, compliance, and projected per capita water use for the Monterey County District.

Figure 8. Historical Per Capita Water Use, Baseline, and Targets



Appendix B. CPUC Rule 14.1.1

Rule No. 14.1.1
WATER CONSERVATION PLAN
MONTEREY DISTRICT

A. GENERAL INFORMATION

The Monterey District of California American Water Company ("Company") has been ordered by the State Water Resources Control Board ("SWRCB") to limit its production of water from the Carmel River System to less than 14,106 acre feet annually, with a goal, in Water Year 2009 of no more than 11,285 acre feet annually. This limitation is the result of complaints filed against the Company for unlawful diversion from the Carmel River System. The SWRCB found the Company was diverting water without the benefit of permit. The SWRCB issued Order WR 95-10 which, in addition to setting the water-production limits, authorizes the Chief, Division of Water Rights, to refer any violation of the ordering conditions to the Attorney General for action under Section 1052 of the Water Code or to initiate other enforcement action as may be appropriate under the Water Code. (T)

As of March 27, 2006, the Company's production from the Seaside Basin is also restricted pursuant to *California American Water v. City of Seaside, et. al,* Case No. M66343, California Superior Court, Monterey County (the "Seaside Basin Decision"). The Company has wells in both the Coastal Subareas and Laguna Seca Subarea of the Seaside Basin that are affected by the Seaside Basin Decision. Specifically, the Seaside Basin Decision limits the Company's production from the Seaside Basin to no more than 3,849 acre feet in Water Year 2009. (T)

This conservation and rationing plan, filed in response to the adoption by the Monterey Peninsula Water Management District's ("MPWMD") Regulation XV, an Expanded Water Conservation and Standby Rationing Plan, is intended to help insure that all responsible measures are instituted to enable the Company's Monterey District to comply with the limitations on productions found in SWRCB Order WR 95-10 and the Seaside Basin Decision.

The Commission shall authorize Tariff Schedule MO-14.1, which sets forth charges for the removal of flow restrictors and in-lieu fees for multi-residential and mixed use on a master-meter Customers. The Company will continue to make water conservation devices available to its Customers as required by its Rule 21 and to remind Customers of the availability of conservation devices and all rebate programs. (T)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

B. DEFINITIONS

1. "AF" means acre feet;

2. "Allotment" means the amount of water determined reasonable for each Customer as defined in the Company's tariffs for billing purposes; (N)

3. "Base Year" means the Water Year immediately preceding any triggering order;

4. "Bishop Water Distribution System" or "Bishop" shall mean the Company's subsystem as described in the purchase agreement between Bishop Water Company and the Company dated September 1, 1996;

5. "Carmel River System" means the surface water in the Carmel River and its tributaries, and groundwater in the underlying Alluvial Aquifer; (N)

6. "Ccf' means one hundred cubic feet, which equals 748 gallons or one unit; (T)

7. "Change of Use" ,means, in the case of commercial, industrial or public authority structures, a change in the use to which the structure was previously devoted, to a substantially different use; (N) (N)

8. "Commission" means the California Public Utilities Commission;

9. "Company" means California-American Water Company;

10. "Customer" means any Person who uses water supplied by the Company in its Monterey District; (T)

11. "Customer Category" means the following groupings for all Customers within the MPWRS: single-family residential, multi-family residential, commercial, industrial, public authority, golf course, other, and non-revenue metered; (N) (N) (N)

12. "Dedicated Irrigation Meter" means a water meter exclusively used to measure outdoor water consumption;

13. "Final Cease and Desist Order" means any final order by the SWRCB or Seaside Watermaster or any other final court order issued after December 10, 2008 that explicitly requires California American Water Company, on a certain date, to reduce its production of water. For the purposes of this Rule, the effective date of any such order shall be the same date that the water production reduction limit is imposed; (N)

14. "Flow Restrictor" means a device placed into the water distribution system by the Company that restricts the volume of flow to the Customer by 50%; (N) (L)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

B. DEFINITIONS (Continued)

15. "Hidden Hills System" or "Hidden Hills" means the Company subsystem as described in the purchase agreement between Carmel Valley Mutual Water Company and the Company recorded July 8, 1994, Document #49389, Reel 3125, Page 696; (N)

16. "Laguna Seca Subsystems" means the Company subsystems in the Seaside Groundwater Basin as specified in the Seaside Basin Adjudication Decision. The Laguna Seca Subsystems include the Ryan Ranch, Hidden Hills and Bishop subsystems;

17. "Landscape Irrigation Auditor" means a Person certified by the Irrigation Association to perform Landscape Water Audits and assign Landscape Water Budgets;

18. "Landscape Water Audit" means an action taken by a Landscape Irrigation Auditor certified by the Irrigation Association to determine reasonable outdoor water use;

19. "Landscape Water Budget" means a maximum annual water allowance in gallons per year, determined upon completion of a Landscape Water Audit by a Landscape Irrigation Auditor certified by the Irrigation Association. The Landscape Water Budget shall take into consideration the typed of plants, soil condition, evapotranspiration rates and irrigation system; (N)

20. "Large Residential Customers " means residential Customers that consume at least 384 units (287,232 gallons) in the last Water Year or an average of 32 units (23,936 gallons) per month or more; (T) (T)

21. "Main System" means the Company's largest distribution system in its Monterey District that serves Customers in the Cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Sand City, Seaside, and Pacific Grove, and portions of unincorporated Monterey County in the Carmel Valley, Del Monte Forest, and Carmel Highland areas. The Main System derives its source of supply from the Carmel River System and Coastal Subareas of the Seaside Basin; (N)

22. "Mobile Water Distribution System" means any potable or subpotable water delivery that originates at a location apart from the site of use and that is delivered via a truck or other movable container. This definition shall not apply to deliveries of water by commercial companies in volumes less than or equal to 55 gallons per container; (N)

23. "MPWMD" means the Monterey Peninsula Water Management District and its designated representatives acting on its behalf;

24. "MPWMD Board" means the Board of Directors of the Monterey Peninsula Water Management District; (N)

25. "Monterey Peninsula Water Resource System" or "MPWRS" means the surface water in the Carmel River and its tributaries, groundwater in the Carmel Valley Alluvial Aquifer which underlies the Carmel River, and groundwater in the Seaside Groundwater Basin; (L)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

B. DEFINITIONS (Continued)

26. "Person" means any individual, person, firm, partnership, association;

27. "Plan" means this Water Conservation and Rationing Plan; (N)

28. "Rationing Year" means a one year period beginning on the date water rationing is declared; (N)

29. "Regulation XV" means MPWMD Regulation XV, The Expanded Water Conservation and Standby Rationing Plan as modified by Ordinance 137; (T) (T)

30. "Rule" means this Rule 14.1;

31. "Ryan Ranch Water Distribution System" or "Ryan Ranch" means the Company's subsystem as described in the purchase agreement between Neuville Co. N.V. (a Delaware Corporation) and the Company dated April 30, 1990; (N) (N) (N)

32. "Seaside Basin" means the water in Seaside Groundwater Basin as described in the Seaside Basin Decision;

33. "Seaside Basin Decision" means the *California American Water v. City of Seaside, et. al,* Case No. M66343, California Superior Court, Monterey County;

34. "Seaside Watermaster" means either (a) the court appointed Seaside Basin Watermaster Board pursuant to Section III-L of the Decision rendered for Monterey County Superior Court Case No. M66343 (California Water vs. City of Seaside, et. al,) dated March 22, 2006, as it may be amended from time to time or (b) the Superior Court, when issuing any order in California American Water vs. City of Seaside, et al.; (N)

35. "Survey" means the confidential survey described in Section I.1.j. which is the basis for Customer Allotments; (N)

36. "SWRCB" means the California State Water Resources Control Board;

37. "SWRCB Order" means Order WR 95-10 issued by the SWRCB;

38. "System Production Limit" means the Company's maximum annual production from the Carmel River System and the Seaside Basin as summarized in Table 1 of this Rule;

39. "Water" means water supplied by the Company;

40. "Water Banking" means a system that tracks the difference in the amount of water used and the amount of each Customer's Water Ration during a Rationing Year; (N) (N)

(L)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

B. DEFINITIONS (Continued) (L)

41. "Water Ration" means a specific amount of water available to each Customer during water rationing Stages 5 through 7. The Water Rations will be determined on a per-person basis for residential Customers and by percentage reductions by user category to the allotments of all non-residential Customers. Variances for verifiable medical needs are available. In no circumstance shall the residential Water Ration be lower than 35 gallons per person per day, in accordance with the California Urban Water Conservation Council's Urban Drought Guidebook 2008, at page 61; (N) (N)

42. "Water Year" means the period from October 1 of any year to September 30 of the following year;

43. "Water Year Allocation" means the annual regulatory production limit from the Carmel River System and Seaside Basin. (N) (N)

C. APPLICABILITY

This Rule applies to most water Customers of the Monterey District of the Company served under rate schedules authorized by the Commission. This Rule applies to Customers supplied by water from the Carmel River System and Seaside Basin (including the Ryan Ranch, Hidden Hills and Bishop systems). It does not apply to Customers in Toro, Ambler Park, Ralph Lane and Chualar systems. (T) (T)

Stages 2, 3 and 4 will be triggered for the Company's Main System when the Company exceeds its permitted production levels for the combined MPWRS, which shall take into consideration the legal limitations imposed by the SWRCB and the Seaside Basin Decision; and will only be triggered for the Laguna Seca Sub-System when the subsystem exceeds production targets for the combined MPWRS, and the production allowed for the Laguna Seca Subsystem. (T)

Stages 5 through 7 are enacted automatically by a regulatory trigger that includes any subsystem when that system relies in any way on production or production offsets from the Monterey Main System. These Stages are also enacted in response to physical storage limitations or as an emergency response when immediate reductions in water use are necessary to ensure public health, safety or welfare. (N) (N)

D. TERRITORY

The territory includes the incorporated Cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Del Rey Oaks, Sand City, a portion of Seaside, and certain unincorporated areas in the County of Monterey, except for Toro, Ambler Park, Ralph Lane and Chualar. (T)

E. LANDSCAPE IRRIGATION LIMITATIONS

Landscape irrigation restrictions apply to Company water Customers who derive their source of supply from the MPWRS. Unless watering is by drip irrigation, through a hand-held hose with a positive action shut-off nozzle, the following schedule shall apply: (T)

(L)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

E. LANDSCAPE IRRIGATION LIMITATIONS (Continued) (L)

1. Odd numbered properties shall water after 5:00PM or before 9:00AM on Saturdays and Wednesdays only. This schedule shall also apply to properties located on the South or West side of the street in cities and unincorporated areas where no street address is available.

2. Even numbered properties shall water after 5:00PM or before 9:00AM, on Sundays and Thursdays only. This schedule shall also apply to properties located on the North or East side of the street in cities and unincorporated areas where no street address is available.

3. Sprinkler irrigation overseen by a professional gardener or landscaper who is available on site may occur between 9 a.m. and 5 p.m., but shall not exceed two watering days per week. (N) (N)

F. WATER CONSERVATION INITIATION

This Plan shall commence immediately upon approval of the Commission. Trigger criteria for the various Stages are found in this Rule and Regulation XV. (T)

G. COMMISSION NOTIFICATION

The Company will provide the Commission a courtesy notification of a change in Stages immediately upon their implementation. The notification shall be in the form of a letter directed to the Director of the Commission's Water Division and copied to the Director of the Division of Ratepayer Advocates, and any other parties as directed by the Commission or the Director of the Water Division.

H. CUSTOMER NOTIFICATION

The Company shall notify Customers via direct mailing of the effective date of any change in Stages either moving up Stages, e.g. from Stage 2 to Stage 3, or moving down Stages, e.g. from Stage 3 to Stage 1. Customers will be notified no less than thirty (30) days before any increased Customer rates. In addition, the Company shall maintain communication with Customers regarding the ongoing water supply situation and related conservation requirements. Additional Customer notification requirements are included within the conservation and rationing stages. (T) (T)

I. WATER CONSERVATION

1. Company Responsibilities (N)

   a. Communicate conservation messages to Customers.

   b. Include conservation message on water bills.

   c. Cooperate with the MPWMD in conducting Landscape Water Audits and the establishment of Landscape Water Budgets for all Dedicated Irrigation Meters, large irrigated areas over three acres and Large Residential Customers. (N) (L)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

I. WATER CONSERVATION (Continued) (L)

1. Company Responsibilities (Continued) (N)

   d. Participate in a joint rebate program with the MPWMD.

   e. Promote water conservation and undertake conservation programs in coordination with MPWMD.

   f. Cooperate with the MPWMD to establish and maintain a water conservation website that responds to local concerns.

   g. Provide conservation bill inserts

   h. File and maintain an Urban Water Management Plan with its Best Management Practices.

   i. Provide residential and non-residential water audits upon request.

   j. Maintain a confidential Survey of all Customers who derive their source of supply from the MPWRS. This Survey shall require information to determine the number of permanent residents in each dwelling unit and the lot size for each residential site with permitted water service; the types of uses and amount of water use on nonresidential sites; and the number of uses and types of use(s) served by each water meter. Only information deemed appropriate for the effective operation of this program will be requested. The Company shall provide MPWMD with access to the survey data and shall provide a summary of the data annually or more frequently as required by the MPWMD General Manager.

   k. Make water-saving conservation devices available to all Customers and provide notices of availability.

   l. Provide MPWMD with all customer data required by Regulation XV as authorized by Commission Decision 09-02-006 and in accordance with the terms and conditions of a nondisclosure agreement.

   m. Shall not provide portable water meters to any Person unless an MPWMD permit has been issued (N)

2. Customers' Responsibilities

   a. All Customers shall comply with Rule 14.1 and MPWMD Regulation XIV (Water Conservation), MPWMD Regulation XV (Expanded Water Conservation and Standby Rationing Plan) and MPWMD Water Waste and Non -Essential Water Use regulations. (T)

   b. All Customers shall prioritize the conservation of water at all times. (T) (L)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

I. WATER CONSERVATION (Continued)

2. Customers' Responsibilities (Continued) (L)

   c. Residential Customers are responsible for accurately reporting the number of permanent residents and other information requested on the Customer Survey and to submit a revised Survey form whenever there is a change in the number or permanent residents or other information on the Survey. (T)

   d. Nonresidential Customers are responsible for notifying the Company whenever there is a Change of Use.

3. Non-Essential Water Use shall mean the indiscriminate or excessive dissipation of water which is unproductive, or does not reasonably sustain life or economic benefit. Non-Essential water use includes, but is not limited to, the following: (T)

   a. Serving drinking water to any Person unless expressly requested, by a restaurant, hotel, café, cafeteria and other public place where food is sold, served or offered for sale. (T)

   b. Operation of fountains, ponds, lakes or other ornamental use of potable water without recycling.

   c. Using unmetered fire hydrant water by individuals for any reason other than fire suppression or utility system maintenance purposes.

   d. Draining and refilling swimming pools or spas except to prevent or correct structural damage or to comply with public health regulations

   e. Unreasonable or excessive use of potable water for dust control or earth compaction without prior written approval of MPWMD.

4. Water Waste shall mean the indiscriminate, unreasonable, or excessive running or dissipation of water. Water waste shall include, but not be limited to, the following:

   a. Waste caused by correctable leaks, breaks or malfunctions. This loss of potable water may be cited for water waste after a reasonable period of time has passed in which the leak or malfunction could have been corrected. Exceptions may be granted by MPWMD for corrections which are not feasible or practical, see Section T "Variances". (N) (N)

   b. Use of potable water for washing buildings, structures, driveways, patios, parking lots, tennis courts, or other hard surfaced areas, except in the cases where health and safety are at risk.

   c. Indiscriminate or excessive water use which allows excess to run to waste.

(Continued) (L)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

I. WATER CONSERVATION (Continued)

4. Water Waste: (Continued) (L)

d. Use of potable water to irrigate turf, lawns, gardens or ornamental landscaping between 9:00 AM and 5:00 PM by means other than drip irrigation, or hand watering without quick acting positive action shut-off nozzles. Exceptions may be granted by MPWMD to professional gardeners where the only option is to water between 9:00AM and 5:00PM.

e. Individual private washing of cars with a hose except with the use of a positive action shut-off nozzle. Use of water for washing commercial aircraft, cars, buses, boats, trailers or other commercial vehicles at any time, except at commercial or fleet vehicle or boat washing facilities operated at a fixed location where equipment using water is properly maintained to avoid wasteful use.

f. Operation of commercial car washes without recycling at least 50% of the potable water used per cycle.

g. Use of potable water for more than minimal landscaping, as defined in the landscaping regulations of the jurisdiction or as described in Article 10.8 of the California Government Code. (T) (T)

h. Use of potable water for street cleaning.

i. Misrepresentation of the number of persons permanently residing on a property where water is supplied by the Company.

j. Failure to maintain water use within a mandatory Landscape Water Budget during Stages 2, 3, and 4. (T) (T)

k. Customer's water use in excess of a Water Ration. (N)

l. Transportation of water from the MPWRS without prior written authorization from the MPWMD shall be deemed water waste. Emergency or health situations may qualify for an MPWMD variance in accordance with its rules.

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

J. STAGE 1 – WATER CONSERVATION

Stage 1 Water Conservation is the first stage of water conservation measures as defined in this Rule and Regulation XV. (T)

1. The Company shall maintain its Water Year production from the Carmel River System below 11,285 AF and shall comply with the production limits imposed by the Seaside Watermaster.

2. Each Customer in the Company's Monterey District whose water supply is derived from the MPWRS shall comply with the water waste and nonessential water use prohibitions as stated in this Rule.

