APPENDIX J

Water Conservation Plan

MODESTO CITY COUNCIL
RESOLUTION NO. 2011-192

RESOLUTION ADOPTING THE MODESTO WATER CONSERVATION PLAN

WHEREAS, effective January 2009, Assembly Bill 1420 (AB 1420) amended the State Water Code to require agencies to implement or have a plan to implement the specific Demand Management Measures (DMMs) accepted by the State Department of Water Resources (DWR) as qualifying conservation plans before being eligible for state water management grants and loans, and

WHEREAS, agencies can demonstrate to DWR their implementation of the DMMs or their implementation plan by completing and submitting AB 1420 Self-Certification Statement Tables, which summarize their Conservation Plan DMM implementation schedule and other required details, and

WHEREAS, although Modesto has had an active and managed Water Conservation Program for many years, a Conservation Plan document describing these DMMs that support the Self-Certification Statement Tables has not been formally developed, and

WHEREAS, on April 27, 2010, the City Council, by Resolution No. 2010-151, amended an existing agreement with RMC Water and Environment to use remaining contract funds to develop a Conservation Plan, and

WHEREAS, the Conservation Plan describes the process to meet all of the goals for the DMMs over the next ten years, and

WHEREAS, the overall intent of the Conservation Plan is to promote water conservation programs and maximize real water conservation results in the most effective an economical means available, and

WHEREAS, the DMMs also serve as a plan to achieve the mandated 2015 Interim and 2020 Final per-capita water use targets developed in the 2010 Urban Water Management Plan (2010 UWMP), which was adopted under a separate Council action, and

WHEREAS, on March 28, 2011, the City submitted for DWR's review the completed AB 1420 Self-Certification Statement Tables, and

WHEREAS, on April 14, 2011, the City received notification from DWR affirming the City's compliance with AB 1420 which states that Modesto is eligible to receive water management grants and loan funds,

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby adopts the Modesto Water Conservation Plan.

The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 24th day of May, 2011, by Councilmember Marsh, who moved its adoption, which motion being duly seconded by Councilmember Muratore, was upon roll call carried and the resolution adopted by the following vote:

AYES:	Councilmembers:	Burnside, Geer, Hawn, Lopez, Marsh, Muratore, Mayor Ridenour
NOES:	Councilmembers:	None
ABSENT:	Councilmembers:	None

ATTEST: _____
STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: _____
SUSANA ALCALA WOOD, City Attorney

THIS IS TO CERTIFY THAT THIS
IS A TRUE COPY OF THE DOCUMENT ON
FILE WITH THIS OFFICE.
DATE May 31, 2011
_____
SIGNATURE
CITY CLERK
CITY OF MODESTO, CA

City of Modesto
Water Conservation Plan

Prepared by:

RMC
Water and Environment

May 2011

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Appendices

Appendix A - **School Educational and Public Outreach Materials Examples**
Appendix B - **City of Modesto Water Shortage Contingency Plan**

List of Abbreviations

AF	Acre-feet
AFY	Acre-feet per year
BMP	Best Management Practice
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CII	Commercial, Industrial, and Institutional
CUWCC	California Urban Water Conservation Council
DMM	Demand Management Measure
DPH	Department of Public Health
DWR	California Department of Water Resources
EDU	Equivalent Dwelling Unit
EIR	Environmental Impact Report
ETo	Reference Evapotranspiration
gpd	gallons per day
gpm	gallons per minute
HEWM	High Efficiency Washing Machine
ID	Improvement District
IRWMP	Integrated Regional Water Management Plan
mgd	Million gallons per day
MID	Modesto Irrigation District
MOU	Memorandum of Understanding
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric
TID	Turlock Irrigation District
ULFT	Ultra-Low-Flush Toilet
UWMP	Urban Water Management Plan
WSS	WaterSense Specification

Chapter 1 Introduction

The City of Modesto (City) has acknowledged the importance of water conservation and management, and has implemented significant water conservation efforts during the drought years of 1976-1977 and 1987-1992 in addition to maintaining ongoing conservation programs. In March 1990, the City of Modesto City Council approved a Water Conservation Program (Section 11-1.14 of Title XI of the Modesto Municipal Code) which combined a strong education program with watering restrictions and prohibition of water waste. The City of Modesto has now developed this Water Conservation Plan, building upon the demand management measures and conservation strategies identified and documented in the 2005 Urban Water Management Plan (UWMP) Update, with the intent to better define the City's Conservation Program and to plan for conservation program implementation in the future.

The City's Water Conservation Program is administered through the City's Water Operations Division of the Public Works Department. The City has implemented, or plans to implement, all of the Best Management Practices (BMPs) included in the 2005 UWMP program as defined in the December 2008 California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU), the corresponding document to the demand management measures denoted in the 2005 UWMP Guidelines and the State's AB1420 water use efficiency program. The City is currently preparing its 2010 UWMP which will include this conservation plan. This plan will then be adopted by the City of Modesto's City Council in conjunction with its 2010 UWMP.

1.1 History

The City of Modesto began providing potable water service in 1895 following the purchase and acquisition of several private water companies. Until 1995, the sole source of water supply to the City was groundwater from the Modesto and Turlock groundwater subbasins (part of the San Joaquin Valley Groundwater Basin). Groundwater levels started to decline in 1924, particularly in the downtown area, due to increased groundwater pumping for urban uses. In the early 1990s, the City of Modesto, Modesto Irrigation District (MID), and Del Este Water Company formed a partnership to use a portion of MID's surface water supplies for municipal use, resulting in the implementation of the Modesto Domestic Water Project (MDWP). Phase 1 of the MDWP consists of a 30 million gallon per day (mgd) surface water treatment plant and storage and delivery facilities, all of which were operational in 1995. Phase 2 of the program includes the expansion of the Modesto Regional Water Treatment Plant (MRWTP), built and operated by MID, to treat an additional 30 mgd. This plant upgrade is scheduled to come on-line by 2013.

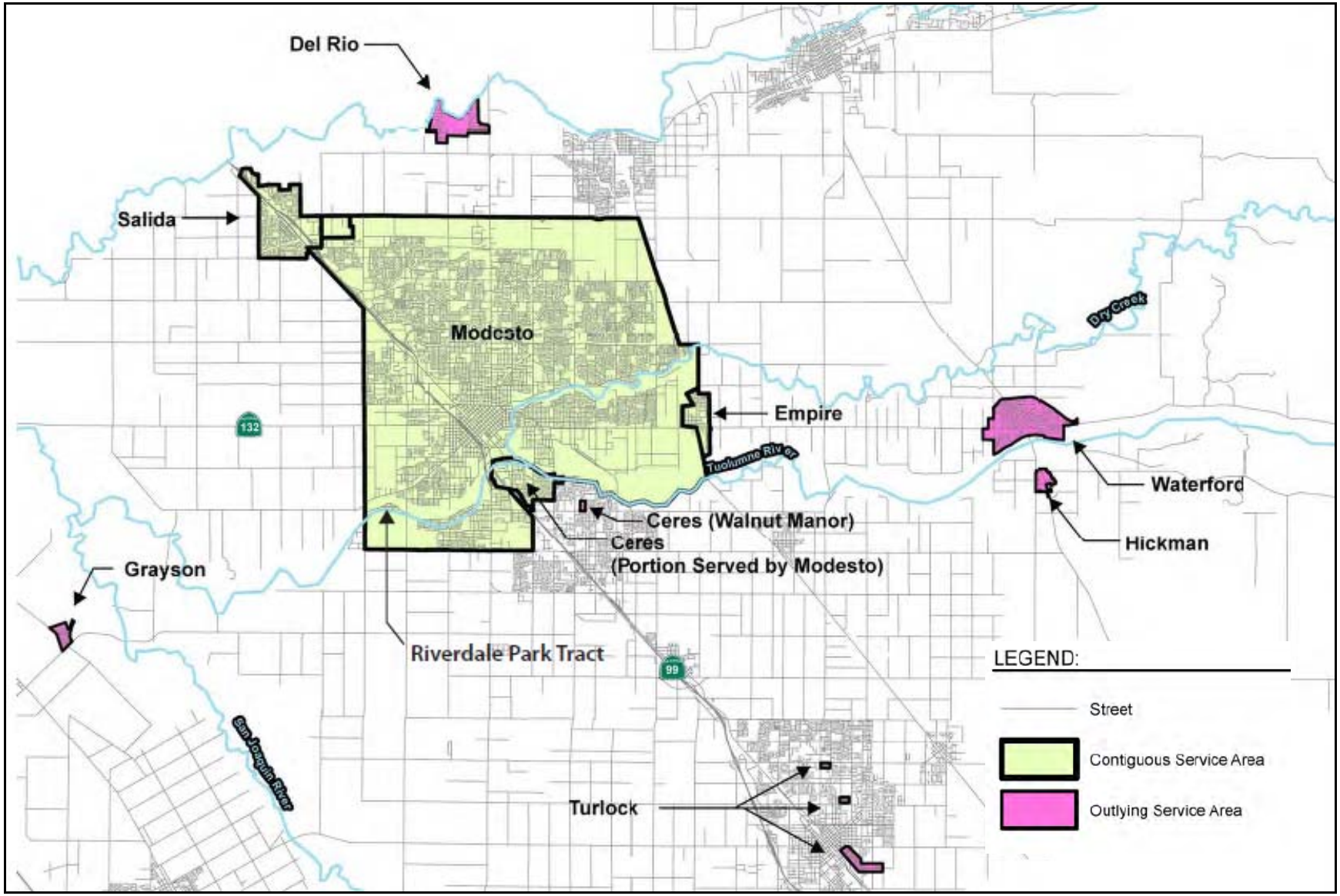
In July 1995, the City acquired the Del Este Water Company, which had previously served approximately 30% of the municipal customers in the Modesto area. As a result of this acquisition, the City of Modesto became the primary domestic water purveyor in Stanislaus County, serving not only the City of Modesto, but also the communities of Waterford, Hickman, Del Rio, Salida, Grayson, Empire and parts of Ceres and Turlock. The MRWTP delivers water to municipal customers within the city limits of the City of Modesto north of the Tuolumne River, as well as the communities of Salida and Empire. The City serves municipal customers south of the Tuolumne River in the Turlock Irrigation District (TID) service area from groundwater. TID currently serves only agricultural customers and does not supply water for municipal uses.

The City of Modesto is currently dependent on groundwater for up to 60 percent of its total supply during summer and fall months. Recently, the City entered into an agreement with TID to participate in design of a Regional Surface Water Supply Project (RSWSP), to be located east of Modesto on the south side of the Tuolumne River. Under a future Treatment and Delivery Agreement (TDA) with TID, up to 6,720 AFY (6 MGD) of TID surface water from the RSWSP Phase 1 would be delivered to the south Modesto area, enhancing the City's ability to manage its surface and groundwater supplies conjunctively. Upon completion of Phase Two of the MRWTP, the City will increase surface water use and reduce groundwater pumping to below current usage, allowing for in-lieu groundwater banking in which

groundwater supplies accumulate in the groundwater basin for use in meeting normal and dry year demands in the future. The City of Modesto's water service area is shown in Figure 1-1.