3. The Company, in coordination with the MPWMD, shall conduct Landscape Water Audits and establish Landscape Water Budgets for all Customers with a Dedicated Irrigation Meter, an irrigated area greater than three acres, or Large Residential Customers. The Landscape Water Audits shall comply with MPWMD Rule 172. By November 1st of each year, the Company shall review its consumption records for the previous Water Year to identify all Customers required to have a Landscape Water Budget. Customers that are required to obtain a Landscape Water Audit and Landscape Water Budget shall be notified by the Company of this requirement by December 1. The Company shall notify MPWMD of Customers who have not arranged for completion of a Landscape Water Audit and Landscape Water Budget within sixty (60) days of notification. (T)

K. STAGE 2 – WATER CONSERVATION

Stage 2 Water Conservation is the second stage of water conservation as defined in this Rule and Regulation XV. In addition, the following shall apply in Stage 2 Water Conservation. (T)

1. Stage 2 triggers the implementation of Landscape Water Budgets for all Customers with irrigated areas of greater than three acres, Large Residential Customers, or Customers with Dedicated Irrigation Meters. All Customers required to have a Landscape Water Budget are required to manage outdoor irrigation within the Landscape Water Budget assigned to the property. Water use in excess of an established Landscape Water Budget is considered water waste. (N)

2. The Company shall notify Customers via direct mailing that Stage 2 Water Conservation will be implemented with a specified effective date. Customers subject to Stage 2 will be notified that: 1) they are required to comply with the Landscape Water Budget; 2) they are required to manage outdoor irrigation within the Landscape Water Budget assigned to their property; 3) water use in excess of the established Landscape Water Budget shall be considered water waste; 4) Customers with use above the Landscape Water Budget are subject to Flow Restrictor installation. (N)

3. The Company shall provide an annual reminder notice to Customers served from sources within the MPWRS with Landscape Water Budgets to report modifications in landscaping which could alter an existing Landscape Water Budget. (T)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

K. STAGE 2 – WATER CONSERVATION (Continued)

4. The Company shall provide monthly compliance status notices to each Customer required to follow a mandatory Landscape Water Budget. (T)

5. Stage 2 shall be enforced on Company Customers supplied by water from Carmel River System and Seaside Basin, excluding the Laguna Seca Subsystem, when the Company's production from the MPWRS has exceeded the year-to-date at month-end production as shown in Table 1. (T)

6. Stage 2 shall be enforced on the Laguna Seca Subsystem, including Bishop, Hidden Hills, and Ryan Ranch, when the Company's production from the MPWRS has exceeded the year-to-date at month-end production as shown in Table 1 and the Company's production from the Laguna Seca Subarea of the MPWRS has exceeded the year-to-date at month-end production as shown in Table 2. (T) (T) (T) (T)

Table 1
Stage 2 and Stage 3 Production Triggers
MPWRS

(T)

Month	2008 Monthly Production (Includes Carmel, Seaside & Laguna Seca Sub-System) AF	2008 Year-to-Date Production at Month End AF
October	1,377	1,377
November	1,081	2,458
December	993	3,451
January	961	4,412
February	878	5,290
March	1,012	6,302
April	1,124	7,427
May	1,424	8,850
June	1,522	10,372
July	1,640	12,012
August	1,633	13,645
September	1,489	15,134
TOTAL	15,134	

(T) (T) (T) (T) (T)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

K. STAGE 2 – WATER CONSERVATION (Continued)

Table 2
Stage 2 and Stage 3 Production Triggers
Laguna Seca Subsystem (T)

Month	2008 Monthly Production Sub-Systems (Laguna Seca) AF	2008 Year-to-Date Production at Month End AF	
October	34	34	
November	23	57	
December	19	76	(T)
January	16	92	(T)
February	14	106	(T)
March	19	125	
April	24	149	(T)
May	33	182	(T)
June	38	220	(T)
July	43	263	(T)
August	42	306	
September	40	345	
TOTAL	345		

(T)

7. Stage 2 shall be sunset and water use restrictions shall revert to Stage 1 upon the Company's compliance with the year-to-date at month-end production targets noted for the MPWRS for two consecutive months in the subsequent Water Year. (T)

8. The Company shall notify MPWMD monthly of Customers subject to a Landscape Water Budget that have exceeded their Landscape Water Budget in the previous month.

9. For Customers required to maintain water use within a Landscape Water Budget, the Company shall compile a quarterly report for MPWMD showing individual Customer information and comparing actual consumption against the Landscape Water Budget that shall be due April 15, July15, October 15, and January 15 for the previous 3 months. (T)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(D)

L. STAGE 3 – WATER CONSERVATION

Stage 3 is the third stage of water conservation as defined in this Rule and Regulation XV. The requirements of Stage 1 and 2 Water Conservation shall remain in effect in Stage 3 Water Conservation. In addition, the following shall apply in Stage 3 Water Conservation: (T)

1. Stage 3 shall be enforced on the Company's Main System Customers supplied by water from the Carmel River System and Seaside Basin, excluding Customers in the Laguna Seca Subsystems when the Company's production from the MPWRS exceeds specified levels in Table 1 under any of the following criteria:

    a. if Company production from the MPWRS on a year-to-date basis exceeds the year-to-date target by 5% or more at the end of the first quarter of the Water Year, i.e., December 31; or

    b. if Company production from the MPWRS on a year-to-date basis exceeds the year-to-date target by 4% or more at the end of January, or the year-to-date target by 2.5% or more at the end of February, or the year-to-date target by 1 % or more at the end of March; or

    c. if Company production from the MPWRS on a year-to-date basis exceeds the year-to-date targets for a consecutive seven-day period during the months of April, May or June; or

    d. if Company production from the MPWRS on a year-to-date basis exceeds the year-to-date target on any single day during July, August, or September.

    e. if implemented upon resolution of the MPWMD Board when an immediate water use reduction is needed.

2. Stage 3 shall be enforced on the Company's Laguna Subsystems, when the Company's production from the MPWRS exceeds specified levels in Table 1 under any of the criteria described above in Section L.1. of this Rule and also the production in the Laguna Seca Subsystems exceeds the specified levels in Table 2 under any of the following criteria:

    a. if Company production from the MPWRS for the Bishop, Hidden Hills and Ryan Ranch Subsystems exceeds on a year-to-date basis exceeds the year-to-date target by 5% or more at the end of the first quarter of the Water Year, i.e., December 31; or

    b. if Company production from the MPWRS for the Bishop, Hidden Hills and Ryan Ranch Subsystems exceeds on a year-to-date basis the year-to-date target by 4% or more at the end of January, or the year-to-date target by 2.5% or more at the end of February or the year-to-date target by 1 % or more at the end of March; or

(T)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(D)

L. STAGE 3 – WATER CONSERVATION (Continued) (T)

2. (Continued)

   c. if Company production from the MPWRS for the Bishop, Hidden Hills and Ryan Ranch Subsystems exceeds on a year-to-date basis the year-to-date targets for a consecutive seven-day period during the months of April, May or June; or

   d. if Company production from the MPWRS for the Bishop, Hidden Hills and Ryan Ranch Subsystems exceeds on a year-to-date basis the date target on any single day during July, August, or September.

   e. if implemented upon resolution of the MPWMD Board when an immediate water use reduction is needed.

3. The Company shall implement all Commission-approved emergency rate schedules to respond to Stage 3

4. The Company shall notify Customers via direct first class mailing thiry (30) days before Stage 3 may take effect. Customers will be notified that: 1) the provisions of Stage 1 and 2 are still in effect; 2) that emergency rates will go into effect, and what those rates will be.

5. The Company shall provide notice of mandatory water conservation with each bill.

6. Stage 3 shall be rescinded and revert to Stage 1 upon the Company's compliance with the year-to-date at month-end production targets for the MPWRS for two consecutive months of the subsequent Water Year. (T)

M. STAGES 4 THOUGH 7, WATER CONSERVATION – RATIONING (N)

1. The Company shall assist the MPWMD in implementing all rationing measures and public announcements in support of implementation of Stages 4 through 7, including variances (Section T), and installation of Flow Restrictors (Section R), and Water Banking (when Water Banking is available).

2. Notice Requirements for Stages 4-7:

   c. The Company shall provide written notice of mandatory water rationing to every Customer that is served by sources in the MPWRS via first-class mail at least thirty (30) days before the first day rationing use restrictions are imposed except for Stage 4, Non-Compliance with Regulatory Limits through Stage 3 or before upward changes in rationing stages, (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

M. STAGES 4 THOUGH 7, WATER CONSERVATION – RATIONING (Continued)

2. (Continued)

   b. At all times during Stages 5 through 7, the Company shall send monthly reminders of water rationing in the water bill along with information showing the Customer's Water Ration and the quantity of the Water Ration consumed by the Customer, and the quantity of water available in the Customer's Water Bank (when Water Banking is available).

   c. The Company shall update Survey information upon request of the Customer during rationing.

3. Rationing Stages shall be implemented according to MPWMD Regulation XV.

4. Ration Calculation:

   a. Water Rations shall be determined by Customer Category. Water Rations will be established in accordance with MPWMD Rule 165. Each Customer within the MPWRS shall be classified in one of the following Customer Categories for the purposes of establishing rations: single-family residential, multi-family residential, commercial, industrial, public authority, golf course, other, non-revenue metered, and reclaimed water.

   b. Water Rations for each Customer shall be determined by the MPWMD General Manager by dividing the reduced available production by the percentage of use for each Customer Category. However, priority Water Rations shall be given to residential water needs to ensure health, safety and welfare. Residential Water Rations shall under no circumstances be less than 35 gallons per person per day. The percentage of use for each Customer Category shall be determined by data from the most recent Water Year when rationing was not in place.

   c. Single-family residential: Each person recorded by the Survey in the single-.family residential Customer Category will have an equal portion of the water available to the single-family residential Customer Category.

   d. Multi-family residential: Each person recorded by the Survey in the multi-family residential Customer Category will have an equal portion of the water available, with the following exception: each dwelling unit with access to a separately-metered common laundry facility shall have a reduction in the ration that is equal for all dwelling units with access to a separately-metered common laundry facility.

   e. Each single-family residential and multi-family residential person recorded by Survey will have an equal Water Ration, before the common laundry facility adjustment for multi-family Customers.

(Continued)

(N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

N. STAGE 4- WATER CONSERVATION – RATIONING

1. Stage 4 is the fourth stage as defined in this Rule and Regulation XV. In the event that the Company is not currently at Stage 3 the Company shall implement Stage 3 measures including emergency rates upon the declaration of Stage 4.

2. Stage 4 Triggers:

   a. Physical Shortage Trigger: Stage 4 shall take effect on June 1 or earlier as determined by the MPWMD's Board for any system that relies, in whole or in part, on production or production offsets from the Carmel River System or the Seaside Coastal Subareas following the MPWMD May Board meeting if total usable storage in the Carmel River System and the Seaside Coastal Subareas on May 1 is less than 27,807 AF and greater than 21,802 AF.

   b. Emergency Trigger: Stage 4 shall implemented upon adoption of a Resolution of the MPWMD Board that finds there is an immediate need to reduce production by fifteen percent (15%).

   c. Regulatory Trigger, Non-compliance with Regulatory Limits through Stage 3: Stage 4 shall be enforced on any system that is presently at Stage 3 when Stage 3 has been in effect for at least thirty (30) days and when the Company's year-to-date production from the MPWRS shown in Table 1 exceeds one of the following standards:

      i. The year-to-date at month end during the months of October through March; or

      ii. The year-to-date for a consecutive seven (7) day period during the months of April, May or June; or

      iii. The Company's production from the MPWRS shown Table 1 on a year-to-date basis exceeds the target on any single (1) day during July, August, or September.

   d. Regulatory Trigger – Legally Ordered Reduction in Supply: Stage 4 shall not be enforced on Bishop, Hidden Hills, or Ryan Ranch if there is no reliance on production or production offsets from the Main System, unless there is a Final Cease and Desist Order that reduces available supplies by fifteen percent (15%) from Base Year production.

   e. Delay of Stage Implementation: In accordance with Regulation XV, the MPWMD General Manager may delay implementation of Stage 4 for up to ninety (90) days to ensure adequate operation of the program. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

N. STAGE 4- WATER CONSERVATION – RATIONING (Continued) (N)

3. Additional Notice Requirements: Immediately upon implementation of Stage 4 the Company shall provide the following Customer notices:

   a. The Company shall notify Large Residential Customers, Dedicated Irrigation Meter Customers, irrigation Customers of three or more acres, and Customers who use an average of 12 units or more a month during the most recent 12 months, of the immediate need for them to reduce outdoor water use and irrigation to the greatest extent possible to avoid water rationing.

   b. When Stage 4 is implemented for reasons related to water supply availability, the Company shall provide notice to all Customers that water rationing is imminent. The Company shall also provide its Customers with a Survey form to indicate any change in the number of residents or type of nonresidential use and indicate that the Survey should be returned to the Company within 30 days.

4. Sunset of Stage 4:

   a. Physical shortage limitations: Stage 4 shall continue until rescinded by Resolution of the MPWMD Board finding that total usable storage in the Carmel River System and the Seaside Coastal Subarea is greater than 27,807 AF. If storage is greater than 27,807 AF and the Company is in compliance with the monthly year-to-date goals specified in Table 1, Customers shall revert to Stage 1 unless otherwise specified in a resolution by the MPWMD Board. If the Company's year-to-date production exceeds the year-to-date goal specified in Table 1, the Company's Customers shall revert to either Stage 2 or Stage 3. If the year-to-date production in the Company's subsystems exceeds the year-to-date target specified in Table 2, Bishop, Hidden Hills, and Ryan Ranch Customers will revert to Stage 2 or 3. Customers in Bishop, Hidden Hills and Ryan Ranch shall not be in a higher stage than Main System Customers, unless specified in a resolution by the MPWMD Board.

   b. Regulatory Non-Compliance at Stage 3: If Stage 4 was implemented based on non-compliance with regulatory limits through Stage 3, Stage 4 shall be rescinded by the MPWMD General Manager and Customers shall revert to the applicable lower Stage of water conservation upon compliance with the applicable year-to-date at month-end production goal for two (2) consecutive months in the subsequent Water Year.

   c. Emergency: Upon correction of a water supply limitation caused by an emergency, Stage 4 shall sunset without action by the MPWMD Board and revert back to the pre-emergency Stage. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

O. STAGE 5 – WATER RATIONING

1. Stage 5 is the fifth stage as defined in this Rule and Regulation XV.

2. Stage 5 Triggers:

   a. Physical Shortage Trigger: Stage 5 shall apply to all Customers who rely in whole or in part on production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1, or earlier as determined by the MPWMD Board following the May Board meeting, if total usable storage in the Carmel River System and the Seaside Coastal Subareas on May 1 is less than 21,802 AF and greater than 15,615 AF

   b. Regulatory Trigger – Legally Ordered Reduction in Supply:

      i. Stage 5 shall be enforced when any Company system is required to comply with a Final Cease and Desist Order that reduces available supplies by more than fifteen percent (15%) but less than thirty-five percent (35%) from pre-1995 production (16,806 AFA) in the Main System. This shall apply to any Company system that relies, in whole or in part, on production or production offsets from the Main System, or

      ii. Stage 5 shall be enforced when any Company system is required to comply with a Final Cease and Desist Order that reduces available supplies by more than fifteen percent (15%) but less than thirty-five percent (35%) from Base Year production for any Company system that does not rely to any extent upon production or production offsets from the Main System.

   b. Emergency Trigger: Stage 5 shall be implemented upon adoption of a resolution of the MPWMD Board finding there is an immediate need to reduce production by at least sixteen (16%) but not more than thirty-four percent (34%).

   c. Delay of Stage Implementation: In accordance with Regulation XV, the MPWMD General Manager may delay implementation of Stage 5 for up to ninety (90) days to ensure adequate operation of the program.

3. Sunset of Stage 5:

   a. Physical shortage limitations: Stage 5 shall continue until rescinded by resolution of the MPWMD Board at its May Board meeting upon a finding that total usable storage in the Carmel River System and Seaside Coastal Subareas is greater than 21,802 AF or as early as its January Board meeting if total usable storage in the Carmel River System and Seaside Coastal Subareas is equal to or greater than 27,807 AF on January 1. If storage is greater than 27,807 AF and the Company is in compliance with the monthly year-to-date goals specified in Table 1, Customers shall revert to Stage 1 unless otherwise specified in a resolution by the MPWMD Board. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

O. STAGE 5 – WATER RATIONING (Continued)

3. (Continued)

   b. Regulatory Rationing: If Stage 5 rationing is imposed upon any Company system to comply with a Final Cease and Desist Order, Stage 5 shall continue until a resolution of the MPWMD Board is adopted that finds the triggering order has been lifted or no longer applies to that system.

   c. Emergency: Upon correction of a water supply limitation caused by an emergency trigger, Stage 5 shall sunset without action by the MPWMD Board and revert back to the pre-emergency Stage.

   d. A resolution of the MPWMD Board causing the sunset of Stage 5 may also activate any lower Stage as may be warranted for good cause by circumstances affecting a particular Company system.

   e. The Company shall notify Customers via first class mail of the Sunset of Stage 5.

4. Requirements imposed by Stage 1 shall remain in force during Stage 5.

5. Rates: The Company shall implement Commission approved rationing rate schedule.

P. STAGE 6 - WATER RATIONING

1. Stage 6 is the sixth stage as defined in this Rule and Regulation XV.

2. Stage 6 Triggers:

   a. Physical Shortage Trigger: Stage 6 shall apply to all Customers who rely in whole or in part on production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1, or earlier as determined by the MPWMD Board following the May Board meeting, if total usable storage in the Carmel River System and the Seaside Coastal Subareas on May 1 is less than 15,615 AF and greater than 9,610 AF.

   b. Regulatory Trigger - Legally Ordered Reduction in Supply:

      i. Stage 6 shall be enforced when any Company system is required to comply with a Final Cease and Desist Order that reduces available supplies by thirty-five percent (35%) but less than fifty percent (50%) from pre-1995 production (16,806 AFA) in the Main System. This shall apply to any Company system that relies, in whole or in part, on production or production offsets from the Main System, or

(N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

P. STAGE 6 - WATER RATIONING (Continued)

2. (Continued)

b. (Continued)

ii. Stage 6 shall be enforced when any Company system is required to comply with a Final Cease and Desist Order that reduces available supplies by thirty-five percent (35%) but less than fifty percent (50%) from Base Year production for any Company system that does not rely to any extent upon production or production offsets from the Main System.

c. Emergency Trigger: Stage 6 shall be implemented upon adoption of a resolution of the MPWMD Board finding there is an immediate need to reduce production by at least thirty-five percent (35%) but less than fifty percent (50%).

d. Delay of Stage Implementation: In accordance with Regulation XV, the MPWMD General Manager may delay implementation of Stage 6 for up to ninety (90) days to ensure adequate operation of the program.

3. Sunset of Stage 6:

a. Physical shortage limitations: Stage 6 shall continue until rescinded by resolution of the MPWMD Board at its May Board meeting upon finding that total usable storage in the Carmel River System and Seaside Coastal Subareas is greater than 15,615 AF or as early as its January Board meeting if total usable storage in the Carmel River System and Seaside Coastal Subareas is equal to or greater than 27,807 AF on January 1. If storage is greater than 27,807 AF and the Company is in compliance with the monthly year-to-date goals specified in Table 1, Customers shall revert to Stage 1 unless otherwise specified in a resolution by the MPWMD Board.

b. Regulatory Rationing: If Stage 6 rationing is imposed upon any Company system to comply with a Final Cease and Desist Order, Stage 6 shall continue until a resolution of the MPWMD Board is adopted that finds the triggering order has been lifted or no longer applies to that system.

c. Emergency: Upon correction of a water supply limitation caused by an emergency trigger, Stage 6 shall sunset without action by the MPWMD Board and revert back to the pre-emergency Stage.

d. A resolution by the MPWMD Board causing the sunset of Stage 6 may also activate any lower Stage as may be warranted for good cause by circumstances affective a particular Company system.

e. The Company shall notify Customers via first class mail of the Sunset of Stage 6. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

P. STAGE 6 - WATER RATIONING (Continued)

4. Requirements imposed by Stage 1 and Stage 5 shall remain in force during Stage 6.

5. All Customers shall cease operation and maintenance of all ornamental water uses (fountains, ponds. etc.).

6. Customers shall not use water from the MPWRS for dust control purposes except by prior approval of the MPWMD General Manager.

7. Rates: The Company shall continue to implement Commission approved rationing rate schedule.

Q. STAGE 7 – WATER CONSERVATION – RATIONING

1. Stage 7 is the seventh stage as defined this Rule and Regulation XV.

2. Stage 7 Triggers:

   a. Physical Shortage Trigger: Stage 7 shall apply to all Customers who rely in whole or in part on production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1, or earlier as determined by the MPWMD Board following the May Board meeting, if total usable storage in the Carmel River System and the Seaside Coastal Subareas on May 1 is less than 9,610 AF.

   b. Regulatory Trigger – Legally Ordered Reduction in Supply:

      i. Stage 7 shall be enforced when any Company system is required to comply with a Final Cease and Desist Order that reduces available supplies by fifty percent (50%) or more from pre-1995 production (16,806 AFA) in the Main System. This shall apply to any Company system that relies, in whole or in part, on production or production offsets from the Main System, or

      ii. Stage 7 shall be enforced when any Company system is required to comply with a Final Cease and Desist Order that reduces available supplies by fifty percent (50%) or more from Base Year production for any Company system that does not rely to any extent upon production or production offsets from the Main System.

   c. Emergency Trigger: Stage 7 shall be implemented upon adoption of a resolution of the MPWMD Board finding there is an immediate need to reduce production by fifty percent (50%) or more.

(Continued)

(N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

Q. STAGE 7 – WATER CONSERVATION – RATIONING (Continued)

(N)

2. (Continued)

   d. Delay of Stage Implementation: In accordance with Regulation XV, the MPWMD General Manager may delay implementation of Stage 7 for up to ninety (90) days to ensure adequate operation the program.

3. Sunset of Stage 7:

   a. Physical shortage limitations: Stage 7 shall continue until rescinded by resolution of the MPWMD Board at its May Board meeting upon finding that usable storage in the Carmel River System and Seaside Coastal Subareas is greater than 9,610 AF or as early as its January Board if total usable storage in the Carmel River System and Seaside Coastal Subareas is equal to or greater than 27,807 AF on January 1. If storage is greater than 27,807 AF and the Company is in compliance with the monthly year-to-date goals specified in Table 1, Customers shall revert to Stage 1 unless otherwise specified in a resolution by the MPWMD Board. Upon correction of a water supply limitation caused by an emergency trigger, Stage 7 shall be rescinded by resolution of the MPWMD Board.

   b. Regulatory Rationing: If Stage 7 rationing is imposed upon any Company system to comply with a Final Cease and Desist Order, it shall continue until a resolution of the MPWMD Board is adopted that finds the triggering order has been lifted or no longer applies to that system.

   c. Emergency: Upon correction of a water supply limitation caused by an emergency trigger, Stage 7 shall sunset without action by the MPWMD Board and revert back to the pre-emergency Stage.

   d. A resolution of the MPWMD Board causing the sunset of Stage 7 may also activate any lower Stage as may be warranted for good cause by circumstances affecting a particular Company system.

   e. The Company shall notify Customers via first class mail of the Sunset of Stage 7.

4. Customers utilizing portable water meters or hydrant meters or using hydrants to fill water tanks without the use of a meter, shall be required to cease use of the water. Each Customer reporting as "Other" by the Company and any Customer known to estimate water from a hydrant shall be notified by the Company of this requirement Portable water meters shall be returned to the Company at least thirty (30) days before the implementation of Stage 7.

5. Requirements imposed by Stage 1, Stage 5 and Stage 6 shall remain in force during Stage 7.

6. Rates: The Company shall continue to implement Commission approved rationing rate schedule.

(N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(L)
(T)

R. INSTALLATION AND REMOVAL OF FLOW RESTRICTORS

1. Installation: The Company is authorized to install Flow Restrictors on Customer meters for repeated water waste or non-essential water use as set forth below.

    a. Customers who have three or more notices of water waste or non-essential water use violations from the Company or the MPWMD within a twelve month period.

    b. Customers who have three or more notices of water use beyond their Water Ration in one Ration Year.

    c. Each Customer will be granted a one-time waiver if they exceed their monthly Water Ration and do not exceed it during any future billing cycle under Stage 5 through 7.

    d. Flow Restrictors shall not limit flow to less than 35 gallons per person per day.

    e. Customers in mixed use on a master-meter or multi-family dwelling units (two or more dwellings per meter) are exempt from the installation of Flow Restrictors.

2. Flow Restrictor Removal: The Company is authorized to remove Flow Restrictor installed due to rationing violations when conditions are reduced to Stage 3. Flow Restrictors installed for non-essential water use or water waste shall be removed if the Company is notified by the MPWMD in writing to remove the restrictor.

    a. Flow Restrictor installation and removal will be performed only during normal business hours.

    b. The Company is authorized to include the amount of the removal charge, or multi - family dwelling unit charges as part of the bill amount due for the next Customer bill.

    c. Failure to pay the entire bill, including the removal charges or multi-family dwelling unit charges, will be used by the Company to proceed with its authorized procedures for late fees and service disconnect.

    d. Flow Restrictors installed due to rationing violations shall remain in place until conditions are reduced to Stage 3. Flow Restrictors installed due to water waste or non-essential water use violations shall remain in place until conditions are reduced to Stage 1.

    e. A schedule of removal and multi-tenant charges is described in Tariff Schedule MO-14.1. (T)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(L)
(T)

S. ACCOUNTS FOR FLOW RESTRICTOR GENERATED REVENUES AND COSTS

The Company shall book revenues received from removal of flow restrictors and multi-family dwelling unit charges as noted in Section R above in an interest bearing balancing account and shall amortize this amount each year as a refund to Customers.

T. VARIANCES

1. The Company is authorized to provide individual Customer variances from Flow Restrictor requirements and rationing requirements as recommended by the MPWMD through its variance and appeal process as described in Rule 169 of MPWMD Regulation XV.

2. The purpose of rationing variances is to provide some flexibility for specific and limited water needs in excess of a Water Ration as provided in Regulation XV.

U. CUSTOMER COMPLAINTS

Any Customer not satisfied with the Company's responses to their inquiries concerning this Rule may file a complaint with the Commission by addressing a letter to the Consumer Affairs Branch, California Public Utilities Commission, 505 Van Ness Avenue, San Francisco, California 94101-3298. The Customer and the Company will be notified of the disposition of such complaint by letter from the Commission.

If the Customer disagrees with such disposition, the Customer shall have the right to file a formal complaint with the Commission. Except as set forth in this Section, no Person shall have any right or claim in law or in equity against the Company or any of its officers, employees or agents because of, or as a result of, any matter or thing done or threatened to be done pursuant to the provisions of this Rule.

V. PUBLICITY

The Company shall provide Customers with periodic updates regarding the water supply situation and results of the Customer conservation efforts. Updates may be provided by bill insert, special mailing, poster, flyer, newspaper, television or radio spot/advertisement, community bulletin board, or other appropriate method(s). (T)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING
Stage 5 is the fifth stage in the District's Expanded Water Conservation and Standby Rationing Plan.

A. TRIGGER

1. Physical Shortage Trigger

   Stage 5 shall take effect for any Water Distribution System that relies, in whole or in part, on production or production offsets from the Carmel River System or the Seaside Coastal Subareas, on June 1 or such earlier date as may be set by the Board following the District's May Board meeting if total usable storage in the Carmel River System and the Seaside Coastal Subareas on May 1 is less than 21,802 Acre-Feet and greater than 15,615 Acre-Feet.

2. Regulatory Trigger – Legally Ordered Reduction in Supply

   Stage 5 shall be enforced in any Water Distribution System, including any California American Water subsystem, when that system is required to comply with a final Cease and Desist Order by the State Water Resources Control Board, the Seaside Watermaster or any other final court order that reduces available supplies by:

   a. More than fifteen percent (15%) but less than thirty-five percent (35%) from pre-1995 production (16,806 AFA) in the Main California American Water System. This shall apply to any Water Distribution System that relies, in whole or in part, on production or production offsets from the Main California American Water System, or
   b. More than fifteen percent (15%) but less than thirty-five percent (35%) from base year production (the term "base year" shall refer to the Water Year immediately preceding any triggering order) for any Water Distribution System that does not rely to any extent upon on production or production offsets from the Main California American Water System.

3. Emergency Trigger

   Stage 5 shall be implemented for any Water Distribution System, private Well, or Water User upon adoption of a Resolution of the Board of Directors. In that Resolution, the Board shall find there is an immediate need to reduce production by at least sixteen percent (16%) but not more than thirty-four percent (34%).

4. Delay of Stage Implementation

   The General Manager may delay implementation of Stage 5 Water Rationing for any Water Distribution System to ensure adequate operation of the program. Delays authorized by the General Manager shall not exceed ninety (90) days. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

B. SUNSET OF STAGE 5

1. Water Supply Availability

   Stage 5 shall continue until rescinded by Resolution of the Board of Directors. In that Resolution, the Board shall find that the total usable storage in the Carmel River System and the Seaside Coastal Subareas is greater than 21,802 Acre-Feet. This determination will normally be made at the Board's May meeting. However, a determination to rescind Stage 5 may be made as early as the following January Board meeting if the total usable storage in the Carmel River System and the Seaside Coastal Subareas is equal to or greater than 27,807 Acre-Feet on January 1.

2. In the event total usable storage is greater than 27,807 Acre-Feet, the General Manager shall review California American Water's year-to-date production. Upon compliance with the monthly year-to-date goals specified in Table XV-1 of Rule 162 and, unless otherwise specified in the Resolution rescinding Stage 5, Water Users shall revert to Stage 1.

3. Where Stage 5 has been imposed upon any Water Distribution System to comply with a final Cease and Desist Order by the State Water Resources Control Board, the Seaside Watermaster or any other final court order, Stage 5 shall continue until a Resolution of the Board of Directors is adopted that finds that the triggering order has been lifted or no longer applies to that Water Distribution System.

4. Emergency

   Upon correction of a water supply limitation caused by an emergency, Stage 5 shall be rescinded by Resolution of the Board of Directors.

5. Restoration of Lower Stage

   A Resolution causing the sunset of Stage 5 may also activate any lower Stage as may be warranted for good cause by circumstances affecting a particular Water Distribution System, private Well, or Water User.

C. AFFECTED WATER USERS

The Board of Directors may exempt a Water Distribution System, private Well, or Water User from Stage 5 restrictions upon proof of a superior, unimpaired water right. Evidence of riparian water rights may be established by a Declaration under penalty of perjury, unless it is refuted by other proof. As necessary to ensure adequate water supplies, the Board of Directors may act within its discretion to authorize Stage 5 within one or more Water Distribution Systems, private Wells, or Water Users in the District. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

D. CONSERVATION REQUIREMENTS CONTINUE

Requirements imposed by Stage 1 shall remain in force during Stage 5.

E. MORATORIUM

Upon declaration of Stage 5, the District shall cease accepting Water Permit applications associated with Intensification of Use for any affected Water Distribution System, private Well, or Water User in the District. All pending Water Permits not issued within 120 days of declaration shall be suspended. This provision shall not suspend the issuance of Water Permits that utilize public or private Water Use Credits or where issuance of a Permit is required by prior agreement or Water Entitlement issued by the District.

F. REDUCTION GOAL

Stage 5 shall achieve water use reductions of 16 - 34 percent of the California American Water and non- California American Water system production limits in each User Category as follows: Residential single-family and multi-family, Commercial, Industrial, Public Authority, Golf Course, Other Use, Non-Revenue Metered Uses, and Reclaimed Water Users.

G. NOTICE

1. California American Water shall provide written notice of mandatory water rationing to every Residential and Non-Residential Water User within the California American Water systems via first-class mail at least thirty (30) days before the first day Stage 5 water use restrictions are imposed. During Stage 5, California American Water shall send monthly reminders of water rationing in the water bill along with information showing the User's Water Ration, the quantity of the Water Ration consumed, and the quantity of water available in the Water User's Water Bank (when Water Banking is available). Finally, California American Water shall update survey information as needed.

2. All other Water Distribution System Operators subject to Stage 5 restrictions shall provide written notice of mandatory water rationing to every Water User within the Water Distribution System via first-class mail at least thirty (30) days before the first day Stage 5 water use restrictions are imposed.

   At all times during Stage 5, each Water Distribution System Operator shall send monthly reminders of water rationing along with information showing the Water Ration and the quantity of the Water Ration consumed by the Water User. Finally, the Water Distribution System Operator shall provide each Responsible Party with a survey form at least once each Rationing Year during Stage 5. Water Distribution System Operators shall ensure that notices provided or required by the District shall be distributed to the system Water Users. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

G. NOTICE (Continued)

3. Upon direction of the General Manager, the District shall publish a notice of Water Rationing to all Water Users of private Wells (Single-Parcel Connection Systems) within the MPWRS at least thirty (30) days before the first day of Stage 5.

4. California American Water Rationing Rates

   California American Water shall implement the CPUC-approved rationing rates schedule. California American Water shall file an Advice Letter with the CPUC to implement rationing rates after it has first met and conferred with the District at least five (5) days in advance of that filing. The General Manager may waive this time period for good cause.

5. California American Water and all other Water Distribution System Operators shall notify Water Users of the Sunset of Stage 5. Notice shall be via first class mail. The District shall publish a notice to inform all Private Well Owners that Stage 5 has sunset.

H. RATIONS BY CATEGORY

Water Rations shall be determined by User Category. Each Water User within the Monterey Peninsula Water Resource System shall be classified in one of the following groups: Residential single-family and multi-family, Commercial, Industrial, Public Authority, Golf Course, Other Use, Non-Revenue Metered Use, and Reclaimed Water Users.

I. REDUCED CALIFORNIA AMERICAN WATER ANNUAL PRODUCTION DURING STAGE 5

The California American Water annual production limit shall be reduced by 16 – 34 percent during Stage 5. The resulting production limit shall be further reduced by the average Unaccounted For Water Use percentage of the Water Distribution System(s) for the twelve (12) months preceding Stage 5, and by a Water Rationing Contingency determined by the Board. The remaining water shall be the California American Water annual production limit for all User Categories.

J. REDUCED NON- CALIFORNIA AMERICAN WATER ANNUAL PRODUCTION LIMITS DURING STAGE 5

Available production for other Water Distribution Systems subject to Stage 5 shall be determined using the same methodology as for California American Water. Systems with less than ten (10) connections shall not have a deduction for Unaccounted For Water Use.

(Continued)

(N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

K. ESTABLISHING RATIONS

1. Rations for each User Category shall be determined by the General Manager by dividing the reduced available production by the percentage of use for each Water Distribution System subject to water rationing. The percentage of use for each User Category shall be determined by the most recent unrationed Water Year (October 1 through September 30) data. Priority Water Rations shall be given to Residential water needs to ensure health, safety and welfare. Residential Water Rations shall under no circumstance be less than 35 gallons per person per day.
   a. Residential Water Users

      Each Residential Water User either served by a water meter reported as "single-family residential" by the Water Distribution System or served by a private Well shall have an equal portion of the water available to the single-family Residential category based upon the number of residents reported on the survey form.

2. Multi-Family Residential Water Users

   Each multi-family Residential Water User either served by a water meter reported as "multi-family residential" by the Water Distribution System or served by a private Well shall have an equal portion of the water available to the multi-family Residential category based upon the number of residents reported on the survey form with the following exception:

   a. Multi-Family Residential Sites with common laundry facilities on a separate water meter shall receive a Water Ration for each Dwelling Unit that has access to the facility. Each Dwelling Unit located on the Multi- Family Residential Site that has access to the common laundry facility shall have the Dwelling Unit ration reduced.

3. Commercial and Industrial Water Users

   Each Commercial and Industrial Water User shall have a Water Ration determined by applying the current Non-Residential Water Use Factors to the type(s) of use and/or by using the Landscape Water Budget established for the Water User. An alternate Water Ration (variance) may be determined by completion of an audit by California American Water or the District that documents use of Best Management Practices for the type of use.

   a. Mixed Use Water Users. Mixed Use Water Users shall be classified as Commercial Uses for the purposes of this program. The Water Ration for a Mixed Use Water User shall include an increment of water for the Residential Water User.

(Continued)

(N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

K. ESTABLISHING RATIONS (Continued)

4. Public Authority

Public Authority Uses shall be rationed by Jurisdiction. Each Public Authority Water User may combine multiple accounts or Connections when the accounts are located within one Jurisdiction. Water Rations shall be determined by applying the current Non-Residential Water Use Factors to the type(s) of use and/or by using the Landscape Water Budget established for the Water User. An alternate Water Ration (variance) may be determined by completion of an audit by California American Water or the District that documents use of Best Management Practices for the type of use.

5. Golf Courses

Golf Courses supplied water exclusively by the California American Water or non- California American Water Distribution Systems or Wells may be rationed individually or, upon request to the General Manager, as a group. Water Rations shall be determined by using the Landscape Water Budget.

6. Other

Water Users utilizing portable water meters or hydrant meters shall be required to employ Best Management Practices. California American Water shall be required to report monthly to the District the location and Responsible Party for all portable water meters and the amount of use from those meters. As deemed necessary to achieve the imposed reduction in use, the District may condition use or suspend use of temporary Connections.

7. Non-Revenue Metered Users

Non-Revenue Metered Uses shall be rationed as a group with the following exception:

a. Irrigation required by the Mitigation Program adopted when the Water Allocation Program Environmental Impact Report was adopted in 1990, and as required by SWRCB Order No. WR 95-10, shall not be subject to reductions in use. Required irrigation of the Riparian Corridor shall be identified and reported separately from other Non-Revenue Metered Uses.

(Continued)

(N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

K. ESTABLISHING RATIONS (Continued)

8. Recycled Water Users

Recycled Water Irrigation Areas receiving water from the CAWD/PBCSD Wastewater Reclamation Project shall be subject to Stages 5 and higher for Potable water used during an Interruption or emergency, in accordance with contractual Agreements between the District and the respective Owners of the Recycled Water Irrigation Areas.

a. Before Project Expansion Is Completed. Under the agreements operative before the Project Expansion is Completed (as the capitalized terms are defined in Rule 23.5), the Owners of the Recycled Water Irrigation Areas shall have the respective irrigation requirements thereof satisfied to the same degree as any non-Project Golf Course or open space which derive their Source of Supply from the California American Water system. The irrigation requirements of the Recycled Water Irrigation Areas will be determined based on the most-recent non-rationed four-year average irrigation water demand, including both Recycled Water and Potable water, for each Recycled Water Irrigation Area. The use of Recycled Water, when available in sufficient quantities to satisfy the irrigation requirements of the Recycled Water Irrigation Areas, shall not be restricted by this requirement.