As the City manages its water service area, it recognizes that water is a regional resource as well as a local one. Therefore, regional partnerships, in addition to local projects and conservation measures, play a large role in maximizing resources. The City is currently participating in the preparation of an Integrated Regional Water Management Plan (IRWMP) with other local entities, including the Cities of Ceres, Hughson and Turlock, as well as Turlock Irrigation District and Modesto Irrigation District. Participation in the IRWM planning process allows the City and its partners to develop a regional plan to identify resources and develop projects to provide sustainable water resources to meet regional water needs.

Figure 1-1: City of Modesto Water Service Area



Source: *2010 Water System Engineer's Report Draft Program Environmental Impact Report* (ICF Jones & Stokes, 2009)

1.2 Physical Setting

Water use within the Modesto area is dependent upon various climate factors such as temperature, precipitation, and evapotranspiration (ET). ET is a term used to describe water lost through evaporation from the soil and surface-water bodies combined with plant transpiration. In general, the reference evapotranspiration (ETo) is given for turf grass, and then corrected for a specific crop type. Local ETo data was obtained from California Irrigation Management Information System (CIMIS) station #71, located west of Modesto, California and operated by DWR. Table 1-1 shows the historic climate characteristics affecting water management in the Modesto area.

Table 1-1: Modesto Climate

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann.
Monthly Average ETo(1) (in)	0.87	1.71	3.43	5.24	6.7	7.4	7.85	6.75	4.93	3.37	1.66	0.87	50.78
Average Total Precipitation(2) (in)	2.37	2.13	1.94	1.07	0.46	0.09	0.03	0.04	0.2	0.64	1.36	2.1	12.42
Average Max Temperature(2) (°F)	53.7	60.8	66.9	73.4	81.1	88.2	94.1	92.1	87.7	78	64.4	54.2	74.5
Average Min Temperature(2) (°F)	37.7	40.9	43.4	46.8	51.7	56.4	59.8	58.7	56	49.7	41.7	37.8	48.4

Notes:
1. Data from CIMIS Station #71. CIMIS information is available only from June 1987 to the present.
2. Data from Western Regional Climate Center (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?camode+nca) for Modesto, CA. Period of record is 1/1/1931 through 12/31/04.

Other climate characteristics that affect water management in the Modesto area include solar radiation, relative humidity, dew point, wind speed, and soil temperature.

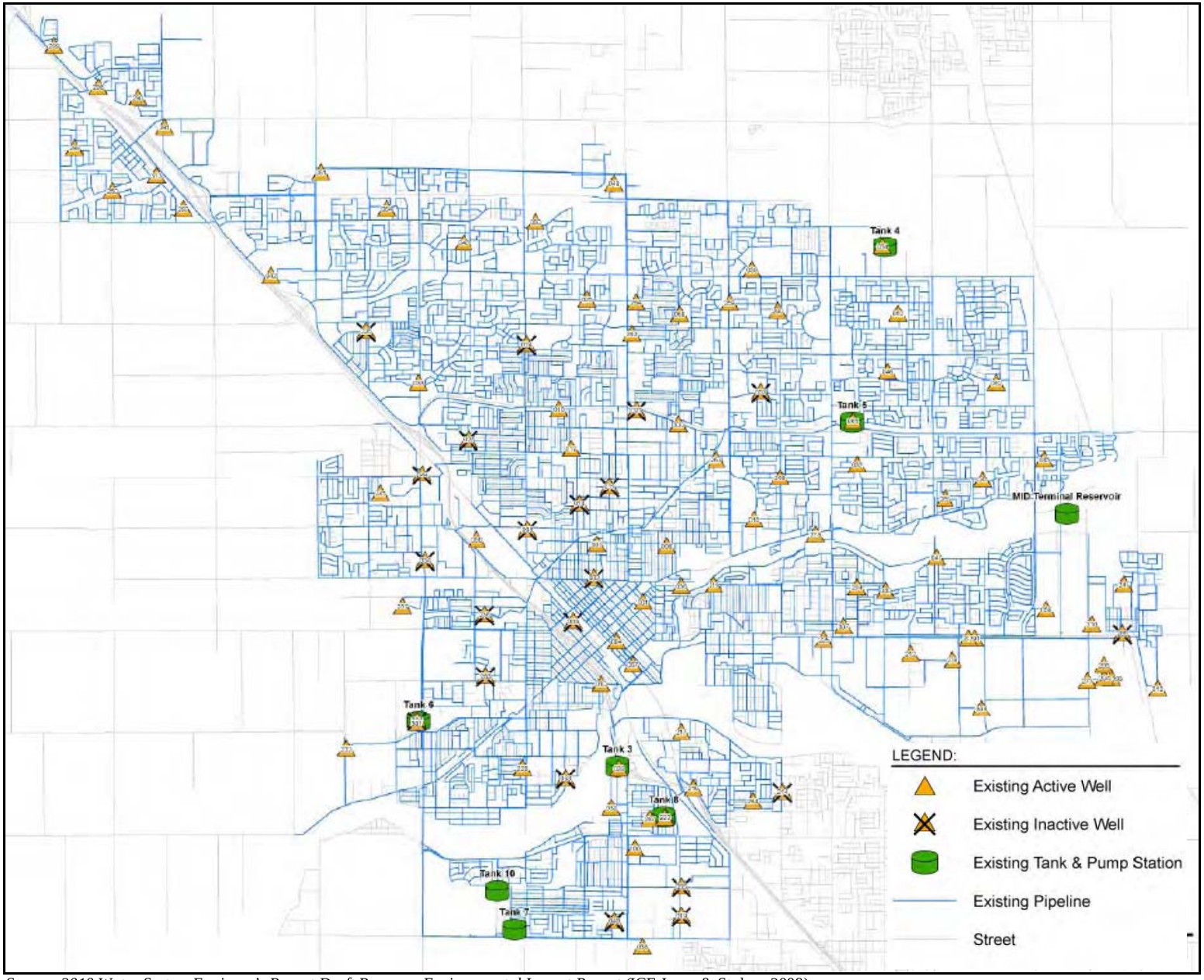
1.3 System Description

The City of Modesto obtains its water supply from groundwater from the Modesto and Turlock groundwater subbasins and from treated Tuolumne River water from MID. As previously noted, the City of Modesto's water service area includes former Del Este Water Company systems in Empire, Salida, Waterford, Hickman, Grayson, Del Rio, and portions of Ceres and Turlock in Stanislaus County. There are over 77,000 water connections, 940 miles of water lines in the water system, 113 groundwater wells (21 are currently not operated due to water quality reasons), and eleven water tanks (one is not yet operational and one is older and not currently used). There are two raw water reservoirs serving the Modesto area: the Modesto Reservoir and New Don Pedro Reservoir. Completed in 1911, owned and operated by MID, Modesto Reservoir has a gross storage capacity of 28,000 acre-feet (AF). The New Don Pedro Reservoir, owned and operated by MID and TID, is located four miles northeast of La Grange in the Sierra Nevada foothills and is 26 miles long with a capacity of 2.03 million AF.

1.4 Conservation Policy

The City updated their 2005 UWMP which discussed the fourteen water conservation measures that were being implemented by the City (referred to by the California Department of Water Resources (DWR) as Demand Management Measures or DMMs). Historically, the City has directly budgeted for conservation programs each fiscal year and implemented programs as deemed prudent. The fourteen existing DMMs, as set forth in the 2005 UWMP Update, are described and updated accordingly in Chapter 3, Conservation Programs.

Figure 1-2: Major Water Facilities



Source: *2010 Water System Engineer's Report Draft Program Environmental Impact Report* (ICF Jones & Stokes, 2009)

Chapter 2 Conservation Policies and Program Goals

The City's goals are to conserve water through public relations, education, customer service, and enforcement. The City strives to meet this challenge by working in a friendly, respectful and positive manner with homeowners, businesses and property managers (RMC, 2007).

In preparation of this Water Conservation Plan, the City of Modesto developed the following policy statement, reflecting its belief in water conservation:

> *To protect, conserve, and manage all water resources for the current and future needs of the community and the environment.*

The overall goal is to develop a system-wide water conservation plan containing acceptable water efficiency measures and an implementation plan which will decrease water use and water loss while using the most cost-effective methods.

Furthermore, with the preparation and implementation of this plan, the City aims to:

1. Be compliant with Assembly Bill 1420 (AB 1420) requiring the implementation of fourteen baseline conservation measures of Best Management Practices (BMPs).
2. Meet California Urban Water Conservation Council goals as outlined in the Memorandum of Understanding Regarding Urban Water Conservation in California for the fourteen conservation measures identified in the 2005 UWMP.
3. Create an implementation program for conservation measures based on affordability and feasibility.

Chapter 3 Conservation Programs

This section describes the existing water conservation measures or programs, referred to interchangeably as Best Management Practices (BMPs) or Demand Management Measures (DMMs), that the City is implementing and/or plans for future implementation.

As previously stated, the City of Modesto prepared a 2005 UWMP Update in 2007. The UWMP summarized fourteen primary conservation measures, referred to as DMMs, as required by the 2005 UWMP Guidebook. These fourteen conservation measures are the same fourteen measures referred to as BMPs in the California Urban Water Conservation Council (CUWCC) *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU), adopted the 1991 and amended in December 2008. These BMPs are considered base or foundational programs required to expedite implementation of reasonable water conservation measures in urban areas. Furthermore, these same fourteen measures have since become the primary measures by which the California Department of Water Resources (DWR) Office of Water Use Efficiency measures compliance with Assembly Bill (AB) 1420. AB 1420 amended the Urban Water Management Planning Act, Water Code Section 10610 *et seq.* to require effective January 1, 2009, that the terms of and eligibility for any water management grant or loan made to an urban water supplier and awarded or administered by the DWR, State Water Resources Control Board (SWRCB) or California Bay-Delta Authority (CBDA) or its successor agency, be conditioned on the implementation of the water DMMs described in Water Code Section 10631(f). AB 1420 certification requires that each DMM be implemented to the levels of coverage as specified in the CUWCC MOU.

This Conservation Plan was prepared considering the City's conservation needs, the requirements of the Urban Water Management Planning Act and the requirements of AB 1420 certification. To that end, of the fourteen DMMs documented in the UWMP guidelines and the AB1420 certification documents is discussed below. For each DMM, the measure is described and the requirements for CUWCC MOU compliance and compliance documentation required are presented. The CUWCC MOU requirements were used herein as measures for City compliance as the AB1420 legislation uses this document as its measure for State-wide compliance with the legislation.

3.1 DMM 1: Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers

3.1.1 CUWCC Description

DMM 1 is intended to provide water survey programs for both single-family and multi-family residential customers. Survey programs are to encompass both indoor and outdoor water use. Specifically, DMM 1 is to include the following.

> Residential Assistance - Provide site-specific leak detection assistance that may include, but is not limited to a water conservation survey, water efficiency suggestions, and/or inspection.
>
> Landscape Water Survey - 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.

3.1.2 CUWCC Documentation Requirement

Provide reports, disaggregated by single-family and multi-family units, identifying the number of:

- residential assistance/leak detection survey visits completed
- WaterSense Specification (WSS) showerheads distributed
- WSS faucet aerators distributed during the reporting period

In addition, provide the number of single-family and multi-family account landscape water surveys completed during the reporting period.

3.1.3 CUWCC Goal

Provide leak detection assistance averaging 1.5% per year of single-family accounts and 1.5% of multi-family accounts per year for the first ten years. After meeting the 10 year 15% target, maintain the program at level of high-bill complaints or not less than 0.75% per year of current single-family accounts and 0.75% per year of current multi-family accounts. The same level of compliance will be provided for landscape surveys.