Each Recycled Water Irrigation Area shall be entitled to receive the average irrigation requirement determined above, reduced by the percentage reduction required by the current stage of rationing. If the quantity of Recycled Water that is available is less than the quantity of water that the Recycled Water Irrigation Area is entitled to, Potable water shall be provided to make up the difference and satisfy the irrigation requirements of the Recycled Water Irrigation Area to the same degree that the irrigation requirements of non-Project Golf Course and open space Users are being satisfied.

The District shall ensure that the water provided during water rationing is of adequate quality. If the quality does not satisfy the contractual agreement operative before the Project Expansion is deemed Completed (as the capitalized terms are defined in Rule 23.5), Potable water shall be provided in sufficient quantities to improve the quality of the Recycled Water.

This Subsection K-8-a shall cease to be operative once the Project Expansion is deemed to be Completed (as the capitalized terms are defined in Rule 23.5), and shall thereafter be of no force or effect.

(Continued)

(N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

K. ESTABLISHING RATIONS (Continued)

8. Recycled Water Users (Continued)

b. When Project Expansion Is Completed. Under the agreements operative once the Project Expansion is deemed Completed (as the capitalized terms are defined in Rule 23.5), the Owners of the Recycled Water Irrigation Areas shall have the respective irrigation requirements thereof satisfied to the same degree as any non-Project Golf Course or open space which derives its Source of Supply from the California American Water system. The irrigation requirements of the Recycled Water Irrigation Areas will be determined based on the most-recent non-rationed four-year average irrigation water demand, including both Recycled Water and Potable water, for each respective Recycled Water Irrigation Area.

Each Recycled Water Irrigation Area shall be entitled to receive the average irrigation requirement determined above, reduced by the percentage reduction required by the current stage of rationing. If the quantity of Recycled Water that is available is less than the quantity of water that the Recycled Water Irrigation Area is entitled to, Potable water shall be provided to make up the difference and satisfy the irrigation requirements of the Recycled Water Irrigation Areas to the same degree that the irrigation requirements of non-Project Golf Course and open space Users are being satisfied.

The preceding sentence shall not apply to the extent that the irrigation requirements of any Recycled Water Irrigation Area are met with water legally available to Buyer from any source other than the Carmel River System or the Seaside Groundwater Basin, including percolating Groundwater underlying Buyer's Property, to make up any such difference.

When Recycled Water (as defined in Rule 23.5) is available in sufficient quantities to satisfy the irrigation requirements of the Recycled Water Irrigation Areas, such irrigation shall not be subject to Stages 5 and higher, and neither Potable water nor any water described in the preceding sentence (whether or not it is Potable) shall be used for irrigation of the Recycled Water Irrigation Areas except to the extent allowed in the circumstances described in the next two sentences.

If there is an Interruption in Recycled Water deliveries to any Recycled Water Irrigation Area (as the capitalized terms are defined in Rule 23.5), the temporary use of Potable water for irrigating each such Recycled Water Irrigation Area is authorized in the manner described in Rule 23.5, Subsection F.

(N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 165 - STAGE 5 WATER RATIONING (Continued)

K. ESTABLISHING RATIONS (Continued)

8. Recycled Water Users (Continued)

b. When Project Expansion Is Completed. (Continued)

If MPWMD has adopted an ordinance in response to any emergency caused by drought, or other threatened or existing water shortage pursuant to section 332 of the Monterey Peninsula Water Management Law, said ordinance shall prevail over contrary provisions of this Rule. Notwithstanding the preceding sentence, Potable water shall be made available for irrigating tees and greens of the Recycled Water Irrigation Areas in sufficient quantities to maintain them in good health and condition during an Interruption, without any limitation on the duration.

The District shall have no obligation to furnish Potable water for irrigation of the Recycled Water Irrigation Areas except in the circumstances set forth above in this Subsection K-8-b.

If (1) an emergency or major disaster is declared by the President of the United States, or (2) a "state of war emergency," "state of emergency," or "local emergency," as those terms are respectively defined in Government Code section 8558, has been duly proclaimed pursuant to the California Emergency Services Act, with respect to all or any portion of the territory of MPWMD, the provisions of this Subsection K-8-b shall yield as necessary to respond to the conditions giving rise to the declaration or proclamation.

This Subsection K-8-b shall be of no force or effect until the Project Expansion is deemed Completed (as the capitalized terms are defined in Rule 23.5), and shall thereafter be operative and of full force and effect.

L. ADDITIONAL CONSERVATION ACTIONS

By Resolution, the Board shall adopt restrictions on outdoor water use that include any or all of the following and any other conservation method deemed feasible: Limit outdoor watering and irrigation to one day per week or one day every other week; prohibit outdoor watering and irrigation with water from the affected water resource system(s); prohibit irrigation of turf areas with water from the affected water resource system(s); discontinue irrigation of Public Landscaped areas; reduce Golf Course irrigation from the affected Water Distribution System(s) to a percentage of the amount required to water tees, greens and landing areas only; prohibit the use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle unless done at a facility that recycles water; prohibit the use of water from hydrants for construction purposes or any other purposes other than fire fighting. The use of Recycled Water, when available, shall not be restricted by this requirement. (N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 168 - WATER BANKS

Water Banks in the California American Water Distribution System(s) shall be suspended until: (a) California American Water completes the installation of a computer system and programming necessary to calculate Water Banking credits; or (b) MPWMD completes computer programming needed to calculate Water Banking credits; or (c) December 31, 2010, whichever event occurs first.

During the suspension of Water Banking, Wate r Users shall be excused the first time a Water Ration is exceeded in a Ration Year. Second and subsequent offenses shall be enforced as Water Waste.

A. Water Banks shall be available to each Water User during Stages 5 through 7. A. Water Bank shall allow each Water User to accrue the unused portion of a monthly Water Ration for use in the current Rationing Year.

B. Water Banks shall be reset to zero on the first day of each Rationing Year. Ten (10) percent of the remaining Water Bank shall be credited to the following year's Water Bank for three months to allow the establishment of a new bank.

C. The Water Bank shall be reduced on the fi rst day of the fourth month of the Rationing Year by the amount of banked water carried over. Water Banks shall not carry a negative balance. (N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 169 - WATER RATIONING VARIANCE

A. The General Manager shall assign additional water beyond the Water Ration established in Stage 5 through Stage 7 in the following circumstances upon submittal of the appropriate variance request form and fees.

B. The following variances shall be considered and provide cause to allow additional water during Stages 5 through 7.

1. Medical and/or sanitation needs certified by a doctor;
2. Hospital and/or health care facilities that have achieved all BMPs for those uses;
3. Drinking water for large livestock;
4. Non-Residential Users that can demonstrate compliance with all BMPs appropriate for the type of use and where there is minimal exterior water use on the water meter or water supply serving the use;
5. Leaks, when an invoice is provided by a licensed plumber or contractor;
6. Commercial laundromats with signs advising full loads only;
7. Business in a home on a case-by-case basis;
8. Riparian irrigation when required as a condition of a riverbank restoration Permit issued by the District or as a condition of a riverbank erosion protection Permit issued by the District.
9. Emergency, extreme, or unusual situations on a case-by-case basis;

C. NO VARIANCE

The following categories of water use shall not qualify for special consideration or provide cause for additional water under the provisions of this Regulation:

1. Visitors other than those occupying Short-Term Residential Housing as defined in Rule 11 (Definitions) when the property owner has submitted a completed survey form with the applicable information about the occupancy of the Site. The District may request additional documentation to substantiate Water Rations for Short-Term Residential Housing;
2. Irrigation, other than variances allowed by Rule 169-B-8 of this Regulation.
3. Filling spas, ponds, fountains, etc.;
4. Leaks that are not repaired within 72 hours of notice. (N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 169 - WATER RATIONING VARIANCE (Continued)

D. MANDATORY CONDITIONS OF APPROVAL

1. Prior to approving any Residential or multi-family Residential variance pursuant to Rule 169-B, the Site must be in compliance with all applicable District Rules and Regulations and the following water conservation standards shall be achieved in all structures on the Site. Verification by District inspection shall be conducted prior to granting a variance.

    a. Toilets shall be designed to flush with a maximum of 1.6 gallons-per flush;

    b. Showerheads, Rain Bars, or Body Spray Nozzles shall not emit more than 2.2 gallons per minute of water in the aggregate per bathing enclosure;

    c. Faucets shall not emit more than 1.5 gallons of water per minute;

    d. If an irrigation system is installed, drip irrigation exclusively shall be used to irrigate non-turf plantings. This requirement may be waived when outdoor watering is prohibited.

2. Prior to approving any Non-Residential variance pursuant to Rule 169-B, the Site must be in compliance with all applicable District Rules and Regulations and the following water conservation standards shall be achieved in all structures on the Site. Verification by District inspection shall be conducted prior to granting a variance.

    a. Toilets shall be designed to flush with a maximum of 1.6 gallons-per flush;

    b. Showerheads, Rain Bars, or Body Spray Nozzles shall not emit more than 2.2 gallons per minute of water in the aggregate per bathing enclosure;

    c. Faucets shall not emit more than 1.5 gallons of water per minute;

    d. If an irrigation system is installed, drip irrigation exclusively shall be used to irrigate non-turf plantings. This requirement may be waived when outdoor watering is prohibited;

    e. Automatic sensor faucets or self-closing faucets shall be installed where there are more than two washbasins in a room;

    f. Site must comply with all BMPs appropriate for the type of use. (N)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 172 - LANDSCAPE WATER AUDITS

A. Landscape Water Audits shall be conducted under the supervision of an individual who has been certified by the Irrigation Association to conduct audits and establish Landscape Water Budgets. Each audit shall be signed by that Person, who shall attest that the audit was performed under his/her direction.

B. Landscape Water Audits and Landscape Water Budgets shall be offered by the District and/or California American Water or their agent free of charge to all Water Users of California American Water with Dedicated Irrigation Meters, large irrigated areas over three acres, and Large Residential Water Users. Landscape Water Audits and Landscape Water Budgets shall be required for new Dedicated Irrigation Meters at the time the meter is installed.

California American Water shall review its Residential customer consumption records at the completion of every Water Year to identify all Residential Users that consumed an average of 32 units per month during the prior Water Year. Using this information, California American Water shall identify the Users that require a Landscape Water Audit and Landscape Water Budget and that do not have a Water Budget on file at MPWMD and California American Water. Newly identified Users shall be notified by California American Water that they are required to obtain a Landscape Water Audit and Landscape Water Budget. Once notified of the requirement to obtain a Landscape Water Audit and Landscape Water Budget, a User must arrange to complete the audit process within sixty (60) days. Existing customers subject to this Rule shall be given annual notice by California American Water to report any changes to the Landscaping or Irrigation Systems. Significant changes shall necessitate a follow-up audit.

1. California American Water Users shall be required to obtain Landscape Water Audits and establish Landscape Water Budgets if the property:

   a. Has a Dedicated Irrigation Meter; or

   b. Is an irrigated area of greater than three acres; or

   c. Is a Large Residential Water User.

2. All Landscape Water Budgets must be prepared by an individual certified by the Irrigation Association.

3. All Water Users required to complete a Landscape Water Audit and establish a Landscape Water Budget shall have the option of obtaining a Landscape Water Audit and Landscape Water Budget from a Landscape Irrigation Auditor of their choice at their own expense if the auditor is certified by the Irrigation Association.

(N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

ATTACHMENTS

(N)

MPWMDs RULE 172 - LANDSCAPE WATER AUDITS (Continued)

B. (Continued)

4. Landscape Water Audits and Landscape Water Budgets not conducted and prepared by the District and/or California American Water shall be completed as specified in this Rule. Completed Landscape Water Budgets and Landscape Water Audits shall be submitted to California American Water. California American Water shall forward a copy of all completed Landscape Water Audits and Budgets to the District within ten (10) days of receipt by California American Water. Landscape Water Audits not performed by the District or California American Water are subject to review and acceptance by the District. Landscape Water Audits and Landscape Water Budgets rejected by the District may be appealed to the Board of Directors pursuant to Rule 70 (Appeals).

5. Audit

   a. An On-Site Landscape Irrigation Audit shall be completed or overseen by a Certified Landscape Irrigation Auditor (CLIA) and shall include evaluation and documentation of the following:

      1. Visual and physical evaluation of Irrigation System.

      2. Description of the type(s) of Irrigation System contained on the property.

      3. Location of problems with Irrigation System which may be contributing to excessive water use.

      4. Condition and performance of the following:

         Points of connection
         Backflow devices(s)
         Valves
         Piping (to include mains and laterals)
         Control system
         Sprinklers/emitters
         System coverage

      5. Landscaped areas irrigated by each valve/zone/running station.

      6. Plant materials, plant hydrozone compatibility, soil type, Irrigation System operating pressure, irrigation water requirements, and efficiency for each zone

      7. Site map, photographs and or a detailed zone description summary including: Zone location, zone efficiency, sprinkler type and zone comments.

(N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 172 - LANDSCAPE WATER AUDITS (Continued)

B. (Continued)

5. Audit (Continued)

b. Upon completion of an On-Site audit, the Irrigation System data shall be analyzed and compiled into a usable, written report that shall include at least the following:

1. Calculation and determination of Site Landscape Water Budget using the Irrigation Association Water Requirement (WR) calculation, as follows:

$$WR = \frac{ETo \times KL \times A}{DU \times Ewm \times Cu}$$

Where:
WR = Water Requirement [1]
ETo = Reference Evapotranspiration (inches per year)[2]
KL = Landscape Coefficient
A = Area (square feet)
Cu = Conversion Factor (convert to CCF = 1,200)
Ewm = Management Efficiency[3]
DU = Distribution Uniformity

2. The budget shall include calculations for each of the following hydrozones assuming they are present in the landscape.

- Cool season turf (.8)
- Warm season turf (.6)
- All other vegetation (.5)

3. Monthly irrigation schedule.

4. Condition and functionality of existing Irrigation System.

5. Recommendations for improvements to Landscape material and Irrigation System (to include "Smart" irrigation technology and information about Rebates available).

(Continued)

(N)

[1] Water Requirement calculations, for the purpose of establishing the Landscape Water Budget, shall not include a variable for Effective Rainfall. Property owners/irrigators will need to adjust their actual watering schedules based on actual rainfall, as this will help them stay within their Landscape Water Budgets. One of the top recommendations given to all audited properties must be the installation of a Rain Shut-Off Switch.
[2] Historic ETo data for specific properties shall be provided to consultant(s), by MPWMD, as requested.
[3] Due to the unique and critical water supply situation in the Monterey Peninsula Water Resource System, a higher standard of Management Efficiency (Ewm) will be required, especially for properties identified as needing Landscape Water Audits and Budgets. Therefore, Ewm shall not be less than 0.90 for the purpose of establishing a Landscape Water Budget.

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 172 - LANDSCAPE WATER AUDITS (Continued)

B. (Continued)

5. Audit (Continued)

b. (Continued)

6. Estimate of water and money savings potential, including cost estimates for recommended improvements.

7. Site map and or a detailed zone description summary which identifies relevant Irrigation System details, including valves/zones, and sprinkler/emitter types for each zone.

The following minimum criteria will be used to establish the hydrozone distribution uniformity:

Type of Zone	Minimum Distribution Uniformity (DU)
Fixed Spray	50%
Rotor	60%
Stream Rotor	60%
Impact	60%
Micro Spray	80%
Drip - Standard	80%
Drip - Pressure Compensating	80%
Bubbler - Standard	80%
Bubbler - Pressure Compensating	80%

The following Landscape Coefficients (species factors) shall be used:

Type of Vegetation	Coefficient
Cool Season Turf	0.80
Warm Season Turf	0.60
All Other Landscape Vegetation	0.50

(N)

(Continued)

Rule No. 14.1.1 (Continued)
WATER CONSERVATION PLAN
MONTEREY DISTRICT

(N)

ATTACHMENTS

MPWMDs RULE 172 - LANDSCAPE WATER AUDITS (Continued)

B. (Continued)

6. California American Water shall provide monthly status notices to each Water User required to follow a mandatory Landscape Water Budget during Stage 2 through Stage 4.

C. MODIFICATIONS TO AUDITED LANDSCAPES

Following significant modification to an existing audited Landscape, a new Landscape Water Audit shall be conducted to establish an appropriate Landscape Water Budget. It shall be the responsibility of the property owner to ensure that a Landscape Water Audit is conducted within 60 days of any such change and to submit a new Landscape Water Audit and Landscape Water Budget to California American Water.

D. REPORTING AND ANALYSIS

California American Water shall preserve water use records and budgets for all Water Users subject to this Rule. Updated Landscape Water Budgets shall supersede previous data. Monthly during Stage 2 through Stage 4, California American Water shall notify the District of Water Users who have exceeded their Landscape Water Budget. Quarterly, a report shall be compiled by California American Water and provided to the District showing the account information and comparing the Landscape Water Budget with actual consumption.

E. LANDSCAPE IRRIGATION RESTRICTIONS

Unless watering is by drip irrigation or through a hand-held hose with a Positive Action Shut-Off Nozzle, the following watering schedule shall apply:

1. Odd Numbered Properties shall water after 5 p.m. or before 9 a.m. on Saturdays and Wednesdays only. This schedule shall also apply to properties located on the South or West side of the street in cities where no street address is available.

2. Even Numbered Properties shall water after 5 p.m. or before 9 a.m. on Sundays and Thursdays only. This schedule shall also apply to properties located on the North or East side of the street in cities where no street address is available.

3. Sprinkler irrigation overseen by a professional gardener or landscaper who is available on Site may occur between 9 a.m. and 5 p.m., but shall not exceed two watering days per week.

(N)

Appendix C. Public Hearing Notice

Monterey County
The Herald
www.montereyherald.com
A Media News Group Newspaper
PO BOX 271 • MONTEREY, CALIFORNIA 93942-0271
831-646-4387
Fax: 831-372-4225
Email: mhlegals@montereyherald.com

This space is reserved for the County Clerk's Filing Stamp

AMERICAN WATER CO
Account No. 3551506
C/O BOB NELSON ASSOCIATES
PO BOX 632940
San Diego, CA 92163

Legal No. 0004470525

Ordered by:

NOTICE OF PUBLIC HEARING
On California American Water's
Urban Water Management Plan

California American Water will hold a public hearing on Friday, June 29, 2012 on the final draft of the 2010 Urban Water Management Plan for its Monterey County District service area. This service area includes the cities of Monterey, Pacific Grove, Carmel-by-the-Sea, Seaside, Del Rey Oaks and Sand City as well as unincorporated portions of Monterey County. Copies of the plan will be available for public review and public comment will be accepted. The hearing will be held at 5:00 p.m. at the California American Water office located at 511 Forest Lodge Road, Suite 100, Pacific Grove, CA 93950.
PUBLISHED JUNE 15, 22, 2012

PROOF OF PUBLICATION

STATE OF CALIFORNIA

County of Monterey

I am a citizen of the United States and a resident of the County aforesaid. I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of The Herald, a newspaper of general circulation, printed and published daily and Sunday in the City of Monterey, County of Monterey, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Monterey, State of California; that the notice, of which the annexed is a printed copy (set in type not smaller than 7 point), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/15/12, 06/22/12

I certify (or declare), under penalty of perjury, that the foregoing is true and correct

Executed on 06/22/2012 at Monterey, California.

Laurie Albanese

Signature

Appendix D. CUWCC Best Management Practice Report

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

What is your reporting period? Calendar

Base Year 2008

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 32,485

Number of Multi Family Units in Base Year 1,334

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992 unknown

Number of Multi Family Units prior to 1992 unknown

Average number of toilets per single family household 2.5

Average number of toilets per multi family household 1.8

Five year average resale rate of single family households 3.49%

Five-year average resale rate of multi family households 0.69%

Average number of persons per single family household 2.5

Average number of persons per multi family household 2.4

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts 4041.7857

Number of accounts with dedicated irrigation meters 441

Number of CII accounts without meters or with Mixed Use Meters

Number of CII accounts 3,768

Comments: There are no unmetered accounts, but the number of CII mixed-use meters is unknown.

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): MONTEREY

Reporting unit number: 5022

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

WATER SOURCES

2009

Service Area Population: 99,417

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Monterey and subsystems	13,813.24	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.	
		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?
N/A		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): MONTEREY

Reporting unit number: 5022

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

2009

Service Area Population: 99,417

Non- Potable Water

If you select Other for type, enter

Own 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.	

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, e
N/A		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): MONTEREY

Reporting unit number: 5022

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	34,206.00	6,915.50			
Multi-Family	1,341.00	1,277.52			
Commercial	3,453.00	2,908.98			
Industrial	4.00	64.26			
Institutional	517.00	870.79			Publis Authority
Other	8.00	64.26			Golf Course
Other	634.00	48.36			
Select a Customer Type					
Select a Customer Type					
Select a Customer Type					
Select a Customer Type					
Select a Customer Type					
Select a Customer Type					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	27.00	28.02			Non-revenue accounts
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): MONTEREY

Reporting unit number: 5022

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	0.00	0.00	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	0.00	28.02	0.00	0.00	
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): MONTEREY

Reporting unit number: 5022

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

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 & EFF
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 14.1.1 - Water Conservation Plan

Web address(s) URL: comma-separated list http://www.amwater.com/files/Rule%2014.1.1%20(Monterey%20--%20RR,%20HH,%20and%20Bishop)

Enter a description: CPUC Rule 14.1.1 is a conservation and rationing plan, filed in response to the adoption by the Monterey Peninsula Water Management District's Regulation XV and Expanded Water Conservation and Standby Rationing Plan, is intended to help ensure that all responsible measure are instituted to enable the company's Monterey District to comply with the limitations on productions found in SWRCB Order 95-10

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

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:

Determine metered sales in AF: 11,325.20

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

Determine system verifiable uses AF:

Determine total supply into the system in AF: 13,813.24

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:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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	33,598	33,598	33,598	Monthly	561
Commericial	4,769	4,769	4,769	Monthly	145
Industrial	4	4	4	Monthly	0
Institutional	517	517	517	Monthly	22
Fire Lines	1,365	1,365	1,365	Monthly	23
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 3,694

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:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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)
Allocation Based		16,660,222.00	3,866,489.00
Allocation Based		10,554,219.00	747,860.00
Allocation Based		2,613,235.00	260,637.00
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			

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)
Non-Volumetric Fla			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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
4	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
1	Landscape water conservation media campaigns
1	Website
	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)

Did at least one contact take place during each quarter of the reporting year? ✓

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
1,500		Radio contacts
4		News releases
1		Written editorials
7		Articles or stories resulting from outreach
		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/caaw

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

-CPUC Rule 14.1.1 - Water Conservation Plan posted
-Rebates updated

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	
Total Budget	$300,496				

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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?
Radio	$27,200	☐
Rebate brochure	$32,300	☐
Print advertising campaign	$53,900	☐
Bill insert	$1,300	☐

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.

Our slogan is, "Conserving water is a shared responsbility--a goal we can achieve together. We're here to help."

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: We are a member of the Water Awareness Commitee

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Irrigation	$1	$25	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☑ Green Building Programs?	Major sponsor, serve on commitee
☑ Master Gardeners?	Volunteer
☐ Cooperative Extension?	
☑ Local Colleges?	Earth Day booth at Monterey Peninsula College
☑ Other	MPWMD

☑ Retail and wholesale outlet; name(s) and type(s) of programs:

Applianace and gardening stores	Stores display our rebates

Partnering Programs - Newsletters

Number of newsletters per year: 1

Number of customers per year	39,000

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	None

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	None

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	Monterey County Fair

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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:

☑ Materials meet state education framework requirements?

Description of Materials: A song and dance routine that covers topics such as the water cycle, watersheds, indoor conservation, and conservation tips, including fixing leaks.

☐ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students:

Number of students reached: 1,760

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students:

Number of Distribution:

Annual budget for school education program: $19,500.00

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 0 Number of attendees:

Large group assemblies:

Number of presentations: 4 Number of attendees: 1760

Children's water festivals or other events:

Number of presentations: 0 Number of attendees: 0

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 0 Number of attendees: 0

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: 0

Number of attendees: 0

Water conservation contests such as poster and photo:

Description: Water Awareness Day drawing contest

Number distributed: 30

Offer monetary awards/funding or scholarships to students:

Number Offered: 0

Total Funding: 0

Teacher training workshops:

Number of presentations: 0

Number of attendees: 0

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 0

Number of participants: 0

College internships in water conservation offered:

Number of internships: 1

Total funding: 30000

Career fairs/workshops:

Number of presentations: 5

Number of attendees: 100

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): 3000

Comments

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): MONTEREY

Reporting unit number: 5022

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

WATER SOURCES

2010

Service Area Population: 99,396 Census

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Monterey and subsystems	12,709.65	Groundwater	Wells
Sand City Plant	99.28	Other	Brackish Desalination
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
NA		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?
NA		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): MONTEREY

Reporting unit number: 5022

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

2010

Service Area Population: 99,396

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
	0.00	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
	0.00	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, e
	0.00	

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): MONTEREY

Reporting unit number: 5022

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	34,301.00	6,227.70			
Multi-Family	1,344.00	1,366.61			
Commercial	3,694.00	2,880.14			
Industrial	4.00	63.82			
Institutional	345.00	483.56			Public Authority
Dedicated Irrigation	8.00	149.65			Golf Course
Other	166.00	153.72			
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	28.00	118.60			Non-revenue accounts
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): MONTEREY

Reporting unit number: 5022

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
Other	0.00	0.00	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	0.00	118.60	0.00	0.00	
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): MONTEREY

Reporting unit number: 5022

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

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 & Efficiencie
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 14.1.1 - Water Conservation Plan

Web address(s) URL: comma-separated list http://www.amwater.com/files/Rule%2014.1.1%20(Monterey%20--%20RR,%20HH,%20and%20Bishop)

Enter a description: CPUC Rule 14.1.1 is a conservation and rationing plan, filed in response to the adoption by the Monterey Peninsula Water Management District's Regulation XV and Expanded Water Conservation and Standby Rationing Plan, is intended to help ensure that all responsible measure are instituted to enable the company's Monterey District to comply with the limitations on productions found in SWRCB Order 95-10

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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 1.2 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 2009-2010 - MN

Water Audit Validity Score from AWWA spreadsheet: 84

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 Monterey monitors water production and sales on a monthly basis and completes an annual report indentifying 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:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

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	34,301	34,301	34,301	Monthly	602
Multi-Family	1,344	1,344	1,344	Monthly	150
Commericial	3,694	3,694	3,694	Monthly	9
Industrial	4	4	4	Monthly	0
Institutional	345	345	345	Monthly	18
Dedicated Irrigatic	8	8	8	Monthly	0
Other	154	154	154	Monthly	17
Fire Lines	1,008	1,008	1,008	Monthly	9
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 3,694

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:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

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)
Allocation Based		15,837,144.00	4,897,711.00
Allocation Based		11,510,009.00	901,382.00
Allocation Based		1,579,103.00	317,780.00
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			

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)
Non-Volumetric Fla			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			
Select a Rate Struc			

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

2010

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
38,000	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
38,000	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
2,500	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
1	Landscape water conservation media campaigns
1	Website

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)

Did at least one contact take place during each quarter of the reporting year? ✓

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
1		Radio contacts
1		Written editorials
4		News releases
1		Written editorials
		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): amwater.com/caaw/ & montereywaterinfo.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

-Rebates updated
-Green Building Expo event information posted
-Gray water workshop.
-Added water sense label

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	
Total Budget	$300,496		☐	refer to settlement agreement, doesn't include	
			☐		
			☐		
			☐		
			☐		
			☐		

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

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?
Print Advertising	$110,990	☐
Bill Inserts	$3,000	☐
Brochures	$45,500	☐
KAZU Radio	$29,040	☐

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.

Our slogan is, "Conserving water is a shared responsbility--a goal we can achieve together. We're here to help."

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: We are a member of the Water Awareness Commitee

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Irrigation Training	$2	$88	

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?	
[x] Local Colleges?	Earth Day booth at Monterey Peninsula College
[x] Other	MPWMD

[x] Retail and wholesale outlet; name(s) and type(s) of programs:

Appliance and gardening stores	Stores display our rebates

Partnering Programs - Newsletters

Number of newsletters per year: 1

Number of customers per year	39,000

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	None

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Drought-tolerant garden sponsored by the Water Awareness Committee (which we sponsor) in the central courtyard area at Del Monte Shopping Center in Monterey--one of the largest shopping centers in the area.

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	None

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): MONTEREY

Reporting unit number: 5022

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

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: A song and dance routine that covered topics such as the water cycle, watersheds, indoor conservation, and conservation tips, including fixing leaks.

☐ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students:

Number of students reached:

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students:

Number of Distribution:

Annual budget for school education program: $19,500.00

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 0 Number of attendees:

Large group assemblies:

Number of presentations: 9 Number of attendees: 1455

Children's water festivals or other events:

Number of presentations: 2 Number of attendees: unknown

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 0 Number of attendees: 0

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: 0

Number of attendees:

Water conservation contests such as poster and photo:

Description: Water Awareness Day drawing contest

Number distributed: 30

Offer monetary awards/funding or scholarships to students:

Number Offered: 0

Total Funding: 0

Teacher training workshops:

Number of presentations: 0

Number of attendees: 0

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 0

Number of participants: 0

College internships in water conservation offered:

Number of internships: 1

Total funding: 30000

Career fairs/workshops:

Number of presentations: 5

Number of attendees: 100

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): 8000

Comments

Appendix E. DWR Review Checklist

Table I-2 Urban Water Management Plan checklist, organized by subject

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)		Table 1-3; Sections 1.1
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 H
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 G
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
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		Table 1-3; Sections 1.1 & 1.2; Appendix C & Appendix G
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		Appendix C & Section 1.2
57	Provide supporting documentation that the plan has been adopted as	10642		Section 1.2 &

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
	prepared or modified.			Appendix G
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1.2.1
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
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
SYSTEM DESCRIPTION				
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; Table 2-2
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; Table 2-3
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; Table 2-3
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.2
SYSTEM DEMANDS				
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 F

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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	Appendix C & Section 1.2
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; Table 3-2 & Table 3-3 & Table 3-4 & Table 3-5 & Table 3-6 & Table 3-7
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.	N/A
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; Table 3-8
SYSTEM SUPPLIES				
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 4.1; Table 4-2
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 4.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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
16	Describe the groundwater basin.	10631(b)(2)		Section 4.2
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.2; Appendix I Appendix J Appendix K
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; Appendix I Appendix J Appendix K Appendix L Appendix M
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)		Table 4-5
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.	Table 4-6
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.6
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 4.7
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and	10631(i)		Section 4.7

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
	groundwater.			
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
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 4.8.3
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 4.8.3
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 AFY of recycled water used per year.	10633(f)		Section 4.8.4
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 4.8.4
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 5.1.6
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	10631(c)(1)		Section 5.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
	single dry water year, and (C) multiple dry water years.			
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
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 5.2.3
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 5.2.4
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 5.2.2.1
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 5.2.2.4
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.2.6
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)		Section 5.2.5
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix B
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.2.6
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	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 5.3

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
	increments, and the manner in which water quality affects water management strategies and supply reliability			
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 5.2.7
DEMAND MANAGEMENT MEASURES				
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.	
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		
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)		
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.	
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.	

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

Appendix F. Demand Projection 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 Monterey County District in compliance with SB7 requirements. The Per Capita Water Use Technical Memorandum describes how these per capita numbers were calculated (Appendix A).
2. **Estimate population growth rates for each service area.** WSC calculated population projections and annual growth rates for each service area based on Association of Monterey Bay Area Governments (AMBAG) projections:
    a. AMBAG provided GIS shape files of population projections to 2035. The population projections years were 2005 and 2035. The database assigns population projections to each unique Transportation Analysis Zone (TAZ). There are approximately 1,682 TAZs in the database. California American Water's service areas overlie approximately 396 TAZs. The TAZs were intersected with California American Water's service area boundaries using GIS.
    b. The next step involved calculating the population per area for each TAZ area and calculating acreage in each TAZ that overlapped a California American Water service area boundary. The TAZ population per area factor calculated for each TAZ was applied to the area in each TAZ 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 the District.
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.** California American Water Monterey County District does not anticipate any growth in gpcd from the 2010 numbers. Table F-1 shows the current and projected gpcd for the San Diego County District.

Table F-1. Actual and Projected GPCD for the Monterey County District

	Actual GPCD	Projected GPCD			
	2010	2015	2020	2025	2030
Monterey County District	115	115	115	115	115

6. **Apportion total demand to DWR customer categories.** WSC established the amount of connections per type of use and the associated deliveries per type of use in 2010 based on California American Water records (2010 customer database and 2010 MD Operating Report). The total number of connections for 2015-2030 was estimated by applying the annual population growth rates. The water use by customer category was estimated based upon the same percentage distribution as in 2010.

Appendix G. Adoption Resolution

CALIFORNIA
AMERICAN WATER

August 20, 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 Central Division - Monterey 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 Central Division Monterey 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 H. 60 Day Notification Letter

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
Pacific Grove, CA 93950
P 831.646.3287
F 831.375.4367

October 6, 2011

Hans Uslar
Assistant Director, Plans & Public Works
City of Monterey
526 Pierce Street
Monterey, CA 93940

Subject: **California American Water**
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Uslar:

California American Water is in the process of preparing its Monterey 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 October 2011. Until that time, if you have any questions or comments regarding the Monterey County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Christopher Malejan, Staff Engineer
Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 103
(805) 503-0611
cmalejan@wsc-inc.com

Sincerely,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
Pacific Grove, CA 93950

P 831.646.3287
F 831.375.4367

October 6, 2011

Mike Zimmer
Public Works Superintendent
City of Pacific Grove
2100 Sunset Drive
Pacific Grove, CA 93950

Subject: **California American Water**
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Zimmer:

California American Water is in the process of preparing its Monterey 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 October 2011. Until that time, if you have any questions or comments regarding the Monterey County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Christopher Malejan, Staff Engineer
Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 103
(805) 503-0611
cmalejan@wsc-inc.com

Sincerely,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
Pacific Grove, CA 93950
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October 6, 2011

Stuart Ross
Public Works Superintendent
City of Carmel-by-the-Sea
PO Box CC
Carmel-by-the-Sea, CA 93921

Subject: California American Water
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Ross:

California American Water is in the process of preparing its Monterey 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,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

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Pacific Grove, CA 93950
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October 6, 2011

Diana Ingersoll
Deputy City Manager - Resources Management Services
City of Seaside
440 Harcourt Avenue
Seaside, CA 93955

Subject: **California American Water**
Monterey County District
2010 Urban Water Management Plan

Dear Ms. Ingersoll:

California American Water is in the process of preparing its Monterey 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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3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 103
(805) 503-0611
cmalejan@wsc-inc.com

Sincerely,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
Pacific Grove, CA 93950
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F 831.375.4367

October 6, 2011

Daniel Dawson
City Manager
City of Del Rey Oaks
650 Canyon Del Rey
Del Rey Oaks, CA 93940

Subject: **California American Water**
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Dawson:

California American Water is in the process of preparing its Monterey 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) 503-0611
cmalejan@wsc-inc.com

Sincerely,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
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October 6, 2011

Charles Pooler
Associate Planner
City of Sand City
1 Sylvan Park
Sand City, CA 93955

Subject: **California American Water**
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Pooler:

California American Water is in the process of preparing its Monterey 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,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
Pacific Grove, CA 93950
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October 6, 2011

Mike Niccum
General Manager
Pebble Beach Community Service District
3101 Forest Lake Road
Pebble Beach, CA 93953

Subject: California American Water
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Niccum:

California American Water is in the process of preparing its Monterey 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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cmalejan@wsc-inc.com

Sincerely,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

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F 831.375.4367

October 6, 2011

Yazdan Emrani
Director of Public Works
County of Monterey
168 W. Alisal Street, 2nd Floor
Salinas, CA 93901

Subject: California American Water
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Emrani:

California American Water is in the process of preparing its Monterey 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 October 2011. Until that time, if you have any questions or comments regarding the Monterey County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Christopher Malejan, Staff Engineer
Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 103
(805) 503-0611
cmalejan@wsc-inc.com

Sincerely,

Craig E. Anthony
General Manager

CM/ES:el
cc: Christopher Malejan, Water Systems Consulting, Inc.
Eric Sabolsice, California American Water
John Kilpatrick, California American Water
Monterey Peninsula Water Management District

CALIFORNIA
AMERICAN WATER

511 Forest Lodge Rd. Suite 100
Pacific Grove, CA 93950
P 831.646.3287
F 831.375.4367

October 6, 2011

James Willison, Director
Public Works – Presidio of Monterey
PO Box 5004
Monterey, CA 93944-5004

Subject: California American Water
Monterey County District
2010 Urban Water Management Plan

Dear Mr. Willison:

California American Water is in the process of preparing its Monterey 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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October 6, 2011

Subject: **California American Water**
Monterey County District
2010 Urban Water Management Plan

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Monterey Peninsula Water Management District

Appendix I. Order 95-10

Order 95-10 is included in the CD attached to this document

Appendix J. Final Cease and Desist Order

The Final Cease and Desist Order is included in the CD attached to this document

Appendix K. Seaside Basin Adjudication

The Seaside Basin Adjudication is included in the CD attached to this document

Appendix L. Carmel River Diversions Reduction Schedule

ATTACHMENT 1

TABLE 1
PROJECTED REDUCTIONS IN ILLEGAL DIVERSIONS FROM THE CARMEL RIVER
(all amounts are in acre-feet)

Water Year (Oct - Sept)	Base Amount[1]	Mandatory Cumulative Annual Reduction[2]	Estimated ASR Project Operational Yield[3]	Estimated Sand City Desalinization Plant[4]	Estimated Small Project Output[5]	Estimated Coastal Water Project Output[6]	Total to Base Amount	Total Estimated Amount Diverted from Carmel River	Estimated Amount Diverted w/o Valid Basis of Right
2009-10	10,978	549	145	75	0	0	769	10,209	6,833
2010-11	10,978	549	145	290	0	0	984	9,994	6,618
2011-12	10,978	670	145	280	0	0	1,095	9,883	6,507
2012-13	10,978	791	145	270	0	0	1,206	9,772	6,396
2013-14	10,978	912	145	260	0	0	1,317	9,661	6,285
2014-15	10,978	1,033	145	250	0	0	1,428	9,550	6,174
2015-16	10,978	1,275	145	240	0	0	1,660	9,318	5,942
2016-17	10,978	1,517	145	230	0	11,730	1,892	3,376	0

1) Cal-Am diverts 3,376 afa under legal rights and, on average, 7,602 afa without a valid basis of right (60 afa of the 3,376 afa is assumed diverted under riparian right to riparian vegetation along Carmel River).
2) Reduction in 2009-2010 and 2010-2011 is initial amount of 5% (549 ac-ft). Starting October 1, 2011, add 121 af each year until October 1, 2015, when the annual reduction becomes 242 afa.
3) Average amount diverted for Phase 1 ASR project from water year 1994-1995 to 2006-2007 (R.T. Phase 1, Vol. I pp. 41-42). Amount may increase when Phase 2 of the ASR project becomes operational.
4) Number may vary based on actual production from desalinization plant. Assumes 3 months of operation in 2009-10.
5) Production from small projects cannot be estimated at this time.
6) Estimated production of Coastal Water Project (R.T. Phase 2, Vol. V, p. 1333).