3.1.4 Implementation Status

The City has not yet implemented this DMM.

3.1.5 Existing Program

Water surveys for residential users help raise awareness of water conservation in the home and helps conserve water during everyday use. The City's Water Conservation Program was established in 1990, and during that first year, 1,732 contacts were made at residences and businesses to explain the program. The number of contacts made each year continues to grow, with more than 7,800 contacts made in the Summer of 2004 alone. Program staff members are available to set sprinkler timers upon request, adjust sprinkler heads, and provide minor advice on sprinkler systems. Staff members agree that the small amount of extra time spent assisting customers creates goodwill, ultimately reducing the likelihood of enforcement staff having to return in the future. In the past, the City has offered these free services upon request, but has not had a formal surveying program.

3.1.6 Future Program

Herein, the City has formalized its program for residential water surveys and landscape water surveys. Table 3-1 summarizes the estimated number of surveys to be completed over the next 10 years. The City will identify the high water users in its service and focus on those areas; service technicians and/or City interns will visit the residential users to provide leak detection assistance by performing surveys that include both indoor and outdoor investigations and to offer suggestions for both single-family and multi-family residences to improve water use efficiency. The numbers included in Table 3-1 assume residential landscape surveys will be conducted at the same time as indoor residential surveys. Surveys are offered via mailers, bill inserts and/or the City's website.

Table 3-1: Projected Water Survey Program

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
Surveys Offered	14,192	14,192	14,192	14,192	14,192	14,192	14,192	14,192	14,192	14,192
# of single family surveys	990	990	990	990	990	990	990	990	990	990
# of multi-family surveys	72	72	72	72	72	72	72	72	72	72

3.2 DMM 2: Residential Plumbing Retrofit

3.2.1 CUWCC Description

DMM 2 provides site-specific leak detection to residential customers by providing plumbing retrofits, including showerheads and faucet-aerators that meet the current water efficiency standard as stipulated in the WaterSense Specifications (WSS).

3.2.2 CUWCC Documentation Requirement

Provide reports, disaggregated by single-family and multi-family units, identifying the number of residential assistance/leak detection survey visits completed, number of WSS showerheads distributed, and number of WSS faucet aerators distributed during the reporting period.

3.2.3 CUWCC Goal

Plumbing device distribution and installation programs will be maintained at a level sufficient to distribute high quality, low-flow showerheads to not less than 10% of single-family residences and 10% of multi-family units constructed prior to 1992 each reporting period; or enactment of an enforceable ordinance requiring the replacement of high-flow showerheads and other use fixtures with their low-flow counterparts. Continue until coverage includes 75% of single family and multi-family units.

3.2.4 Implementation Status

The City is currently implementing this program, but has not yet achieved the CUWCC goal.

3.2.5 Existing Program

The City of Modesto requires water efficient equipment to be installed in all new construction and remodels. In addition, Water Conservation Kits are distributed by the City through its Water Conservation Program. Conservation kits are also distributed after each water conservation presentation to both adults and children. Over 30,000 kits have been distributed since 1983. Each kit contains one toilet displacement bag, dye tablets to detect toilet leaks, general conservation information, and installation instructions. When using the displacement bag in a standard toilet, approximately one gallon of water is saved with each flush. It is estimated that 20 percent of all toilets leak, and that the average leak wastes nearly 47 gallons a day. Using the dye tablet will help citizens detect those leaks. The water savings from using lawn watering guides is estimated to be 20 percent per household with automatic sprinklers and 10 percent for manual systems.

3.2.6 Future Program

In addition to the distribution of the Water Conservation Kits, implementation of this DMM will be combined with DMM 8, school education. As part of the school education programs discussed in DMM 8, the City will distribute low-flow showerheads to the fifth-grade classes targeted for presentations each year. Under this program, the City will aim to distribute approximately 6,000 WSS showerheads each year.

In addition to providing low-flow showerheads to the 5th grade classes under DMM 8, the City will also distribute additional low-flow showerheads as giveaways at other public events.

Table 3-2 summarizes the total number of planned low-flow showerhead giveaways provided for residential plumbing retrofits each fiscal year.

Table 3-2: Planned Residential Showerhead Retrofits

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# Showerheads to SF Accounts	4,583	4,583	4,583	4,583	4,583	4,583	4,583	4,583	0	0
# Showerheads to MF Accounts	1,554	1,554	1,554	1,554	1,554	1,554	1,554	1,554	0	0
AFY savings showerheads	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	0	0

Note: Rebates for low-flow toilets will not be included in DMM 2, as DMM 14 is devoted solely to providing WSS toilets.

3.3 DMM 3: System Water Audits, Leak Detection, and Repair

3.3.1 CUWCC Description

Per the CUWCC program, implementation of DMM 3 shall consist of at least the following actions:

1. Annually complete a pre-screening system audit to determine the need for a full-scale system-wide water audit. The pre-screening system audit shall be calculated as follows:
    a. Determine metered sales
    b. Determine other system verifiable uses
    c. Determine total supply into the system
    d. Divide metered sales plus other verifiable uses by total supply into the system (if this quantity is less than 0.9, a full scale system audit is indicated).
2. When indicated, agencies shall complete water audits of their distribution systems using methodology consistent with that described in AWWA's Water Audit and Leak Detection Guidebook.
3. Agencies shall advise customers whenever it appears possible that leaks exist on the customer's side of the meter, perform distribution system leak detection when warranted and cost-effective, and repair leaks when found.

3.3.2 CUWCC Documentation Requirement

Documentation required in support of this DMM includes pre-screening audit results and supporting documentation and in-house records of audit results or the completed AWWA Audit Worksheets for each completed audit period.

3.3.3 CUWCC Goal

Complete one pre-screening audit per year.

3.3.4 Implementation Status

The City is currently implementing this program, but has not yet achieved the CUWCC goal.

3.3.5 Existing Program

Repair and maintenance of the water distribution systems are priorities for the City. In addition to the City's Water Conservation Program, the City also has Capital Improvement Projects that provide for maintenance programs that maximize efficiency of water distribution system operations and minimize water losses. These programs include using SCADA systems to monitor groundwater and surface water production, quick responses to water main leak detection and repair, recalibration of each well meter

every four years, annual pump efficiency testing, and water quality efforts including main flushing and water quality testing.

Daily water production from the City of Modesto's wells and water treatment plant is recorded and used to monitor water use. Additionally, the City of Modesto maintains records of main breaks which are used to identify mains to be replaced and estimate system water loss.

Water Line workers (four servicemen and one supervisor) are responsible for identifying excessive water waste, standing water and system leaks. At the customer's request, City staff will investigate and, where appropriate, repair leaks within the City's right-of-way. In addition, staff conducts repairs of water line leaks and replaces or repairs meters. A repair crew will repair leaks in areas where leak detection equipment has pinpointed hidden leaks.

Each year, 25 percent of well sites are serviced and meters are recalibrated as routine maintenance. Pump efficiency tests are completed annually. Repairs are promptly made on pumps showing decreased efficiency, and well meters found to be inaccurate or exhibiting signs of wear are promptly replaced. Well efficiency is consistently tracked through the City of Modesto's SCADA System.

A Maintenance Avoidance Program was implemented in 1995 to analyze motor well vibration using a probe and recorder. This program allows the City to schedule maintenance on motors and pumps based on predictive trends calculated by the vibration analysis instruments. As a result, motors and pumps can be repaired or parts replaced before their complete failure, extending their useful life.

The City's Water Division uses Geographical Information Systems (GIS) and Global Positioning Systems (GPS) to record fire hydrant locations, valves, water meters, and to map water lines of all water distribution systems. The GIS data is organized in a database of the water system. In conjunction with the data assembled through SCADA, the database aids in hydraulic modeling of the water system. Additionally, the City uses CASS WORKS, a maintenance management system. The management system benefits the City by improving efficiency in completing work orders, managing imported records and scheduling maintenance. These programs are effective tools for providing customers with an efficiently operated and dependable water distribution system.

In the past, the City has contracted out a leak detection crew to complete a visual inspection of the system. The City Engineering staff work with City Operations crews to identify old pipelines that are leaking, and provide follow-up in replacing those lines. This is, and will continue to be, conducted as part of the City's Annual Pipe Replacement Program.

3.3.6 Future Program

The City's work on its Annual Pipe Replacement Program has allowed them to identify six large areas within its service area that are problematic with high percentages of leaking due to pipe age. A schedule and budget have been developed to systematically replace the pipes in these identified areas. In addition to the City's existing program, the City will also begin conducting an annual pre-screening audit in which they will determine metered sales and other verifiable uses (in acre-feet). These amounts will be summed and divided by the total supply into the system. If the number is less than 0.9, a full water system audit will be conducted; if the number is greater than or equal to 0.9, then nothing more will be completed as part of this DMM. For the purposes of budgeting for this DMM, it was assumed that a detailed water audit will be conducted every five years.

3.4 DMM 4: Metering with Commodity Rates for All New Connections and Retrofit for Existing Connections

3.4.1 CUWCC Description

Implementation of this DMM consists of the following actions:

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.
    - Establish and maintain billing intervals that are no greater than bi-monthly (every two months) for all customers.
    - 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 census of all meters, by size, type, year installed, customer class served and manufacturer's warranty accuracy when new;
    - A currently approved schedule of meter testing and repair, by size, type and customer class;
    - A currently approved schedule of meter replacement, by size, type, and customer class; and
5. Identify 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.

Service lines dedicated to fire suppression systems are exempt from this requirement.

3.4.2 CUWCC Documentation Requirement

Documentation required for compliance with the CUWCC MOU for DMM 4 is as follows:

- Confirmation that all new service connections are metered and are being billed by volume of use and provide:
    - Number of metered accounts
    - Number of metered accounts read
    - Number of metered accounts billed by volume of use
    - Frequency of billing (i.e. six or twelve times per year) by type of metered customer (e.g. single-family residential, multiple-family residential, commercial, industrial, and landscape irrigation)
    - Number of estimated bills per year by type of metered customer (e.g. single-family residential, multiple-family residential, commercial, industrial, and landscape irrigation) vs. actual meter readings
- Number of unmetered accounts in the service area. For the purposes of evaluation, this shall be defined as the baseline meter retrofit target and shall be used to calculate the agency's minimum annual retrofit requirement.
- Number of unmetered service connections retrofitted during the reporting period.
- Estimated number of CII accounts with mixed-use meters.
- Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.

3.4.3 CUWCC Goal

Meter 100% of existing unmetered accounts and bill by volume, including:

1. Initiating volumetric billing for all metered customers within one year
2. Complete meter installation for all service connections within 6 years
3. For unmetered service areas newly acquired or newly operated by otherwise metered agencies, meter installation shall be completed in these service areas within 6 years of the acquisition or operational agreement
4. A feasibility study examining incentive programs to move landscape water uses on mixed-use meters to dedicated landscape meters to be completed by the end of Year Four
5. A written plan, policy or program to test, repair and replace meters shall be completed and submitted electronically within one year

3.4.4 Implementation Status

The City is currently implementing this program, but has not yet achieved the CUWCC goal.