Appendix M. Seaside Groundwater Basin Adjudication Allocation

Seaside Groundwater Basin Adjudication Allocations: Water Years 2006 - 2026

Water Years	Coastal Subareas				Laguna Seca Subarea				Basin
	Operating Yield (afy)	Alternative Production Allocation (afy)	Standard Production Allocation (afy)	CAW Share (afy)	Operating Yield (afy)	Alternative Production Allocation (afy)	Standard Production Allocation (afy)	CAW Share (afy)	Operating Yield (afy)
2006-2008	4,611	743	3,868	3,504	989	644	345	345	5,600
2009	4,265	743	3,522	3,191	915	644	271	271	5,180
2010-2011	4,150	743	3,407	3,087	890	644	246	246	5,040
2012-2014	3,689	743	2,946	2,669	791	644	147	147	4,480
2015-2017	3,228	743	2,485	2,251	692	644	48	48	3,920
2018-2020	2,752	743	2,009	1,820	608	608	0	0	3,360
2021-2023	2,392	743	1,649	1,494	608	608	0	0	3,000
2024-2026	2,392	743	1,649	1,494	608	608	0	0	3,000

Source: *California American Water v. City of Seaside, et al.* (Case No. M66343, California Superior Court, Monterey County, March 27, 2006, as amended February 9, 2007)

Notes:

1. Values are based on the Court's decision at the January 12, 2007 hearing to switch to a Water Year-based accounting period (October 1 through September 30), the first "Administrative" Year began on October 1, 2006. However, consistent with the original decision, the first reduction in the Operating Yield will occur on January 1, 2009. Each reduction after January 1, 2009, will occur at the beginning of each triennial period, i.e., October 1, 2012, October 1, 2015, and so forth.

3. CAW's share of the Standard Production Allocation for the Coastal Subareas is calculated as 90.60% of the total Standard Production Allocation. For the first triennial period, i.e., Water Years 2006 through 2008, CAW's share is 3,504 afy. This calculation is consistent with the procedure described in the adjudication decision (pages 17 through 19) and Cal-Am's arguments in the J*oint Post-Judgment Motion to Request Clarification of the Court's Final Decision Relating to the Calculation of the Over-Production Replenishment Assessment* dated November 28, 2006 (pages 8 through 10).

4. For computation purposes, it is assumed that the 10% reduction in the Operating Yield is based on the initial Operating Yield specified by the Court, i.e., 5,600 afy. For example, at the beginning of Water Year 2010, the 10% reduction equals 560 afy (5,600 x 0.10 = 560). Similarly, at the beginning of Water Year 2012, the 10% reduction also equals 560 afy (5,600 x 0.10 = 560).

5. For computation purposes, it is assumed that the Natural Safe Yield for the basin is and remains at 3,000 afy, with 608 afy assigned to the Laguna Seca Subarea and the remainder, 2,392 afy, assigned to the Coastal Subareas within the basin.

Appendix N. ASR Dry Year & Multiple Dry Year Simulation

Carmel River and Seaside Coastal Diversions with Phase 1 ASR Project (V.6.4)
Water Years 1958 - 2002
(All Values in Acre-Feet)

Simulated Water Year	Water Year Type	*CRB (Injection)*	SCB *(Recovery)*	EOY ASR Storage	Change in ASR Storage
1958	Extremely Wet	1,540	984	556	556
1959	Below Normal	324	747	133	-423
1960	Dry	196	260	70	-64
1961	Critically Dry	0	69	1	-69
1962	Normal	737	485	254	253
1963	Above Normal	1,475	1,217	512	258
1964	Dry	226	621	116	-395
1965	Normal	949	737	328	212
1966	Dry	420	595	153	-175
1967	Wet	1,761	1,130	784	631
1968	Critically Dry	40	710	115	-670
1969	Extremely Wet	1,569	1,093	591	477
1970	Normal	986	1,204	374	-217
1971	Below Normal	599	760	213	-161
1972	Critically Dry	93	270	36	-177
1973	Wet	1,445	983	498	463
1974	Above Normal	1,672	1,458	712	214
1975	Above Normal	1,391	1,476	627	-85
1976	Critically Dry	5	583	49	-578
1977	Critically Dry	0	47	1	-47
1978	Extremely Wet	1,874	985	891	889
1979	Normal	1,068	1,454	505	-386
1980	Extremely Wet	1,839	1,465	879	374
1981	Below Normal	727	1,222	384	-496
1982	Extremely Wet	2,238	1,277	1,345	961
1983	Extremely Wet	2,348	1,411	2,281	937
1984	Normal	1,069	1,355	1,996	-286
1985	Dry	460	1,476	980	-1,016
1986	Wet	1,234	1,476	739	-242
1987	Dry	53	688	104	-635
1988	Critically Dry	84	157	31	-72
1989	Critically Dry	13	39	6	-26
1990	Critically Dry	40	31	15	9
1991	Dry	225	161	79	64
1992	Normal	661	510	230	151
1993	Wet	1,515	1,202	543	313
1994	Critically Dry	141	617	67	-476
1995	Extremely Wet	1,930	1,047	950	883
1996	Above Normal	1,414	1,476	888	-62
1997	Above Normal	1,221	1,476	633	-255
1998	Extremely Wet	2,266	1,476	1,423	790
1999	Normal	1,358	1,476	1,305	-118
2000	Normal	1,188	1,476	1,017	-288
2001	Normal	621	1,243	395	-622
2002	Below Normal	294	581	109	-287
Mean		**918**	**916**		

Appendix O. Wastewater Flows

There are several wastewater agencies that service the California American Water Monterey County District including the Carmel Area Wastewater District (CAWD), The Pebble Beach Community Services District (PBCSD), the Monterey Regional Water Pollution Control Agency (MRWPCA), the Alisal Water Corporation (ALCO), the County of Monterey, and the Monterey County District. To add to the complexity of the number of wastewater agencies, the service area of the respective wastewater agencies is not bound by the Monterey County District service area. A summary of California American Water's Monterey County District service area by system and their respective wastewater treatment agency can be found below in Table 1.

Table 1. Summary of Wastewater Agency by California American Water Service Area

California American Water Monterey County District Service Area	Wastewater Agency
Monterey Main System	CAWD, PBCSD, MRWPCA, California American Water, Private Onsite Septic
Ryan Ranch	MRWPCA
Bishop	California American Water
Hidden Hills	Private Onsite Septic
Ambler Park	ALCO, Private Onsite Septic
Toro	ALCO, Private Onsite Septic
Ralph Lane	Private Onsite Septic
Chualar	County of Monterey

Using GIS Mapping, future wastewater volumes for the California American Water Monterey County District were estimated by overlaying wastewater agency boundary shape files with Monterey County District service area shape files and AMBAG's population projections by TAZ, as described in Appendix F. The following steps were taken to determine future wastewater:

1. **Calculate daily wastewater flow rate factors in 2010.** GIS shape files for CAWD, PBCSD, and the MRWPCA were provided by the Local Agency Formation Commission of Monterey County (LAFCO), which were overlaid with 2010 Census block maps and the Monterey County District service area maps to determine the population in 2010 that were serviced by the respective wastewater agencies in California American Water's service area. Using actual collected wastewater volumes from these service areas and the population serviced by wastewater agencies in 2010, WSC calculated daily wastewater flow rates.
2. **Estimate population serviced by wastewater agencies.** Using the same population projection methodology in Appendix F, WSC determined the future population serviced by CAWD, PBCSD and the MRWPCA.

3. **Estimate projected wastewater volumes.** Finally, using the 2010 wastewater flow rate factor determined in step 1, WSC calculated projected flow rates from the population serviced by each wastewater agency from step 2. Because California American Water Monterey County District does not anticipate any per capita water use increase from 2010, WSC therefore assumes that there will not be any increase or decrease in wastewater flow rate factors.

For the other wastewater agencies, with the exception of ALCO, the area of influence is entirely within the Monterey County District service areas, therefore the GIS mapping is not necessary to calculate projected wastewater volumes.

Appendix P. MPWMD Regulation XIV

REGULATION XIV. WATER CONSERVATION

RULE 140 - PURPOSE

Rule added by Ordinance No. 30 (7/13/87); Ordinance No. 125 (9/18/2006); deleted by Ordinance No. 141 (11/16/2009)

RULE 141 - DEFINITIONS

Definitions relocated from Rule 141 to Rule 11 by Ordinance No. 71 (12/20/93)

RULE 141 - WATER CONSERVATION REBATES

A. QUALIFYING DEVICES

Rebates are available for purchase of the following Qualifying Devices within the boundaries of the Monterey Peninsula Water Management District:

1. High Efficiency Dishwasher;

2. High Efficiency Clothes Washer for Residential use;

3. Instant-Access Hot Water System;

4. High Efficiency Toilet;

5. Zero Water Consumption Urinal;

6. One or more Cisterns installed as a component of an Irrigation System. Maximum available Rebate shall be for 25,000 gallons of Cistern storage capacity on a Qualifying Property;

7. Smart Controller;

8. Soil Moisture Sensors that control the irrigation cycles of a conventional automatic Irrigation System controller or Smart Controller. Gypsum block Soil Moisture Sensors shall not be included on the list of Qualifying Devices;

9. Removal of established Lawn and replacement with low water use plants or permeable surfaces (maximum of 2,500 square-feet);

10. High Efficiency Urinal;

11. Pint Urinal;

12. Rotating Sprinkler Nozzle;

13. Water Broom. Maximum available Rebate shall be for two Water Brooms per Qualifying Property;

14. Commercial High Efficiency Clothes Washer designed and manufactured for Non-Residential uses;

15. Cooling Tower Conductivity Controller;

16. Water Efficient Ice Machine;

17. X-ray film processor recirculation system.

18. Cooling Tower Conductivity/pH Controller;

19. Dry Vacuum Pump;

20. Graywater Irrigation System;

21. High Efficiency Connectionless Food Steamer;

22. High Efficiency Commercial Dishwasher;

23. Retrofit of a medical equipment steam sterilizer that utilizes a continuous water flow with a water tempering device.

24. Ultra High Efficiency Toilet

B. REBATE AMOUNTS

The following Rebates shall be issued by the District on a first-come, first-served basis as long as funds remain available.

At no time shall the Rebate amount exceed the price of the Qualifying Device.

1. The Rebate for a High Efficiency Toilet shall be $200 per toilet.

2. The Rebate for High Efficiency Dishwasher shall be $125.

3. The Rebate for High Efficiency Clothes Washer shall be $500.

4. The Rebate for an Instant-Access Hot Water System shall be $200 per Qualifying Property.

5. The Rebate for an on-demand pump or point of source water heater as part of an Instant-Access Hot Water System shall be $100 per component, to a maximum of two components per Qualifying Property.

6. The Rebate for Zero Water Consumption Urinal shall be $300.

7. The Rebate for a Smart Controller shall be $100 for up to four stations. An additional $10 shall be available per station up to twenty (20) stations or the actual cost, whichever is less. The District shall maintain a list of qualifying Smart Controllers.

8. The Rebate for installation and use of one or more Soil Moisture Sensor(s) on a conventional automatic Irrigation System shall be $25 per sensor or the actual cost, whichever is less. Gypsum block Soil Moisture Sensors shall not qualify for Rebate.

9. The Rebate for Cistern water tanks shall be $25 per 100 gallons of water storage capacity, up to a maximum storage capacity of 25,000 gallons per Qualifying Property.

10. The Rebate for Lawn removal and replacement with low water use plants or permeable surfaces shall be $1.00 per square-foot to a maximum of 2,500 square-feet per Qualifying Property.

11. The Rebate for a High Efficiency Urinal shall be $200.

12. The Rebate for a Pint Urinal shall be $300.

13. The Rebate for a Rotating Sprinkler Nozzle (minimum purchase and installation of ten) shall be $4.00 each.

14. The Rebate for a Water Broom shall be $150.

15. The Rebate for a Commercial High Efficiency Clothes Washer for Non-Residential use shall be $1,000. For the purpose of this Rebate, a Multi-Family Residential Qualifying Property with a Common Laundry Room shall be considered a Non-Residential use.

16. The Rebate for a Cooling Tower Conductivity Controller shall be $1,000.

17. The Rebate for a CEE Tier II Water Efficient Ice Machine shall be $500.

18. The Rebate for an X-ray film processor recirculation system shall be $2,500.

19. The Rebate for a Cooling Tower Conductivity/pH Controller shall be $2,500.

20. The Rebate for Dry Vacuum Pumps shall be $200 per 0.05 HP to a limit of 4 HP.

21. The Rebate for a High Efficiency Connectionless Food Steamer shall be $1,500 per compartment.

22. The Rebate for a High Efficiency Commercial Dishwasher shall be:
    a. $500 for an under counter model.
    b. $1,000 for a single tank door type model.
    c. $1,500 for a single tank conveyor.
    d. $2,000 for a multi-tank conveyor.

23. The Rebate for a Graywater Irrigation System supplied by one Clothes Washer for irrigation shall be $100.

24. The Rebate for a Graywater Irrigation System supplied by one or more Bathrooms that have a Bathtub/Shower connected to a Graywater Irrigation System shall be $100 per Bathroom. Residential limit: 4.

25. The Rebate for a Non-Residential Graywater Irrigation System shall be considered on a case-by-case basis by the General Manager.

26. The Rebate for a medical equipment steam sterilizer retrofit with a water tempering device shall be $1,500.

27. The Rebate for an Ultra High Efficiency Toilet shall be $250.

C. REBATE ELIGIBILITY

1. Rebates shall be issued for Qualifying Devices installed on Sites located within the District that are served by Water Distribution Systems regulated by the District. The Site shall be in compliance with District Rules prior to issuance of a Rebate.

2. No Rebate shall be issued for installation of Qualifying Devices that are required to be installed and maintained by Regulation XIV of the District, and no Rebate shall be issued for installation of Qualifying Devices that have been used to obtain a Water Permit. Rebates shall be available for all retrofits until the date the retrofit becomes mandatory, such as the date a Change of Ownership or Change of Use occurs, a Water Permit is issued, or the date a Non-Residential retrofit is required pursuant to Regulation XIV. Rebates shall not be available for Qualifying Devices that become mandated by local, State, or Federal water conservation programs.

3. Rebates shall be available only for the initial purchase of a Qualifying Device. Rebates shall not be issued for replacement of an existing Qualifying Device with the exception of Clothes Washers that have been removed from the Qualifying Property by a previous owner/tenant. Applicants submitting an application for a High Efficiency Clothes Washer Rebate on a Site that has previously qualified for a High Efficiency Clothes Washer Rebate may be required to provide information to substantiate a subsequent Rebate.

4. Ultra High Efficiency Toilets shall meet or exceed the EPA WaterSense labeling criteria and shall bear the WaterSense Label and be listed on the WaterSense website.

5. Rebates shall be available for a maximum of twenty (20) toilets on all Non-Residential Qualifying Properties with the exception of Qualifying Properites owned and operated by a California Non-Profit Corporation.

6. Outdoor Water Use Rebates

   a. Rebates for Cisterns shall be limited to 25,000 gallons of storage capacity on a Qualifying Property. All Cistern Rebate Sites shall have sufficient roof area to fill the capacity of the Cistern(s) after first flush during a "normal" Water Year and shall require verification of usable roof area by Site inspection.

   b. Rebates for Lawn removal shall be available only to Qualifying Properties irrigated with water from the Monterey Peninsula Water Resource System.

   c. To be eligible for any Rebate for Lawn Removal, Lawns must be green, regularly maintained at a low even height, irrigated regularly, and be well cared for at the time of application for a Rebate. Dead Lawns or Lawns that have been removed prior to issuance of a Lawn Rebate prequalification statement from the District shall not be eligible for a Rebate.

   d. A minimum of 250 square-feet of Lawn shall be removed to qualify for Rebate.

   e. Eligibility for any Lawn Removal Rebate shall be determined upon receipt of a complete application as described in Rule 141-E. The District will notify the Applicant by written prequalification documentation that the proposed Lawn removal and replacement proposal has been "prequalified."