3.4.5 Existing Program

The City's water system is not fully metered. The City has been installing meters on new homes since the City Council enacted the Modesto Municipal Code 11-1 on May 14, 1991. Of the total 70,960 residential connections, 32,035 (as of July 2010) are unmetered. All but one of the City's non-residential services are metered, and all new development in the City since 1991 has had meters installed.

As accounts are converted to metered accounts, the City implements the rate structure shown in Table 3-12. This rate structure encourages conserving behavior by incorporating a uniform volume charge in addition to the fixed meter charge. In this way, water usage reductions directly reduce cost to the user, while excessive water use results in increased costs.

3.4.6 Future Program

Table 3-3 summarizes the planned commodity rate metering and retrofits for the next ten fiscal years; the City anticipates being fully metered by 2025. By developing and implementing the ongoing meter installation and replacement program, the City is developing a more focused and direct monitoring tool allowing them to detect high water usages, contributing to the implementation of DMM 1 and DMM 3. In 2009, the City budgeted two new positions in the billing division of the Finance Department, one of which is currently filled. In the future, the City will fill the other position and plans to have both positions supporting the City's meter program in a customer service role, taking phone calls, answering questions and comments, and providing information on water usage, meter installation schedule, conservation measures, and leak detection by communicating directly with homeowners. These two finance positions will also support the Water Conservation Coordinator.

Table 3-3: Planned Commodity Rate Metering and Retrofits

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# of meter conversions	5,300	3,400	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
# of accounts converted from flat to volumetric use	5,300	3,400	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250

3.5 DMM 5: Large Landscape Conservation Programs and Incentives

3.5.1 CUWCC Description

Under DMM 5, the City will provide support and incentives to improve non-residential customers' landscape water use efficiency. Support shall include:

1. Accounts with dedicated irrigation meters:
    - Identify accounts with dedicated meters and assign ETo-based water use budgets equal to no more than an average of 70% of ETo of annual average local ETo per square foot of landscape area.
    - Provide notices each billing cycle to accounts with water budget showing the relationship between the budget and actual consumption.
    - Offer site-specific technical assistance to reduce water use to accounts that are 20% over budget.
2. Commercial, industrial, and institutional (CII) accounts without meters or with mixed-use meters
    - Develop and implement strategy targeting large landscape water use surveys to CII accounts with mixed-use meters.
    - In un-metered service areas, actively market landscape surveys to existing accounts with large landscapes or accounts with landscapes that are not water efficient.
3. Offer financial incentives.

3.5.2 CUWCC Documentation Requirement:

Under this DMM, the City will preserve water use records and budgets for customers with dedicated landscape irrigation accounts for at least four years. In addition, the following information will be preserved for CII accounts without meters or with mixed-use meters:

- Number of accounts
- Number, type, dollar value of incentives, rebates, and no- or low-interest loans offered to, and received by, customers
- Number of surveys offered
- Number of surveys accepted
- Estimated annual water savings by customers receiving surveys and implementing

3.5.3 CUWCC Goal

Per the CUWCC MOU (set by AB1420 as the standard for DMM compliance), the goals for DMM 5 are as follows:

- At least 90% of all dedicated meters and 15% of all mixed-use and non-metered accounts will receive assistance over a ten year period.
- Develop ETo-based water use budget for 9% of all dedicated accounts per year over 10 years.
- Offer site specific technical assistance annually to accounts that are 20% over their budget within 6 years of the date of implementation.

3.5.4 Implementation Status

The City has not yet implemented this DMM.

3.5.5 Existing Program

The City of Modesto Public Works Water Division has implemented an efficient, ETo-based irrigation system at eleven city parks. The ETo-based irrigation systems involve irrigating parks using field

computers connected by modem to a weather station. The weather station relays weather forecasts and evapotranspiration data to the field computers and the irrigation is adjusted according to incoming weather forecasts. Currently, there are plans to expand the system to include more parks and public land. The City's three certified landscape auditors oversee landscaping maintenance of the City's parks and golf courses.

The City also strives to match water quality with use. For example, the shallower aquifers in the area are generally not tapped for potable water uses due to the presence of contaminants that require treatment. The City has been evaluating the conversion of older, shallower wells or developing new shallow wells to be used exclusively for park landscaping irrigation instead of using the treated surface and groundwater sources for these demands. This strategy serves as both a cost savings to the Parks & Recreation Department and as a means by which available potable water supply sources can be conserved for potable uses. Irrigation conservation measures are still utilized at the parks, regardless of water source; but using the shallower water-bearing aquifer zones puts a supply to use that would otherwise go unused in highly urban areas. In the future, this strategy may be applied to local schools within the service area.

3.5.6 Future Program

In addition to the actions the City is already taking (as described in Section 3.5.5), the City also intends to begin a program to formally offer surveys to large landscape accounts. Under this program, the City will visit customers who irrigate and recommend an efficient irrigation schedule and improvements. The City will provide each dedicated irrigation account with an ETo-based water use budget equal to no more than an average of 70% of ETo of annual average local ETo per square foot of landscape area. The recreational areas, such as parks, may require additional water than allotted in the budget, but their use still may not exceed 100% of ETo on an annual basis.

To aid the customer in tracking their water use, the City will provide notices each billing cycle to the accounts with water use budgets showing the relationship between the budget and actual water consumption. The City will offer technical assistance to customers that are 20% over budget. Surveys will also be provided to commercial, industrial and institutional (CII) accounts. There is currently only one CII account that is not metered; this account will have a meter installed as part of the City's meter conversion program (DMM 4). Finally, the City will implement a weather-based irrigation controller (WBIC) rebate program, offering a $50 rebate per WBIC purchased.

Table 3-4 summarizes the projected number of the large landscape surveys and rebates to be offered to customers under this DMM. Also shown below is the projected water savings resulting from the program implementation.

Table 3-4: Planned Large Landscape Conservation Programs

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# of budgets created	84	84	84	84	84	84	84	84	84	84
# of surveys completed	71	71	71	71	71	71	71	71	71	71
# of follow-up visits	21	21	21	21	21	21	21	21	21	21
# of rebates	5	5	5	5	5	5	5	5	5	5
Projected Water Savings- AFY	164.3	164.3	164.3	164.3	164.3	164.3	164.3	164.3	164.3	164.3

3.6 DMM 6: High-Efficiency Clothes Washers

3.6.1 CUWCC Description

DMM 6 is implemented to provide incentives or establish 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 (WSS) is less than 5.0, then the average water factor value will decrease by that amount. WaterSense is a partnership program sponsored by the U.S. Environmental Protection Agency (EPA) which makes it easier for Americans to save water by purchasing water-efficient products. Consumers can look for products with the WaterSense label to choose quality, water-efficient products. More information about WSS can be found at http://www.epa.gov/watersense/index.htm.

A water factor is the number of gallons per cycle per cubic foot that the clothes washer uses. The lower the water factor, the more efficient the water is. For example, if a washer uses 30 gallons per cycle and has a tub volume of 3.0 cubic feet, then the water factor is 10.

3.6.2 CUWCC Documentation Requirement

Documentation required for DMM 6 includes the number of installations credited to the City's replacement program for HECWs with an average water factor value of 5.0. If the WSS is less than 5.0, then the water factor value will decrease to that amount.

3.6.3 CUWCC Goal

Incentives shall be provided to 0.9% of current single-family accounts during the first reporting period following implementation, rising to 1% per year for the remainder of a ten year period.

3.6.4 Implementation Status

The City has not yet implemented this DMM.

3.6.5 Existing Program

MID offers $35 rebates for energy-efficient washing machines for its qualifying electric customers and similarly, Pacific Gas & Electric (PG&E) offers $50 rebates for energy-efficient clothes washers. Because MID and PG&E customers are also City of Modesto water customers, in the past the City has referred water users to PG&E and MID rebates available for clothes washers but did not provide their own rebates.

3.6.6 Future Program

The City plans to provide $100 rebates to users towards the purchase of HECWs meeting the average WSS water factor value of 5.0 or better. As part of the implementation of this program, the City will develop and maintain a list of qualifying HECWs for residents to use. Table 3-5 summarizes program implementation and water savings.

Table 3-5: HECWs Rebate Program

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# of rebates	600	660	660	660	660	660	660	660	660	660
Projected Water Savings (AFY)[a]	14.7	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2

Note: Assumes 400 loads/household/year with non-conserving washing machines using 40 gal/load and HECWs using 20 gal/load.

3.7 DMM 7: Public Education Programs

3.7.1 CUWCC Description

Public information programs shall be implemented to promote water conservation and water conservation-related benefits. Implementation shall consist of at least the following actions:

1. The program should include, when possible, 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.

3.7.2 CUWCC Documentation Requirement

Agencies may report on all of the following activities, although agencies are only expected to meet the minimum requirements described above:

1. Newsletter articles on conservation
2. Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
3. Landscape water conservation media campaigns
4. General water conservation information
5. Website
6. Email messages
7. Website - provide link to or list of qualified landscape professionals (WaterSense, California Landscape Contractors Association, Irrigation Association, etc.) and other helpful sites
8. Direct mail - seasonal postcards noting irrigation requirement changes
9. Direct mail or other notification to customer if water use is significantly higher than neighbors with similarly-sized lots
10. Customer notification when neighbor reports runoff or runoff is noticed by employees or meter reads show rise in use of 20% or more from same time previous year
11. Dedicated phone line or "on hold" messages with recorded conservation information
12. Booths at local fairs/events
13. Monthly water use reports provided with comparison of water use to water budget
14. Presentations

15. Point of purchase pieces, including internet point of purchase by type: high-efficiency clothes washers, weather based irrigation controller, high-efficiency toilets, plant palette information, other
16. Media outreach: news releases, editorial board visits, written editorials, newspaper contacts, television contacts, radio contacts, articles or stories resulting from outreach. Provide names of local media markets: newspaper, TV stations, radio stations reached via media outreach program during the reporting period
17. Adult Education/Training Programs: Topic(s), number of presentations, number of attendees
18. Water Conservation Gardens: involvement in a garden that promotes and educates the public about water-efficient landscaping and conservation techniques. May include "corporate" or "business" sponsorship or membership
19. Sponsor or co-sponsor landscape workshops/training for homeowners and/or homeowners associations: number of presentations; number in attendance
20. Landscape watering calculator and watering index to assist with weekly irrigation scheduling
21. Additional program(s) supported by agency but not mentioned above
22. Total reporting period budget expenditure for public outreach/training/adult education programs (include all agency costs)

3.7.3 CUWCC Goal

At the minimum, a public information program shall consist of the following components:

1. Contacts with the public at least four times per year
2. Water supplier contacts with media at least four times per year
3. An actively maintained website that is updated at least four times per year
4. Description of materials used to meet minimum requirement
5. Annual budget for public outreach program

3.7.4 Implementation Status

The City has fully implemented this DMM and has achieved the CUWCC goal for Public Information Programs beginning in 1987.

3.7.5 Existing Program

The City of Modesto's water conservation program distributes information to the public through a variety of methods including personal contact, brochures, radio and television public service announcements, a dedicated conservation website, bill inserts, exhibits at community events, school presentations and videos. A water conservation telephone line is available to provide residents with any additional information they might request regarding water conservation. This same phone number is kept open after business hours to create a 24-hour water waste hotline.