7. Non-Residential Rebates

   a. Water Efficient Ice Machines shall be listed as CEE Tier II.

   b. An X-ray film processor recirculation system shall be listed as a qualifying model by the California Urban Water Conservation Council Resource Center.

   c. Rebates for Dry Vacuum Pumps shall be available only when the Qualifying Device is replacing a water (liquid) ring pump.

d. Rebates for retrofitting medical steam sterilizers with water tempering devices are limited to those sterilizers that use a continuous water flow to cool the steam discharge.

e. Rebates for Commercial High Efficiency Clothes Washers shall be limited to twenty (20) per Site unless specific authorization for a greater number has been secured from the General Manager.

D. CONDITIONS OF APPROVAL

1. Applications for all Rebates with the exception of Lawn removal Rebates, shall be submitted within 120 days of purchase of Qualifying Devices.

2. Applicant shall install the fixture and/or appliance at the property listed on the application form.

3. Applicant shall certify under the penalty of perjury that the information on the application is true and complete.

4. Rebates shall only be granted for Qualifying Devices that meet the definitions as provided in Rule 11.

5. Applicant agrees that the District may conduct an inspection of the Rebate Site to verify installation of Qualifying Devices.

6. Rebates for Weather Based Irrigation Controllers

   a. Rebates shall only be granted for Weather Based Irrigation Controllers that meet minimum quality and dependability requirements as determined by product testing conducted by the Irrigation Association.

   b. Irrigation System shall be a fully operational, and shall be efficiently designed, or modified if necessary, to include proper distribution uniformity, matched spray heads or emitters with similar precipitation rates, efficient hydrozoning, and proper spacing.

   c. Site shall include at least 1,500 square-feet of automatically irrigated Landscaping.

   d. Recipients of Rebates for Weather Based Irrigation Controllers shall agree to have a deed restriction recorded on the title of the property allowing public access to water use records prior to issuance of a Rebate. The application shall not be deemed complete until the deed restriction document has been notarized and returned to the District and has been successfully recorded. Rejected notarizations shall void the date of completion until the document has been recorded.

7. Rebates for Lawn removal and replacement with low water use plants or permeable surfaces.

   a. Lawn removal and replacement at a Qualifying Property shall be subject to annual visual verification by the District.

   b. Determinations of eligibility for Lawn removal and replacement Rebates shall be at the discretion of the General Manager.

   c. Applications for Lawn removal Rebates shall require prequalificaion. The prequalification process is explained in Rule 141-F-2, Process.

   d. Lawn must be replaced with low water use plants or permeable surfaces (e.g., mulch, decomposed granite, Synthetic Turf, permeable pavers). Concrete and grouted pavers do not qualify.

   e. If converted area is irrigated, a Drip Irrigation System must be installed and maintained. Overhead irrigation shall not be installed.

   f. Planted areas must be mulched to a minimum depth of three inches from the plant to the drip line of the plant.

   g. Lawn shall not be relocated to another area on the Site. The total Lawn area shall be listed on the deed restriction that restricts the changed Landscaped Area for fifteen (15) years.

   h. Recipients of Rebates for Lawn removal shall agree to have a deed restriction recorded on the title of the property allowing public access to water use records prior to issuance of a Rebate. The application shall not be deemed complete until the deed restriction document has been notarized and returned to the District and has been successfully recorded. Rejected notarizations shall void the date of completion until the document has been recorded.

   i. Lawn removal Rebates shall require recordation of a deed restriction on the title of the property prior to release of Rebate funds that specifies that the property is restricted to the changed Landscaped Area for a period of fifteen (15) years. The deed restriction shall be rescinded upon repayment to the District of the full Rebate amount and any processing fee required pursuant to Regulation VI, Fees. The application shall not be deemed complete until the deed restriction document has been notarized and returned to the District and has been successfully recorded. Rejected notarizations shall void the date of completion until the document has been recorded.

8. Graywater Irrigation System Rebates shall be granted when the following conditions have been met:

   a. Applicant shall comply with the Monterey County Department of Health's Graywater Irrigation Systems Permitting Process and Design Criteria.

   b. Any necessary building/plumbing permits have been completed and copies provided with the Rebate application.

   c. MPWMD staff may verify Graywater Irrigation Systems by Site inspection or other means.

E. APPLICATION

1. A completed application for Rebate shall include the name and address of the Applicant, property owner's name, telephone numbers, address of property where the fixture and/or Qualifying Device is being installed, Assessor's Parcel Number, water company account number, date of retrofit, brand and model of Qualifying Device installed, name of installer and receipt for the purchase of the appliance. The application shall also request information about how the Applicant learned of the Rebate program.

2. Lawn removal Rebate applications shall follow the process shown in Rule 141-F-2.

3. Applications for Rebate shall include either the original or a full copy of the receipt for purchase.

4. Written authorization of the current property owner shall be required for Applicants who are not the owners of the property for which a Rebate is requested. The authorization must indicate the property owner's consent to the Applicant receiving a Rebate for installation of the Qualifying Devices. Applications submitted without owner approval will be denied.

F. PROCESS

1. Upon receipt of an application, the District shall verify completion and accuracy of information and shall verify the purchase of the Qualifying Device(s) by reviewing the purchase receipt(s).

2. Lawn removal Rebate application process.

   a. Prequalification: Applicants must complete and submit a Lawn Rebate Application form that includes the following documents:
      (1) Water records (either copies of bills or a printout from the Water Distribution System) for the two most recent years;

(2) A drawn Site plan showing a detailed description (including measured areas) of the Lawn replacement project, including square-footage of Lawn to be removed, names and numbers of plants or other surfaces to be installed, and the irrigation plan.

(3) Two to three current photographs of the Lawn to be removed. A minimum of 250 square-feet of Lawn shall be removed to qualify for Rebate.

b. The Lawn Rebate Application shall be reviewed for completeness, and when removal of the Lawn will result in documentable water savings, the Applicant shall be contacted to arrange a Site inspection to verify the Lawn.

c. Following a Site inspection, and when present funding is available in an amount sufficient to fund a Rebate for the Lawn removal, the District shall issue a Lawn Rebate prequalification letter. The Applicant shall have 120 days from the date of the prequalification letter to complete the project and submit receipts, arrange for a final inspection by the District, and successfully record deed restrictions. Applications not completed within 120 days of the date of the prequalification letter shall be denied.

d. Rebates shall be subject to availability of funding.

3. The District shall search its records and shall verify compliance with previous retrofit requirements. If no violation is found, a Rebate shall be processed if funds are available in the Rebate Account.

4. Information contained on the application shall be added to the District's records for future use in assessing water savings achieved through the Rebate Program.

5. When funds are available in the Rebate Account, a Rebate check shall be processed and mailed to the Applicant.

Added by Ordinance No. 129 (8/20/2007); amended by Ordinance No. 139 (5/21/2009); Ordinance No. 140 (11/16/2009); Ordinance No. 144 ((8/16/2010); Ordinance No. 148 (4/18/2011); Ordinance No. 149 (9/19/2011).

RULE 142 - WATER EFFICIENCY STANDARDS

A. Water Efficiency Standards. All New Construction of New Structures shall install and maintain plumbing fixtures and conservation standards as set forth in this Rule. No plumbing fixture or standard shall be replaced with fixtures which allow greater water use.

B. Effective Date. Water Permits issued after January 1, 2010 shall be subject to the requirements of Rule 142, as revised. Water Permits issued prior to January 1, 2010, and applications for a Water Permit that can demonstrate proof of submittal of the project application to the Planning Department or Building Department of the Jurisdiction by December 31, 2009, shall be subject to requirements of former Rule 142 summarized below:

1. Former Rule 142 required all New Construction, Remodels and Additions to install maximum 2.5 gallons-per-minute Showerheads and 2.2 gallons-per-minute faucet aerators.

2. New Construction of New Structures also required installation of Instant-Access Hot Water Systems and installation of Drip Irrigation where appropriate.

C. Residential Water Efficiency Standards for New Structures.

All Residential New Structures receiving a Water Permit on or after January 1, 2010, shall meet or exceed the following standards:

1. Ultra-Low Flush Toilets shall be installed;

2. Urinals, when installed in a Residential use, shall be designed to flush with one (1) gallon of water;

3. Showerheads, Rain Bars, or Body Spray Nozzles shall be installed that were designed to emit a maximum of 2.0 gallons per minute of water;

4. All shower fixtures should be equipped with scald protection valves rated for 2.0 gallons per minute Showerheads;

5. Installation of multiple Showerheads in one stall shall require timers for each Showerhead, Rain Bar, or Body Spray Nozzle. No timer shall operate with greater than a three (3) minute operating increment;

6. Lavatory Sink faucets shall emit a maximum of 2.2 gallons of water per minute at 60 psi;

7. Kitchen Sink faucets shall emit a maximum of 2.2 gallons of water per minute at 60 psi;

8. Instant-Access Hot Water Systems shall be installed;

9. All hot water pipes shall be insulated;

10. Sodium chloride (salt) water softeners shall be discouraged in New Construction. Alternate technologies such as potassium chloride shall be recommended. When a sodium chloride water softener is to be installed within the MPWMD, the unit shall use demand-initiated regeneration which senses when the resin must be recharged, either electronically or with a meter that measures and calculates usage. This requirement shall be specified on the Construction Drawings;

11. Landscaping.

    a. All New Construction shall install and maintain Landscaping that complies with the California Model Water Efficient Landscape Ordinance as revised (California Code of Regulations, Title 23, Water, Division 2, Department of Water Resources, Chapter 2.7, Model Water Efficient Landscape Ordinance) or with local or District Landscape requirements if more restrictive.

    b. Plants shall be grouped in hydrozones.

12. Irrigation System Efficiency.

    a. Weather-Based Irrigation System Controllers (e.g. Smart Controllers) shall be installed, used and maintained on Sites where there is an Irrigation System.

    b. Weather-Based Irrigation System Controllers shall include functioning Soil Moisture Sensors and a Rain Sensor as components of the system.

    c. Drip Irrigation shall be utilized for watering all non-turf irrigated plantings.

    d. Rotating Sprinkler Nozzles shall be utilized for turf irrigation.

    e. Overhead spray irrigation shall not be used to water non-turf Landscaping, including trees and shrubs.

    f. Irrigation Systems shall operate with at least 70 percent efficiency.

    g. Rainwater collection/irrigation systems are encouraged to supplement irrigation for new Landscaping. New Structures shall be encouraged to include one or more rainwater Cisterns and a system to provide at least 75 percent of exterior irrigation during normal rainfall years. Systems must be compliant with local catchment system standards.

h. Graywater collection/irrigation systems are encouraged to supplement irrigation for new Landscaping. Systems must be compliant with local catchment system standards, including Monterey County Department of Environmental Health.

i. All Sites utilizing a Graywater reuse system shall install and maintain a backflow prevention device as required by any Water Distribution System Operator that supplies water to the Site.

D. Non-Residential Water Efficiency Standards for New Structures.

All Non-Residential New Structures receiving a Water Permit on or after January 1, 2010, shall meet or exceed the following standards:

1. Ultra Low Flush Toilets shall be installed;

2. Urinals shall be Pint Urinals or Zero Water Consumption Urinals and shall be clearly specified on the final Construction Drawings. Zero Water Consumption Urinals shall be encouraged in settings where there is a regular maintenance staff;

3. Showerheads, Rain Bars, or Body Spray Nozzles shall be installed that were designed to emit a maximum of 2.0 gallons per minute of water;

4. All shower fixtures should be equipped with scald protection valves rated for 2.0 gallons per minute Showerheads;

5. Installation of multiple Showerheads in one stall shall require timers for each Showerhead, Rain Bar, or Body Spray Nozzle. No timer shall operate with greater than a three (3) minute operating increment;

6. Public lavatory faucets shall emit a maximum of 0.5 gallon of water per minute at 60 psi;

7. Public Lavatory Sinks equipped with automatic shut off devices or sensor faucets shall operate with a maximum flow of 0.25 gallons per cycle;

8. High Efficiency Clothes Washers shall be installed when a Clothes Washer is installed in a New Structure permitted under this Regulation;

9. High Efficiency Dishwashers or High Efficiency Commercial Dishwashers shall be installed and maintained on the Site when a Dishwasher is installed in a New Structure permitted by a Water Permit;

10. Instant-Access Hot Water System(s) shall be installed for hot water access points to ensure that hot water is available within ten (10) seconds;

11. All hot water pipes shall be insulated;

12. Sodium chloride (salt) water softeners shall be discouraged in New Construction. Alternate technologies, such as potassium chloride shall be recommended. When a sodium chloride water softener is to be installed within the MPWMD, the unit shall use demand-initiated regeneration which senses when the resin must be recharged, either electronically or with a meter that measures and calculates usage. This requirement shall be specified on the Construction Drawings;

13. Water Efficient Pre-Rinse Spray Valves shall be utilized when a pre-rinse spray valve is installed;

14. There shall be no single-pass water use systems in ice machines, hydraulic equipment, refrigeration condensers, X-ray processing equipment, air compressors, vacuum pumps, etc. Air-cooled or better technology shall be installed when available;

15. Water cooled refrigeration equipment shall be prohibited when there is alternative cooling technology available at the time the Water Permit is issued;

16. Cooling Towers shall be equipped with conductivity controllers that are used to increase the number of cycles that can be achieved;

17. Boilerless steamers or connectionless steamers shall be installed in place of boiler-based steamers when a steamer is installed in New Construction;

18. Landscaping.

    a. All New Construction shall install and maintain Landscaping that complies with the California Model Water Efficient Landscape Ordinance as revised (California Code of Regulations, Title 23, Water, Division 2, Department of Water Resources, Chapter 2.7, Model Water Efficient Landscape Ordinance) or with local or District Landscape requirements if more restrictive.

    b. Plants shall be grouped in hydrozones.

19. Irrigation System Efficiency.

    a. Weather-Based Irrigation System Controllers shall be installed, used and maintained on Sites where there is an Irrigation System.

    b. Weather-Based Irrigation System Controllers shall include functioning Soil Moisture Sensors and a Rain Sensor as components of the system.

c. Drip Irrigation shall be utilized for watering all non-turf irrigated plantings.

d. Rotating Sprinkler Nozzles shall be utilized for turf irrigation.

e. Overhead spray irrigation shall not be used to water non-turf Landscaping, including trees and shrubs.

f. Irrigation Systems shall operate with at least 70 percent efficiency.

g. Rainwater collection/irrigation systems are encouraged to supplement irrigation for new Landscaping. New Structures shall be encouraged to include one or more rainwater Cisterns and a system to provide at least 75 percent of exterior irrigation during normal rainfall years. Systems must be compliant with local catchment system standards.

h. Graywater collection/irrigation systems are encouraged to supplement irrigation for new Landscaping. Systems must be compliant with local catchment system standards, including Monterey County Department of Environmental Health.

i. All Sites utilizing a Graywater reuse system shall install and maintain a backflow prevention device as required by any Water Distribution System Operator that supplies water to the Site.

20. The implementation of water conservation Best Management Practices shall be integrated into construction and operation of the project to the extent possible.

E. <u>Residential and Non-Residential Change of Ownership, Change of Use, and Expansion of Use Water Efficiency Standards</u>

Sites that have a Change of Ownership, Change of Use or Expansion of Use on or after January 1, 2010, shall meet or exceed the following standards:

1. Ultra Low Flush Toilets shall be installed;

2. Urinals shall be designed to use a maximum of one (1) gallon per flush. Zero Water Consumption Urinals shall be encouraged in settings where there is a regular maintenance staff;

3. Showerhead flow rates shall meet or exceed New Construction standards;

4. Bathroom faucet flow rates shall meet or exceed New Construction standards;

5. Kitchen faucet flow rates shall meet or exceed New Construction standards;

6. Remodels or relocations of water fixtures or appliances that involve hot water shall be encouraged to install an Instant-Access Hot Water System and insulate all new hot water pipes;

7. Pre-rinse spray valves shall meet or exceed the District's definition for Water Efficient Pre-Rinse Spray Valves;

8. Changes of Use and Expansions of Use that require a Water Permit shall not install any single-pass water use systems in ice machines, hydraulic equipment, refrigeration condensers, X-ray processing equipment, air compressors, vacuum pumps, etc. Air-cooled or better technology shall be installed when available;

9. Changes of Use and Expansions of Use that require a Water Permit shall not install any water cooled refrigeration equipment when there is alternative water efficient cooling technology available at the time the Water Permit is issued;

10. Automatic Irrigation Systems, with the exception of Weather-Based Irrigation Systems, shall be retrofit to include a Rain Sensor;

11. The implementation of Non-Residential Best Management Practices shall be integrated into construction and operation of Non-Residential uses to the extent possible.

Rule added by Ordinance No. 30 (7/13/87); amended by Ordinance No. 71 (12/20/1993); Ordinance No. 125 (9/18/2006); Ordinance No. 141 (11/16/2009).

RULE 143 - WATER EFFICIENCY STANDARDS FOR EXISTING NON-RESIDENTIAL USES

A. All Non-Residential Water Users within the District shall maintain Showerheads with a maximum flow capacity of 2.5 gallons per minute, and Washbasin faucets with aerators which limit the flow rate to a maximum of 2.5 gallons per minute, unless subject to more restrictive requirements by another agency or Jurisdiction.

B. All existing Visitor-Serving Facilities shall be retrofitted exclusively with Ultra-Low Flush Toilets, except as provided by Rule 146 (Discretionary Exemptions).

C. Replacement of Ultra-Low Flush Toilets after January 1, 2014 shall be with High Efficiency Toilets.

D. All Visitor-Serving Facilities shall, by December 31, 2012, be retrofitted exclusively with High Efficiency Urinals, High Efficiency Clothes Washers, and Water Efficient Ice Machines. There shall be an exception to this Rule when the Clothes Washer meets Energy Star specifications and was purchased and installed between January 1, 2007 and January 1, 2010: These appliances must comply with this provision by January 1, 2020.

E. All Non-Residential structures shall be retrofitted exclusively with High Efficiency Toilets by December 31, 2012, except as provided by Rule 146 (Discretionary Exemptions).

1. All Visitor-Serving Facilities that retrofit to 1.6 gallons-per-flush toilets pursuant to Rule 143-B shall be exempt from this requirement until January 1, 2020.

2. All Non-Residential uses with Ultra Low Flush Toilets installed prior to January 1, 2010, shall be exempt from this requirement until January 1, 2020.

F. All Non-Residential Clothes Washers shall meet the definition of High Efficiency Clothes Washer rated with a Water Factor of 5.0 or below by December 31, 2012. There shall be an exception to this Rule when the existing appliance was purchased between January 1, 2006, and January 1, 2010, and rates a Water Factor of 5.1-6.0: These appliances must comply with this provision by January 1, 2020.

G. Non-Residential Car Washes. By December 31, 2012, all Non-Residential car wash facilities shall recycle and reuse a minimum of 50 percent of the water used in the wash and rinse cycles.