The City of Modesto has available, upon request, numerous brochures and informational handouts on both indoor and outdoor water conservation, as well as landscape ideas incorporating the use of drought-tolerant landscaping and irrigation systems. Many of these handouts are available at the City of Modesto Utility Payment Division and the Department of Public Works at 1010 Tenth Street, and the Public Works Department Water Division at the City Corporation Yard located at 501 N. Jefferson. They are also available at the Neighborhood Preservation Unit office at 1010 Tenth Street and at each of the four Modesto Police Department Area Command offices. In addition, the City's monthly utility bill has inserts which periodically offer water conservation tips and articles about water conservation programs. These

inserts also remind citizens of the City's outdoor watering restrictions. The City also provides water conservation information at public facilities, such as the library and City Hall, and at community gatherings such as Earth Day in the Park and the Stanislaus County Home Show.

Media coverage of the City's water conservation program is provided through public service announcements on television and radio in both English and Spanish, live interviews and taped cable television. The City's local newspaper, the *Modesto Bee*, also provides frequent and extensive coverage of current water conditions within the Modesto area.

The City has asked restaurants to serve water only upon request. Restaurants participating in the City's Water Conservation Program receive free table tent cards explaining what the program is and why it helps to save water. "Precious," the water conservation mascot, is a water drop that has participated with City staff and other local agencies in the annual Stanislaus County Home and Garden Show, Earth Day activities and the dedication of the MRWTP. City staff continue to be very active in the promotion of Water Awareness Month by having displays at the local minor league baseball team, the Modesto Nuts, games. In addition, City staff speak to numerous community service organizations such as Kiwanis, Lions Club, Boy's and Girls' Cub Scout troops, and Empire Municipal's Advisory Board. City staff has also conducted training sessions on water conservation to members of the Division and the communities of Grayson, Hickman and Salida.

Videotapes on water conservation and efficient landscaping practices are available from the Modesto Public Works Department, Water Division for use by the public. Copies of these tapes have also been donated to the Stanislaus County Library and several landscape nurseries in the City. Available films include "Water Follies" and "Beautiful Gardens with Less Water."

Within the last two years, the City has attended the Home and Garden show, Home Improvement Show, Stanislaus County Annual Retreat, Earth Day, Stanislaus County Fair, Jaycees 4th of July parade, Public Works Week, March of Dimes Walk-a-thon, made a presentation at the Kiwanis Club and all water systems municipal advisory councils. At these events, the City provides conservation kits for both children and adults providing a total of approximately 250 kits per event. There are three conservation kits the City distributes for different purposes. These include:

Child's Water Conservation Kit

- *A Water Wise* bag
- *BE WATER WISE* coloring book with crayons and stickers
- A NIAGARA water conservation "showering Coach" timer
- Water conservation website links for parents

Use Water Wisely Kit

- *Five Tips to Save Water* bag
- A use Water Wise Wheel
- *Our World of Water* activity book
- 6" Use Water Wisely Ruler
- Water Conservation website links

Water Conservation Adult Kit

- *15 Ways to Use Water Wisely* bag
- Leak detection dye tablets
- Water Conservation slide guide

- Use Water Wisely note pad.
- Water Conservation Brochures (2-4)
- Water conservation website links

The City has also coordinated with the media to better inform the public. For example, the City publishes an article in the City Beat every other month, and had various campaigns with Stott Outdoor Buses, Citadel (2 radio stations; KAT 103.3 Country and the HAWK 104.1) and Clear Channel Radio (2 stations, Sunny 102 and 96.7 FM). The City also attends County Municipal Advisory meetings, some of which are televised, and provides information. The City will continue these efforts into the future. Examples of the public outreach and school education materials are included in Appendix A.

3.7.6 Future Program

The City will continue to implement public outreach strategies as described in their Existing Program for this DMM. The number of each planned activity per fiscal year is shown in Table 3-6.

Table 3-6: Planned Public Education Programs

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
Public Presentations/Demos	6	6	6	6	6	6	6	6	6	6
Contacts with Media	12	12	12	12	12	12	12	12	12	12
Commercial/Radio Ads	650	650	650	650	650	650	650	650	650	650
Update website	4	4	4	4	4	4	4	4	4	4

3.8 DMM 8: School Education Programs

3.8.1 CUWCC Description

School education programs are implemented to reach the youngest water users at an early age and enforce the need to engage in water conservation as a life-long behavior. Implementation shall consist of at least the following actions:

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.

As part of this DMM, an active school education program should be maintained to educate students in their service area about water conservation and efficient water use. An agency or other local entity may participate in a mutual arrangement as described above.

3.8.2 CUWCC Documentation Requirement

Agencies may report on all of the following activities, although they are only expected to meet the minimum requirements described above:

1. Classroom presentations: number of presentations, number of attendees, topics covered: conservation, recycled water, water sources, pollution prevention, etc.
2. Large group assemblies: number of presentations, number of attendees
3. Children's water festivals or other events: number of presentations, number of attendees
4. Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up: number of presentations, number of attendees
5. Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits); Description; number distributed
6. Staffing children's booths at events & festivals: number of booths, number of attendees
7. Water conservation contests such as poster and photo: description, number of participants
8. Offer monetary awards/funding or scholarships to students: number offered, total funding
9. Teacher training workshops: number of presentations, number of attendees
10. Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.: number of tours or field trips, number of participants
11. College internships in water conservation offered: number of internships, total funding
12. Career fairs/workshops: number of presentations, number of attendees
13. Additional program(s) supported by agency but not mentioned above: description, number of events (if applicable), number of participants
14. Total reporting period budget expenditures for school education programs (include all agency costs)

3.8.3 CUWCC Goal

The following are the goals for obtaining compliance with this DMM:

1. Curriculum materials developed and/or provided by agency (including confirmation that materials meet state education framework requirements and are grade-level appropriate).
2. Materials distributed to K-6 students. When possible, school education programs will reach grades 7-12 as well.
3. Description of materials used to meet minimum requirement.
4. Annual budget for school education program.
5. Description of all other water supplier education programs.

3.8.4 Implementation Status

The City has fully implemented this DMM and has achieved the CUWCC goal for School Education Programs beginning in 1987.

3.8.5 Existing Program

Each year, City staff gives school presentations to students at elementary schools in Modesto's service area. Also, in past years, the Water Conservation Coordinator has met with school district principals to encourage participation in the program as it focuses on water conservation while incorporating state content standards. Two American Water Works Association (AWWA) publications, "Splash" and the

"Story of Water," as well as the video "Water Follies," are used in conjunction with school programs and other community events. Elementary school students are particularly receptive to the conservation message and they share that message with their parents. Though fifth graders are targeted with the school presentations, similar presentations are given to junior and high school students upon request. As part of the program, Water Conservation Kits are distributed to the students. In the last two years, the City has distributed over 250 kits to City of Modesto classrooms. School education materials, which at times are used for public education as part of DMM 7 are included in Appendix A.

3.8.6 Future Program

The City will continue to implement their School Education Program as described in Section 3.8.5. Each student will be given a conservation kit that also includes a low-flow showerhead (in conjunction with DMM 2) to install in their own homes with their parents' permission. Table 3-7 summarizes the planned school education presentations to fifth grade classes and the estimated water savings that may result from the low-flow showerhead distribution.

Table 3-7: Planned School Education Presentations

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# of kit giveaways	125	125	125	125	125	125	125	125	125	125
# presentations	5	5	5	5	5	5	5	5	5	5
total water savings	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

Note: The cost of showerheads included in DMM 2.

3.9 DMM 9: Commercial, Industrial, and Institutional

3.9.1 CUWCC Description

Commercial, industrial, and institutional (CII) water use varies dramatically between business sectors and location. This DMM includes implementing measures to achieve a water savings. Potential measures include, but are not limited to:

- Industrial process water use reduction
- Industrial laundry retrofits
- Car wash recycling systems
- Water efficient commercial dishwashers
- Wet cleaning

3.9.2 CUWCC Documentation Requirement

Required documentation for DMM 9 includes reporting the measure type and quantity installed, as well as water savings attributed to water shortage measures, intervention and actions.

3.9.3 CUWCC Goal

The CUWCC goal is to save 10% of baseline CII water use over a 10-year period by reducing water use as follows:

- 0.5% by end of first reporting period (i.e. year 2)
- 2.4% by the end of year 4
- 4.3% by the end of year 6
- 6.4% by the end of year 8
- 9% by the end of year 10

Table 3-8: Demonstrated CII Water Savings[1]

Measure	Annual Savings (AF)	Measure Life (years)
HE Toilets	0.041748	25
HE Urinals	0.069086	25
Ultra Low Volume Urinals	0.080603	25
Zero Consumption Urinals	0.0921146	25
Commercial HE Single Load Clothes Washers	0.116618	10
Cooling Tower Conductivity Controllers	1.032250	5
Cooling Tower ph Controllers	3.981543	5
Connectionless Food Steamers	Per Steamer Compartment – 0.25	10
Medical Equipment Steam Sterilizers	1.538	20
Water-Efficient Ice Machines	0.834507	10
Pressurized Water Brooms	0.1534	5
Dry Vacuum Pumps	0.64	7

1. Source: CUWCC MOU Regarding Urban Water Conservation (December 2008)

3.9.4 Implementation Status

The City has not yet implemented this DMM.

3.9.5 Existing Program

Historically, the City has provided water use audits to any CII customer upon request as an informal service, but historical records have not been kept. The City implements two different strategies, one for new CII accounts and one for existing CII accounts. For new users, the City works to inform the user of potential wastewater saving measures by having them conduct a self-audit of their operations and equipment. This effort can save the user wastewater connection charges in addition to reducing their water consumption per square foot of operation. The City plans to develop tools and information sources to inform new CII customers of these potential savings. For existing CII users, a similar effort can be developed to display the economic savings through self-audits. It is estimated the savings on both the water and wastewater side will offset the cost of the self-audit in a short time. In the future, the City may have staff attend training that would increase their knowledge of such water saving measures. Currently, the City's Environmental Compliance Division, who handles wastewater discharge permits among other regulatory tasks, is instrumental in assisting larger CII users with water savings measures to reduce wastewater discharge impacts.

3.9.6 Future Program

Currently, the City has about 4,712 CII accounts, one of which is unmetered and will be retrofitted under DMM 4. Under this DMM, the City will develop a formal survey program for CII accounts that will consist of free water use surveys (performed upon request) and evaluations of water using apparatus and processes, as well as recommended efficiency measures.

Table 3-9 summarizes the projected CII conservation program. Rebates could be provided for some water saving devices such as those included in Table 3-10. Also, in the future, the City anticipates adopting the Commercial Green Building Code which will provide for higher water use efficiency standards (i.e. 20% reduction).

Table 3-9: Estimated CII Programs

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# of on-site surveys	100	100	100	100	100	100	100	100	100	100
# of rebates provided	30	75	150	255	200	220	220	220	270	295
# of follow-up visits	30	30	30	30	30	30	30	30	30	30
Projected water savings - AFY	23.4	58.5	117.0	198.9	156.0	171.6	171.6	171.6	210.6	230.1

Table 3-10: City CII Rebates

Device	Incentive Amount
High Efficiency (HE) Toilets	$200
HE Urinals	$200
Ultra Low Volume Urinals	$200
Zero Consumption Urinals	$200
Commercial HE Single Load Clothes Washers	$200
Cooling Tower Conductivity Controllers	$400
Cooling Tower pH Controllers	$400
Connectionless Food Steamers	$400
Medical Equipment Steam Sterilizers	$400
Water-Efficient Ice Machines	$250
Pressurized Water Brooms	$125
Dry Vacuum Pumps	$125

3.10 DMM 10: Wholesale Agency Programs

The City is not a wholesale water agency and therefore is not required to implement DMM 10.

3.11 DMM 11: Retail Conservation Pricing

3.11.1 CUWCC Description

DMM 11 promotes water conserving retail water rate structures. This DMM recognizes that each agency or water enterprise fund has a unique rate setting system and history. When creating a rate case, professional judgments are made to determine whether costs are accounted to a variable or fixed cost center by the staff of the agency. The final water rate case is an accumulation of all the decisions and judgments made by staff and supplemented by the financial projections leading an agency to establish its

final water rate recommendation. DMM 11 is not intended to supplant this process, but rather to reinforce the need to establish a strong nexus between volume-related system costs and volumetric commodity rates.

DMM 11 also applies to retail sewer service. 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.

Conservation pricing requires volumetric rates. While this DMM defines a minimum percentage of water sales revenue from volumetric rates, the goal of this DMM 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. In addition to volumetric rates, 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 Rates: A retail agency's volumetric rate 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 for the volumetric rate(s) and M stand for total annual revenue from customer meter/service (fixed) charges, then:

$$\frac{V}{(V+M)} \geq 70\%$$

  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 volumetric 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).] The volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing if:

$$\frac{V}{(V+M)} \geq \frac{V'}{(V'+M')}$$

The rate design model can be downloaded at http://www.cuwcc.org/resource-center/technical-resources/bmp-tools.aspx.

This calculation only includes utility revenues from volumetric rates and monthly or bimonthly meter/service charges. It does 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.

As part of this DMM, a rate structure that satisfies at least one of the options specified above needs to be maintained. Conformance to Option 1 or Option 2 will first be assessed using the revenue from the most recent year. If the most recent year does not satisfy the option, the average revenue from the three (3) most recent years will be used.

3.11.2 CUWCC Documentation Requirement

For water, provide the following:

1. Report the rate structure in effect for each customer class for the reporting period.
2. Report the annual revenue derived from volume charges for each retail customer class, as defined above. (Note: Compliance with BMP 11 will be determined based on the City's total revenue from all retail customer classes.)
3. Report the annual revenue derived from monthly or bimonthly meter/service charges for each retail customer class, as defined above.
4. If agency does not comply with Option 1 in Section A, report v' and m' as determined by the Canadian Water & Wastewater Association rate design model described above.
5. If agency does not comply with Option 1 in Section A, submit the completed Canadian Water & Wastewater Association rate design model described above.

For sewer, provide the following:

1. Report annual revenue requirement for sewer service by customer class for the reporting period.
2. Report annual revenue for sewer service from commodity charges by customer class for the reporting period.
3. Report rate structure by customer class for sewer service.

3.11.3 CUWCC Goal

The CUWCC goal for DMM 11 varies depending on the option for volumetric pricing selected. Table 3-11 summarizes the CUWCC goals.

Table 3-11: CUWCC Goals for DMM 11

Years After Start Year	For Option 1	For Option 2
1	$\frac{V}{(V+M)} > 70\% \times 0.70$	$\frac{V}{(V+M)} > \frac{V'}{(V'+M')} \times 0.7$
2	$\frac{V}{(V+M)} > 70\% \times 0.80$	$\frac{V}{(V+M)} > \frac{V'}{(V'+M')} \times 0.8$
3	$\frac{V}{(V+M)} > 70\% \times 0.90$	$\frac{V}{(V+M)} > \frac{V'}{(V'+M')} \times 0.9$
4	$\frac{V}{(V+M)} > 70\% \times 1.00$	$\frac{V}{(V+M)} > \frac{V'}{(V'+M')} \times 1.0$

3.11.4 Implementation Status

The City is currently implementing this program, but has not yet achieved the CUWCC goal of

$$\frac{V}{(V+M)} > 70\%.$$

3.11.5 Existing Program

The Modesto City Council adopted Resolution 2000-45, which established charges for metered and unmetered services as of February 1, 2000. The rate structure was designed to promote conservation, with metered services paying a flat monthly service charge if water usage was kept below 1,680 cubic feet per month, or approximately 419 gallons per day. Water usage over this amount was charged an additional 82 cents for every 100 cubic feet (25 gallons) used. In addition, administrative fees were assessed upon second violations of restricted outdoor water use and repair of identified water leaks within 24 hours. The third and all subsequent violations required mandatory meter installation in addition to the administrative fee.

In 2005, the City converted from a three-zone structure that was adopted when the City purchased Del Este Water Company in 1995 to a uniform rate structure across all zones. Under this revised rate structure, metered accounts pay the current uniform volume charge of $1.31/hundred cubic feet. The City's current rate structure is shown in Table 3-12.

Table 3-12: City of Modesto Current Water Rates and Charges

Meter Size	Water Rate
Flat Rate Residential – Monthly Service Charge	
0 – 5,000 sq ft lot	$40.29
5,0001 to 7,000 sq ft lot	$45.79
7,001 to 11,000 sq ft lot	$54.34
11,001 to 17,000 sq ft lot	$57.69
Over 17,000 sq ft lot	$67.82
Metered Charge (Residential & Commercial)	
Uniform Volume Charge ($/hcf)	$1.31
Fixed Meter Charges	
5/8 inch to ¾ inch	$14.00
1 inch	$19.86
1 ½ inch	$34.37
2 inch	$51.86
3 inch	$98.54
4 inch	$150.99
6 inch	$296.61
8 inch	$471.45
10 inch	$675.47
12 inch	$1,258.19

Conservation pricing requires volumetric rates, so metered service is a necessary condition. The City is implementing its Meter Conversion Program in which it is installing meters at unmetered accounts and replacing (converting) existing old meters with new automatic read models. Once the meter has been installed, the City begins charging volumetrically, using a uniform volume charge as shown in Table 3-12.

The City's calculated V/(V+M) currently equals 52%. V is equal to the total annual revenue from volumetric rates and M equals the total annual revenue from customer service (fixed) charges. For the City, V is equal to $13.8 million and M is equal to $12.7 million. The City is currently meeting the requirement for Year 1 for Option 1, as 52% is greater than 0.7 x 70% (or 49%).

3.11.6 Future Program

The City will continue to charge volumetric pricing and increase the volumetric component until full coverage is achieved, estimated to occur in 2014. As required, the City will evaluate the need to readjust rates in order to ensure continued compliance for this DMM.

3.12 DMM 12: Water Conservation Coordinator

3.12.1 CUWCC Description

Under DMM 12, a person is designated as the agency's responsible conservation coordinator for program management, tracking, planning, and reporting on BMP implementation. Coverage consists of staffing

and maintaining the position of trained conservation coordinator, or equivalent consulting support, and providing that function with the necessary resources to implement BMPs.

3.12.2 CUWCC Documentation Requirement

Provide the contact information for the conservation coordinator, or consultant assigned, and verification that the position is responsible for implementing the tasks identified above.

3.12.3 CUWCC Goal

Staff and maintain a position of a trained conservation coordinator.

3.12.4 Implementation Status

The City has fully implemented this DMM and has achieved the CUWCC goal.

3.12.5 Existing Program

A full-time water conservation coordinator position was authorized by the City Council and was filled in 2001. This position remains filled today. The Water Conservation Coordinator's role is to develop, implement and manage the City of Modesto's water conservation program and to coordinate with ongoing conservation programs in other departments and other agencies. The Water Conservation Coordinator runs school education outreach programs; trains and directs activities of other staff assigned to water conservation functions; provides conservation information to residents and commercial businesses, coordinates the development of uniform conservation policies and enforcement; develops, recommends and maintains various media sources for providing conservation information to both internal and external customers; plans, coordinates and administers various day-to-day activities pertaining to the City's Water Conservation Program; promotes the efficient use of the City's water supply by residential, irrigation, industrial, commercial public agencies and other customers to ensure sufficient pressure throughout the system for fire protection and other essential City services; investigates and identifies compliance issues; and communicates with regulatory agencies as required.

3.12.6 Future Program

The City will continue to keep the position of the Conservation Coordinator filled. Additionally, the City has budgeted for an additional technical position in which a person could be hired to provide assistance to the Water Conservation Coordinator, most likely with the specific implementation of DMM 1 and DMM 2.

3.13 DMM 13: Water Waste Prohibition

3.13.1 CUWCC Description

The CUWCC describes this DMM as applying in three different ways:

1. 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.
2. 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.
3. Water shortage measures – Enact, enforce, or support legislation, regulations, ordinances, or terms of service that facilitate implementation of water shortage response measures.

To successfully implement this DMM, one or more of the following must be implemented:

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 development.

3.13.2 CUWCC Documentation Requirement

Documentation requirements for DMM 13 include the following:

- A description of, or electronic link to, any ordinances or terms of service adopted by water agency to meet the requirements of this BMP
- 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.
- A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement consistent with this BMP.
- A description of agency support positions with respect to adoption of legislation or regulations consistent with this BMP.

3.13.3 CUWCC Goal

Adopt and enforce a water waste ordinance.

3.13.4 Implementation Status

The City has implemented this DMM through its adoption of a water conservation policy that supports local ordinance that prohibit water waste.

3.13.5 Existing Program

On March 25, 2003, City Council adopted Resolution No. 2003-162 which approved the implementation of Stage I of the City's Drought Contingency Plan (see Appendix B). Any violations of the rules and regulations established as part of Stage I Drought Contingency Plan are considered water waste. The rules and regulations are as follows:

1. Outdoor water use shall be prohibited daily from 12:00 p.m. to 7:00 p.m.
2. Odd-numbered addresses shall water outdoors only on Wednesdays, Fridays, and Sundays.
3. Even-numbered addresses shall water outdoors only on Tuesdays, Thursdays, and Saturdays.
4. No outdoor water use is permitted on Mondays.
5. City residents shall not wash cars without the use of a quick-acting positive shut-off nozzle or permit others to do so on their behalf. In addition, car washing must be done in compliance with the schedule for outdoor water use. There shall be no washing of building exteriors, mobile home exteriors, recreational vehicle exteriors, sidewalks, patios, driveways, gutters, or other exterior surfaces unless a permit is issued by the Public Works Director or his designee and the washing is done with a quick-acting positive shut-off nozzle on the hose.

6. City residents shall not have leaky faucets or plumbing fixtures on their premises for more than 24-hours after the leak has been identified or notice has been received from the City, whichever comes first.
7. Eating establishments are encouraged to serve water only at the customer's request.
8. New landscaping installations must comply with all applicable landscape ordinances.
9. Exceptions to the regulations set forth herein may be made by the Public Works Director or his authorized designee upon a showing of good cause and necessity.
10. The following penalties may be added to the utility service customer's account upon violation of the above regulations:
    a. A penalty in the sum of $50 upon the second violation within one year after having received a Notice of Violation.
    b. A penalty of $200 upon the third violation within said one-year period.
        i. Upon the third violation within one year of having received a Notice of Violation, the resident shall also have a water meter installed if one is not present and metered billing shall commence.
    c. A penalty of $250 upon the fourth and any subsequent violations within said one-year period.
    d. The customer shall be advised of these charges through a Notice of Intention to Impose a Penalty.

3.13.6 Future Program

The City will continue to enforce its water waste ordinance by having the Public Works Department perform site visits, as shown in Table 3-13.