H. Mobile Water Distribution Systems shall use water meters at the Source of Supply. Records of the location and quantity of water delivered shall be provided by the Owner or Operator to MPWMD upon request of the General Manager.

I. Any or all portable Water-Measuring Device usage information, including the name of the User, the amount of water used, and the location of use shall be provided by the Water Distribution System Owner or Operator to MPWMD upon request.

J. All pre-rinse spray valves shall meet or exceed the Rule 11 definition of Water Efficient Pre-Rinse Spray Valve by July 1, 2010.

K. Newly installed medical or laboratory photographic and/or X-ray processing systems shall include a recirculation system for the rinse process. The use of digital systems is highly encouraged.

L. The installation of a Rain Sensor and Soil Moisture Sensors on automatic Irrigation Systems that are not operated by a Weather-Based Irrigation System shall be encouraged.

Rule added by Ordinance No. 30 (7/13/87); amended by Ordinance No. 31 (1/11/88); Ordinance No. 89 (7/21/97); Ordinance No. 125 (9/18/2006); Ordinance No. 141 (11/16/2009); Ordinance No. 145 (9/20/2010)

RULE 144 - RETROFIT UPON CHANGE OF OWNERSHIP OR USE

A. MANDATORY RETROFIT UPON CHANGE OF OWNERSHIP OR USE

All plumbing fixtures in Existing Structures, including Residential and all Non-Residential structures, shall, at the time of Change of Ownership or Change of Use, comply with Rule 142 and Rule 143. These fixtures shall be installed and maintained, and shall not be replaced with fixtures which allow greater water use.

B. MANDATORY RETROFIT UPON EXPANSION OF USE

The addition of any toilet and/or increase in floor area of Existing Structures by twenty-five percent (25%) or greater of the existing floor area shall meet the Low Water Use Plumbing Fixtures and standards described in Rule 142 and Rule 143 for the entire facility, including retrofitting of plumbing fixtures within Existing Structures throughout the Site.

C. RETROFIT EXEMPTIONS

Rule deleted by Ordinance No. 89 (7/21/97)

D. PROOF OF RETROFIT UPON CHANGE OF OWNERSHIP OR CHANGE OF USE

Before any Change of Ownership or Change of Use of real property within the District, the selling owner(s) or his authorized agent shall, in the form and manner specified by the District, certify compliance with the retrofit requirements of this Rule by one of the following methods:

1. Provide the District with a District-certified inspection report that provides all Site information required by the District and that verifies installation of Low Water Use Plumbing Fixtures throughout the structure, as required by Regulation XIV and Regulation XV; or

2. Provide documentation to the District from a District-certified city or county building official that provides all Site information required by the District and that certifies installation of Low Water Use Plumbing Fixtures throughout the structure, as required by Regulation XIV and Regulation XV; or

3. Provide owner certification that plumbing fixtures throughout the structure have been retrofitted in compliance with Regulation XIV and Regulation XV. The buyer or seller shall forward a copy of this certification, together with a dated copy of the purchase receipt for each Low Water Use Plumbing Fixture and a dated copy of the labor contract or a statement of self-installation which evidences complete installation to the District. The District may verify owner certification by an onsite inspection; or

4. The General Manager may conditionally extend the proof of retrofit requirement of this section where the seller, buyer, or tenant certifies that the structure will begin to be Remodeled or modified within one hundred and twenty (120) days of the Change of Ownership or Change of Use, that the structure will comply with Regulation XIV upon completion of construction, and the District shall be both contacted and allowed inspection of the property by District staff or its authorized agent within 180 days (i.e. six months) of the date of this requirement. Incremental extensions of 90 days may be allowed until completion of the Remodel or modification.

It shall be a violation of this Regulation for any buyer or seller to instruct an escrow agent to close escrow for any sale of property in the District that does not comply with Subdivision D of this Rule.

This Subdivision D shall not impose any affirmative or discretionary duty upon an escrow agent, acting in the capacity of escrow officer. Nothing in this Rule shall be construed, either expressly or by implication, to provide for a criminal proceeding or create a civil liability against a title insuror or an underwritten title company, as defined in the California Insurance Code, or their officers, directors, or employees, by reason of an alleged violation of this Rule by a party or parties to an escrow at such a corporation.

Rule added by Ordinance No. 30 (7/13/87); amended by Ordinance No. 31 (1/11/88); Ordinance No. 43 (1/22/90); Ordinance No. 125 (9/18/2006); Ordinance No. 141 (11/16/2009)

RULE 145 - RECORDATION OF NOTICE

Rule added by Ordinance No. 30 (7/13/87); deleted and relocated as Rule 116 by Ordinance No. 141 (11/16/2009)

RULE 146 - DISCRETIONARY EXEMPTIONS

The General Manager may, in his discretion, exempt facilities from the provisions of this Regulation, or impose reasonable conditions in lieu of compliance therewith, if he determines that any of the following sections apply:

A. HARDSHIP

The General Manager may grant an exemption for hardship where the requirements of this regulation would cause an unnecessary and undue substantial hardship upon the owner, or purchaser of the facility, or the public. Substantial hardship shall be determined on a case by case basis and may include, but is not limited to:

1. Plumbing in an existing facility which does not match connections with Low Water Use Plumbing Fixtures and would require partial or complete replumbing of the structures. For example, different rough-in dimensions for which no compatible complying fixture is available.

2. Unavailability of Low Water Use Plumbing Fixtures to match a well-defined historic architectural style (i.e., Victorian, Mission Revival) in a locally, state or federally recognized building of historic significance, fitted exclusively throughout with authentic plumbing fixtures from that period.

B. EMERGENCY

The General Manager may grant an exemption from this Regulation for emergency purposes when the requirements of this Regulation would create a condition affecting the health, sanitation, fire protection or safety of the facility owner or the public. Emergency conditions include, but are not limited to, sewer line grades that are insufficient to accommodate reduced flows caused by conversion of high flow toilets with Ultra-Low Flush Toilets or High Efficiency Toilets attested to by the city, county, or sanitary district engineer. All requests for exemptions from this Regulation shall be in writing.

C. IN LIEU COMPLIANCE

The General Manager may grant an exemption by imposing reasonable conditions in lieu of compliance with the requirements of this Regulation, where the condition would achieve water savings similar to the efficiency standards set by this Regulation, and where an exemption or condition would not otherwise adversely affect service to any existing water consumer.

D. RETROFIT EXEMPTIONS

When the General Manager has deferred the retrofit requirement of this Regulation for any plumbing fixture for which technology is or was not available to cause the required flow reduction, such as in flushometer-style or blow out toilet fixtures, or where retrofitting is not otherwise feasible, retrofit shall be required at the time technology becomes available when action is triggered by another qualifying event under Regulation XIV or Regulation XV.

Rule added by Ordinance No. 30 (7/13/87); amended by Ordinance No. 89 (7/21/97); Ordinance No. 141 (11/16/2009)

RULE 147 - APPEALS

Rule added by Ordinance No. 30 (7/13/87); deleted by Ordinance No. 141 (11/16/2009)

RULE 148 - PENALTIES

Rule added by Ordinance No. 30 (7/13/87); deleted and added as Rule 110-E by Ordinance No. 141 (11/16/2009)

RULE 149 - ENFORCEMENT

Rule added by Ordinance No. 30 (7/13/87); amended by Ordinance No. 125 (9/18/2006); deleted by Ordinance No. 141 (11/16/2009)

RULE 150 - CIVIL NUISANCE

Rule added by Ordinance No. 30 (7/13/87); deleted and renumbered as Rule 110-F by Ordinance No. 141 (11/16/2009)

RULE 151 - COST OF ENFORCEMENT

Rule added by Ordinance No. 30 (7/13/87); deleted by Ordinance No. 141 (11/16/2009)

RULE 152 - REMEDIES CUMULATIVE

Rule added by Ordinance No. 30 (7/13/87); deleted by Ordinance No. 141 (11/16/2009)

RULE 153 - SEVERABILITY

Rule added by Ordinance No. 30 (7/13/87); deleted by Ordinance No. 141 (11/16/2009)

RULE 154 - CONSERVATION MESSAGE REQUIREMENTS

A. All Visitor-Serving and Public and Quasi-Public Facilities shall display in visible locations in all restrooms, kitchens, and dining areas, placards or decals approved by the District promoting public awareness of the need for water conservation and/or advising the public that waste of water is prohibited.

B. The owner and/or manager of each rental property shall provide a pamphlet, brochure, or other literature to current and future tenants that list the water conservation requirements, including the Water Waste and Non-Essential Water Use regulations of the District.

C. Visitor-Serving Facilities shall promote towel and linen reuse programs by providing written notice in the rooms, whereby towels and linens are changed every three days or as requested by action of the guest.

D. Visitor-Serving Facilities shall provide written notice that drinking water is available only upon request. Notification of this requirement shall be provided on the table(s) or menu(s) of each facility. Visitor-Serving Facilities shall not provide drinking water from the Monterey Peninsula Water Resource System at the table unless specifically requested

E. Facilities utilizing alternative sources of irrigation water (i.e. purified recycled water, Sub-potable/nonpotable Water, rainwater and Graywater, etc.) shall be encouraged to provide notice of the alternative supply, either by erecting a sign in compliance with local codes or by identifying the alternative supply in other venues such as in newsletters, websites, menus, etc.

Rule added by Ordinance No. 89 (7/21/97); amended by Ordinance No. 141 (11/16/2009)

RULE 171 - WATER WASTE AND NON-ESSENTIAL WATER USE ENFORCEMENT

A. Each occurrence of Water Waste or Non-Essential Water Use, as those terms are defined by Rule No. 11 (Definitions), which continues after the Water User has had reasonable notice to cease and desist that type of water use shall constitute a Flagrant Violation.

B. Repeated occurrences of Water Waste or Non-Essential Water Use, which continue or occur after the Water User has had a reasonable notice to cease and desist that type of water use, or which continues or occurs after the Water User has had a reasonable opportunity to cure any defect causing that type of water use, shall provide cause for the placement of a Flow Restrictor with a maximum flow rate of 6 ccf/month within the water line or water meter.

C. Water Waste, Non-Essential Water Use, and Flagrant Violation fine enforcement shall be governed by Regulation XI unless otherwise indicated.

Rule added by Ordinance No. 92 (1/28/99); amended by Ordinance No. 119 (3/21/2005); Ordinance No. 134 (8/18/2008)

WATER WASTE -"Water Waste" shall mean the indiscriminate, unreasonable, or excessive running or dissipation of water. Water Waste shall include, but not be limited, to the following:

1. Waste caused by correctable leaks, breaks or malfunctions. This loss of Potable water may be cited as Water Waste after a reasonable period of time has passed in which the leak or malfunction could have been corrected. Exceptions may be granted by the General Manager for corrections, which are not feasible or practical.

2. Use of Potable water for washing buildings, structures, driveways, patios, parking lots, tennis courts, or other hard surfaced areas, except in cases where health or safety are at risk.

3. Indiscriminate or excessive water use which allows excess to run to waste.

4. Use of Potable water to irrigate turf, lawns, gardens or ornamental Landscaping between 9:00 a.m. and 5:00 p.m. by means other than drip irrigation, or hand watering without quick acting Positive Action Shut-Off Nozzles. (Exceptions shall be made by the General Manager for professional gardeners where there is no ability to avoid watering between 9:00 a.m. to 5:00 p.m.).

5. Individual private washing of cars with a hose except with the use of a Positive Action Shut-Off Nozzle. Use of water for washing commercial aircraft, cars, buses, boats, trailers or other commercial vehicles at any time, except at commercial or fleet vehicle or boat washing facilities operated at a fixed location where equipment-using water is properly maintained to avoid wasteful use.

6. Transportation of water from the Monterey Peninsula Water Resource System without prior written authorization from the MPWMD shall be deemed Water Waste. Emergency or health related situations are exempt from this provision in accordance with Rule 169 (Water Rationing Variance).

7. Operation of a commercial car wash without recycling at least 50 percent of the Potable water used per cycle.

8. Use of water for more than minimal Landscaping, as defined in the Landscaping regulations of the Jurisdiction or as described in Article 10.8 of the California Government Code.

9. Use of Potable water for street cleaning.

10. Outdoor watering in excess of a Water Budget during Stages 2-4 Water Conservation when a Water Budget is required pursuant to Rule 172.

11. Failure to maintain water use within a mandatory Landscape Water Budget.

12. Misrepresentation of the number of Persons permanently residing on a property where water is supplied by a Water Distribution System or by a private Well.

13. Water use in excess of a Water Ration.

14. Washing of livestock with a hose except with the use of a Positive Action Shut-Off Nozzle.

The following activities shall not be cited as Water Waste:

1. Flow resulting from fire fighting or essential inspection of fire hydrants;

2. Water applied to abate spills of flammable or otherwise hazardous materials, where water application is the appropriate methodology;

3. Water applied to prevent or abate health, safety, or accident hazards when alternate methods are not available;

4. Storm run-off;

5. Flow from fire training activities during Stage 1 Water Conservation through Stage 3 Water Conservation;

6. Reasonable quantities of water applied as dust control as required by the Monterey Bay Unified Air Pollution Control District, except when prohibited by Regulation XV.

Added by Ordinance No. 61 (7/20/92); amended by Ordinance No. 92 (1/28/99); Ordinance No. 122 (8/15/2005); Ordinance No. 134 (8/18/2008); Ordinance No. 145 (9/20/2010)

WATER YEAR - "Water Year" shall mean the period from October 1 of one year to September 30 of the succeeding year.

Added by Ordinance No. 1 (2/11/80); amended by Ordinance No. 125 (9/18/2006)

WEATHER BASED IRRIGATION CONTROLLER -- "Weather Based Irrigation Controller" shall mean an Irrigation System controller that evaluates local weather conditions and Evapotranspiration (ET) rates to create a site-specific irrigation schedule.

Added by Ordinance No. 141 (11/16/2009)

WELL - "Well" means any device or method, mechanical or otherwise, for the production of water from Groundwater supplies within the District excluding seepage pits and natural springs.

Added by Ordinance No. 3 (7/11/80); amended by Ordinance No. 122 (8/15/2005)

Appendix Q. CAW/MPWMD Rebate Program – Current Rebates

MPWMD/CAW REBATE PROGRAM

January 1, 2012

All Rebates are available for purchase of the following Qualifying Devices within the boundaries of the Monterey Peninsula Water Management District when funding is available. At no time shall the Rebate amount exceed the cost of the Qualifying Device. Copies of receipts are required and must be submitted with an application within 120 days of purchase. Rebates are issued by the District on a first-come, first-served basis as long as funds remain available.

Residential Rebates

- High Efficiency Toilet -- $200 per toilet
- Ultra High Efficiency Toilet -- $250
- High Efficiency Residential Dishwasher -- $125
- High Efficiency Residential Clothes Washer -- $500
- Instant-Access Hot Water System -- $200 per Qualifying Property
- On-demand pump or point-of source water heater as part of an Instant-Access Hot Water System -- $100 per component, to a maximum of two components per Qualifying Property
- Smart Controller -- $100 for up to four stations. An additional $10 is available per station up to twenty (20) stations
- One or more Soil Moisture Sensor(s) on a conventional automatic Irrigation System -- $25 per sensor
- Rainwater Harvesting[1] -- $25 per 100 gallons of water storage capacity in a Cistern, up to a maximum storage capacity of 25,000 gallons per Qualifying Property. *Sites must have sufficient roof area to fill Cistern and may require an inspection*
- Lawn removal and replacement with low water use plants or permeable surfaces -- $1.00 per square-foot to a maximum of 2,500 square-feet per Qualifying Property. *Inspections and deed restrictions are required*
- Rotating Sprinkler Nozzles (minimum purchase and installation of ten) -- $4.00 per nozzle
- Graywater Irrigation System supplied by one Clothes Washer for irrigation -- $100. *A site inspection is required by Building Inspector and/or MPWMD*
- Graywater Irrigation System supplied by one or more Bathrooms that have a Bathtub/Shower connected to a Graywater Irrigation System -- $100 per Bathroom. (Residential limit: 4) *A site inspection is required by Building Inspector and/or MPWMD.*

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[1] Ordinance No. 153 (second reading June 19, 2012) will double the Rebate for the first 500 gallons of Cistern storage for Sites supplied with water from the Monterey Peninsula Water Resource System

Non-Residential Rebates

All Rebates are available for purchase of the following Qualifying Devices within the boundaries of the Monterey Peninsula Water Management District when funding is available. At no time shall the Rebate amount exceed the cost of the Qualifying Device. Copies of receipts are required and must be submitted with an application within 120 days of purchase. Rebates are issued by the District on a first-come, first-served basis as long as funds remain available.

- High Efficiency Toilet -- $200 per toilet
- Ultra High Efficiency Toilet -- $250
- High Efficiency Urinal -- $200
- Pint Urinal -- $300
- Zero Water Consumption Urinal -- $300
- High Efficiency Residential Clothes Washer -- $500
- Smart Controller -- $100 for up to four stations. An additional $10 is available per station up to twenty (20) stations
- Rain Sensor attached to an Irrigation System controller -- $25
- One or more Soil Moisture Sensor(s) on a conventional automatic Irrigation System -- $25 per sensor
- Rainwater Harvesting[2] -- $25 per 100 gallons of water storage capacity in a Cistern, up to a maximum storage capacity of 25,000 gallons per Qualifying Property. *Sites must have sufficient roof area to fill Cistern and may require an inspection*
- Lawn removal and replacement with low water use plants or permeable surfaces -- $1.00 per square-foot to a maximum of 5,000 square-feet per Qualifying Property. *Inspections and deed restrictions are required*
- Rotating Sprinkler Nozzle (minimum purchase and installation of ten) -- $4.00 per nozzle
- Commercial High Efficiency Clothes Washer -- $1,000.
- Water Broom --$150
- Cooling Tower Conductivity Controller -- $1,000
- CEE Tier II Water Efficient Ice Machine -- $500
- X-ray film processor recirculation system --$2,500
- Cooling Tower pH/Conductivity Controller -- $2,500
- Dry Vacuum Pumps -- $200 per 0.05 HP to a limit of 4 HP
- High Efficiency Connectionless Steamer -- $1,500 per compartment
- Water Efficient Commercial Dishwasher:
    - $500 -- under counter model
    - $1,000 -- single tank door type model
    - $1,500 -- single tank conveyor
    - $2,000 -- multi-tank conveyor
- Medical equipment steam sterilizer retrofit with a water tempering device -- $1,500
- *Non-Residential Graywater Irrigation System shall be considered on a case-by-case basis by the General Manager*

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[2] Ordinance No. 153 (second reading June 19, 2012) will double the Rebate for the first 500 gallons of Cistern storage for Sites supplied with water from the Monterey Peninsula Water Resource System

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