Table 3-13: Water Waste Ordinance Enforcement

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
Waste ordinance in effect?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# on-site visits	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500

3.14 DMM 14: WaterSense Specification (WSS) Toilets

3.14.1 CUWCC Description

Under DMM 14, the City will provide financial incentives or ordinances requiring the replacement of existing toilets using 3.5 or more gallons per flush (gpf) with a toilet meeting WaterSense Specifications. WSS high efficiency toilets use a maximum of 1.28 gpf, which is 20% less than the current federal standard of 1.6 gpf. Ultra low-flow toilets (ULFT) differ in that they cannot be WSS certified as they do not save as much water. Numerous toilets have been certified to meet the WSS criteria and retailers are committed to making them available in stores. A complete list of certified toilets can be accessed here:

http://www.epa.gov/WaterSense/pp/find_het.htm.

3.14.2 CUWCC Documentation Requirement

Documentation requirements for DMM 14 include a description of the program and the number of WSS toilet installations credited to the City's replacement program disaggregated by single-family or multi-family units.

3.14.3 CUWCC Goal

Demonstrate a number of toilet replacements of 3.5 gpf or greater, toilets at or above the level achieved through a retrofit on resale ordinance until 2014, or a market saturation of 75% is demonstrated, whichever is sooner.

3.14.4 Implementation Status

The City has not yet implemented this DMM.

3.14.5 Existing Program

The State of California passed legislation requiring all toilets sold and installed after January 1, 1994 to be ultra-low flush toilets (ULFT) using no more than 1.6 gallons per flush. There have been approximately 9,000 homes built in the City of Modesto water service area since January 1994 equipped with ultra-low flush toilets. In addition to the new home construction, an unknown number of pre-1994 toilets have been replaced with ultra-low flush toilets. The City has not implemented a formal rebate program to provide financial incentive for customers to meet the WaterSense Specifications.

3.14.6 Future Program

The City's future WSS toilet replacement program may take one or more forms. Two potential options include the City offering $50 rebates on customer purchases of qualifying toilets and/or the City hiring a firm to manage implementation of this DMM in coordination with the City. The program could also include the use of city facilities and/or schools as drop-off and distribute sites for the WSS toilets. Coordination with other organizations may come in the form of utilizing volunteers. Furthermore, in the future, the City may adopt a retrofit-on-resale ordinance, but at this time the City is looking to provide $50 rebates as incentives instead. Table 3-14 summarizes the planned program costs and water savings.

Table 3-14: Single Family WSS Toilet Replacement Program

	FY11	*FY12*	*FY13*	*FY14*	*FY15*	*FY16*	*FY17*	*FY18*	*FY19*	*FY20*
# of rebates	50	75	100	125	150	175	200	225	250	275
Projected Water Savings (AFY)[a]	1.5	2.2	2.9	3.6	4.4	5.1	5.8	6.6	7.3	8.0

Note: Assumes 2.5 people per household with non-conserving toilets using 18.7 gal/day/person and WSS toilet using 8.3 gal per day per person.

References

California Department of Water Resources, Office of Water Use Efficiency. 2009. *Compliance with AB1420 Requirements*.

California Urban Water Conservation Council. 2008. *Memorandum of Understanding Regarding Urban Water Conservation in California.* December 10.

California Urban Water Conservation Council. 2010. *Memorandum of Understanding Regarding Urban Water Conservation in California.* June 9.

RMC Water and Environment. 2007. *City of Modesto / Modesto Irrigation District Joint Urban Water Management Plan 2005 Update.* May.

http://www.ci.modesto.ca.us/pwd/utilities/water/conservation/city_restrictions.asp

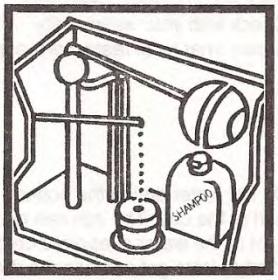
Appendix A - School Educational and Public Outreach Materials Examples

Parent/Student Water Conservation Checklist

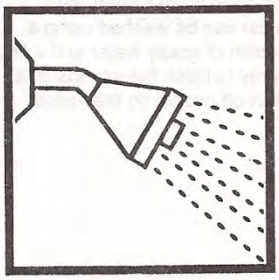
INDOOR USE

Bathrooms

		Suggestions
1 Have toilets been checked for leaks?	[ ] **Yes** [ ] **No**	Place a few drops of food coloring in toilet tank (be sure the water is clear, not colored by in-toilet cleaning dispensers).
2 Is the toilet being used as a wastebasket?	[ ] **Yes** [ ] **No**	Extra toilet flushes can waste as much as 5 plus gallons each.



3 Is there either a plastic bottle or bag in the toilet tank so that each flush uses less water?	[ ] **Yes** [ ] **No**	If you have an older model toilet, put an inch or two of sand or pebbles in the bottom of a one-quart plastic bottle (an empty plastic shampoo bottle works well) and fill the rest of the bottle with water. Cap the bottle tightly. Place the bottle in the toilet tank, safely away from all moving parts. Better yet, consider buying a new ultra-low flow toilet which uses 1.6 gallons per flush (instead of up to 5 plus gallons per flush). See your hardware or plumbing store or contact your local water agency for further information.



4 Are family members taking short showers (5 minutes or less)?	[ ] **Yes** [ ] **No**	Taking quicker showers can help you save up to 3 gallons of water for each minute of shower time reduced. Consider installing a new low-flow shower head which uses 2.5 gallons per minute.

Kitchen/Laundry

5 Are dishwashers and washing machines used only with full loads?	[ ] **Yes** [ ] **No**	Wait until full loads before using appliances. This saves water and energy.

		Suggestions
6 Is water left running while rinsing vegetables, dishes, shaving or brushing teeth?	[ ] **Yes** [ ] **No**	Ponding water (keeping it in the sink with a stopper) is a smart way to conserve water.
7 Have kitchen and all other faucets been check for leaks?	[ ] **Yes** [ ] **No**	Repair leaks as soon as possible. Even small leaks add up to large losses over time.

OUTDOOR USE

8 Is the landscape watered only when the plants really need water?	[ ] **Yes** [ ] **No**	Check lawns and shrubs to see if they need water. A lawn that springs back after being stepped on doesn't need water. Check with your water utility to see what local restrictions apply.
9 Is the landscape being watered before 10:00 a.m. or after 5:00 p.m.?	[ ] **Yes** [ ] **No**	Do not water during the hottest part of the day. The sun can make a lot of the water evaporate before thirsty plants get a chance to drink it.

10 Are your walkways or driveways hosed off for cleaning?	[ ] **Yes** [ ] **No**	Using a broom gets the cleaning job done while saving water, too. A car can be washed using a bucket of soapy water and a fine spray to finish the job. Install a shut-off nozzle on the hoses.

I have reviewed the water-saving tips mentioned above with my son/daughter.

Parent's Signature _____

Local hardware and plumbing stores stock many devices to help you save water and meet current California law. Contact your local water agency for more information on water conservation programs.

PRINTED BY
DEPARTMENT OF WATER RESOURCES
REPROGRAPHICS

Slow
the flow.

Tips to conserve water
in your lawn and garden.

A Consumer's Guide to Water Conservation

The Outside Story

Coloring Fun for Little Water Users

CITY OF MODESTO
Water Conservation Program

NOTICE

Case Number: _____

Time: _____ AM/PM

Date of Notice: _____

Address: _____

The following was noted on your property:

☐ Flooded areas, including gutters

☐ Water running or spraying off property

☐ Outdoor water use on the wrong day

☐ Outdoor water use during restricted hours

☐ Washing car without shutoff nozzle

☐ Washing concrete, building, etc…without City permit

☐ Repairs and adjustments_____

☐ Other Comments_____

_____

_____

_____

For information regarding this **NOTICE**, please call:
City of Modesto Water Division
(209) 342-2246

This is a **NOTICE**. However, if additional instances occur within 12 months of this **NOTICE**, a violation could be given to you and penalties added to your water/sewer bill from the City of Modesto.

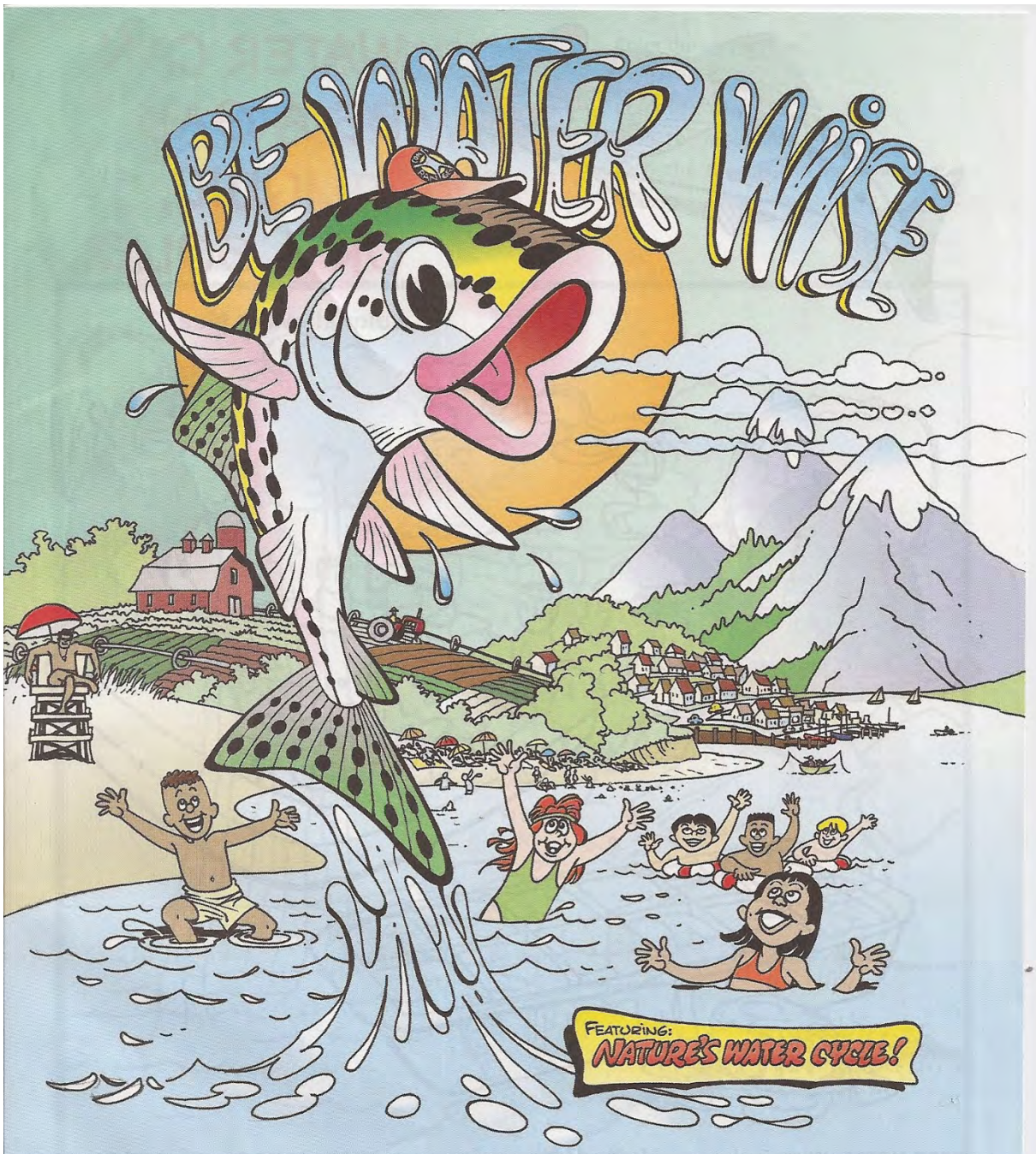
Be a
WISER WATER MISER
CITY OF MODESTO

A Consumer's Guide to Water Conservation

The Inside Story

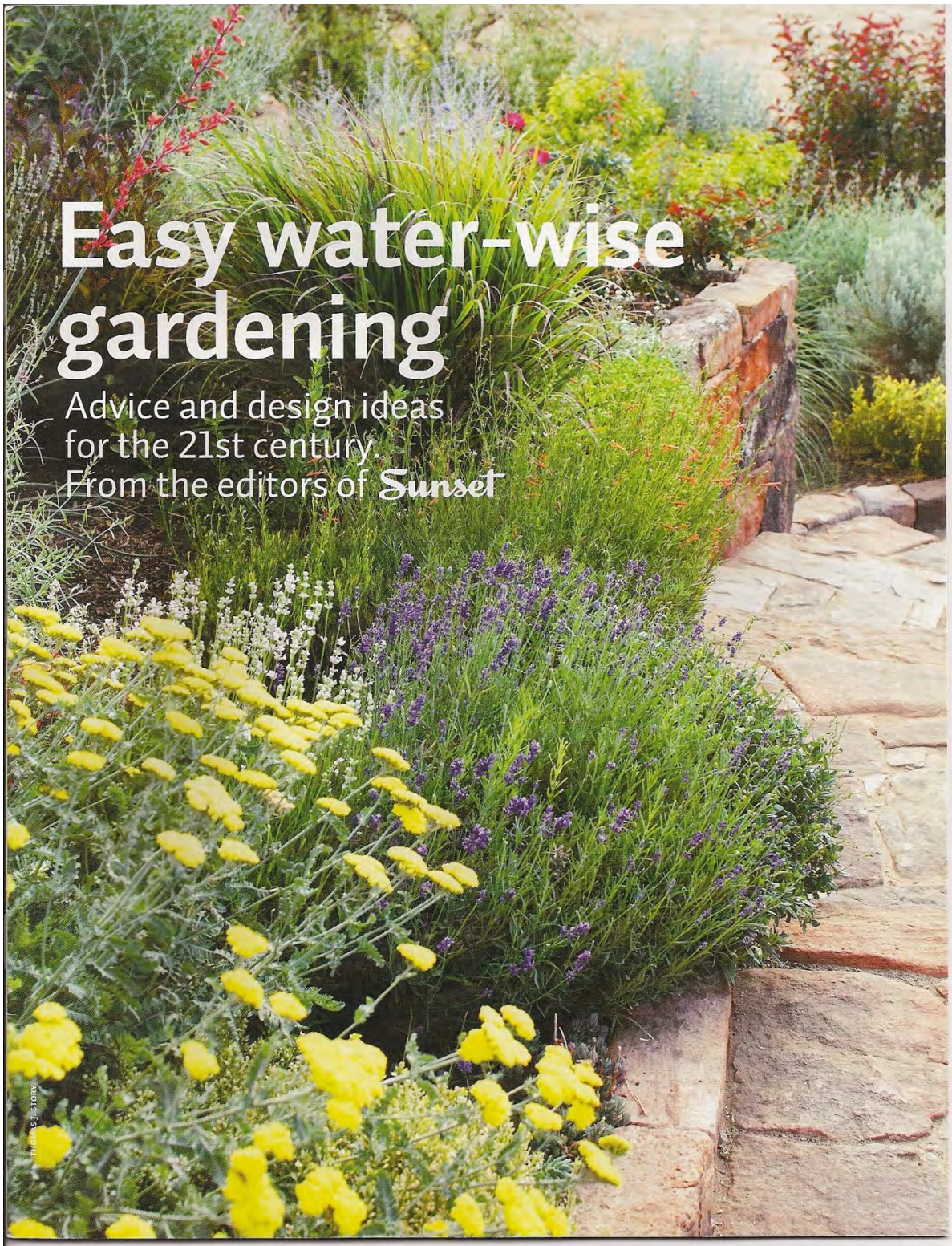
CITY of MODESTO

Water-Wise Gardening Guide



be a
WISER WATER MISER
CITY OF MODESTO

City of Modesto
Water Conservation
(209) 342-4580
www.modestogov.com



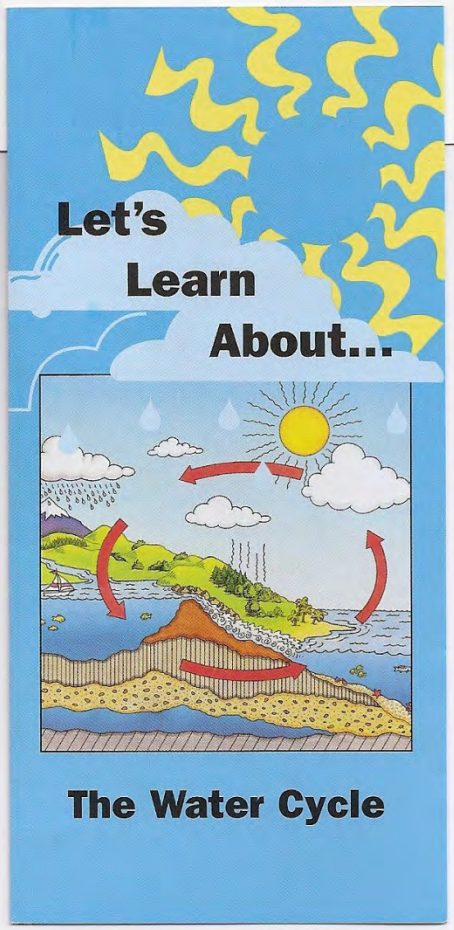
Easy water-wise gardening

Advice and design ideas for the 21st century. From the editors of *Sunset*

THIS IS STORY

The Inside Story:

Water Conservation at Home



YEAR-ROUND STAGE ONE WATER RESTRICTIONS FOR CITY OF MODESTO CUSTOMERS

CITY of MODESTO

be a
WISER WATER MISER
CITY OF MODESTO

- Outdoor watering must be kept on your property... avoid water runoff.
- ***Outdoor water use prohibited between noon and 7 p.m. daily.***
- Odd-numbered addresses ending in 1, 3, 5, 7 or 9 water on Wednesday, Friday and Sunday.
- Even-numbered addresses ending in 2, 4, 6, 8 or 0 water on Tuesday, Thursday and Saturday.
- **NO OUTDOOR WATER USE ON MONDAYS.**
- Car washing is subject to above with use of positive shut-off nozzle.
- Hosing concrete areas, building exteriors, etc. may be done with a city-issued permit and only with a positive shut-off nozzle.
- Water leaks, once identified, must be repaired within 24 hours.
- Restaurants are encouraged to serve water only upon request.

Violations of the water use restrictions can result in penalties being added to your water/sewer bill from the City of Modesto.

TO REPORT WATER WASTE, CALL (209) 342-4580

FOR WATER CONSERVATION TIPS, GO TO *www.modestogov.com/pwd* **AND CLICK ON WATER CONSERVATION**

Water Conservation School Presentation Materials

Water Conservation Adult Kit

Water Conservation Kit

Public Education Poster

City of Modesto Water Conservation Advertisement

Appendix B - City of Modesto Water Shortage Contingency Plan

CITY OF MODESTO – DROUGHT CONTINGENCY PLAN - Drought Stage 1 is in Effect as of May 1, 2003

Drought Stage 1–Minor Shortage Potential	Drought Stage II–Moderate Shortage Potential	Drought Stage III–Critical Shortage Potential
	Phasing Criteria	
Groundwater levels are dropping due to the increased use associated with a warm, dry season, and due to lower than average precipitation and runoff.	Groundwater levels are dropping due to the increased use associated with a warm, dry season, and due to lower than average precipitation and runoff. Production from wells is decreasing. There is a possibility that customer demands and system pressure requirements cannot be met at all times.	Groundwater levels are dropping due to the increased use associated with a warm, dry season, and due to lower than average precipitation and runoff. Production from wells is decreasing. Customer demands and system pressure requirements cannot be met.
	Reduction Objectives	
10%-20% reduction in total water production from baseline.	20%-35% reduction in total water production from baseline.	35%-50% reduction in total water production from baseline.
	Requested Consumer Actions	
* Outdoor water use prohibited daily from noon - 7 p.m.* Odd-numbered addresses water W, F, Su Even-numbered addresses water, T, Th, Sa No outdoor water use on Mondays. * Car washing subject to above-cited limitations with use of a positive shutoff nozzle * Hosing concrete areas, building exteriors, etc., may only be done with a City-issued permit and only with use of a positive shutoff nozzle. * Water leaks, once identified, must be repaired within 24 hours. * Restaurants encouraged to serve water only on request. * New landscaping to comply with existing & future landscape ordinances. * Water meter installation on all new single-family homes. *Hours of restricted outdoor use may be extended to 9 a.m. – 7 p.m. at Council discretion.	* Outdoor water use prohibited daily from 9 a.m. – 7 p.m. Odd-numbered addresses water W, F, Su Even-numbered addresses water T, Th, Sa No outdoor water use on Mondays. No watering of front yards except for trees and shrubs by hand, and vegetation maintained through drip irrigation. Backyard watering subject to above-cited limitations. * Car washing subject to above-cited limitations with use of a positive shutoff nozzle. * Hosing concrete areas, building exteriors, etc., is prohibited except for health/safety concerns. * Water leaks, once identified, must be repaired within 24 hours. * Restaurants prohibited from serving water except upon request. * New landscaping to comply with existing & future landscape ordinances. * Mandatory retrofit of low flow showerheads in homes when building remodeling occurs. * No use of outdoor fountains except for maintenance purposes. * Water meter installation on all new single-family homes. * Creation of a community-based task force to deal with possible implementation of State III restrictions.	* No outdoor water use except for trees and shrubs by hand, and vegetation maintained through drip irrigation. * Car washing permitted at car wash facilities only. * Hosing concrete areas, building exteriors, etc., is prohibited except for health/safety concerns. * Water leaks, once identified, must be repaired within 24 hours. * Restaurants prohibited from serving water except upon request. * Mandatory retrofit of low flow showerheads and toilets in homes when building remodeling occurs. * No use of outdoor fountains except for maintenance purposes. * Moratorium on all new landscaping. * Building moratorium on all new water connections, including new swimming pools.
	Penalties* for Excessive Use	
$ 50 Administrative Fee assessed upon 2nd violation. $200 Admin. Fee assessed upon 3rd violation (includes meter installation). $250 Administrative fee assessed for each subsequent violation.	$150 Administrative fee assessed upon 2nd violation. $250 Admin. fee assessed upon 3rd violation (includes meter installation). $300 Administrative fee assessed for each subsequent violation.	$200 Administrative fee assessed upon 2nd violation. $300 Admin. fee assessed upon 3rd violation (includes meter installation). $400 Administrative fee assessed for each subsequent violation.

*Penalties assessed for violations occurring within 12 months of first violation.